house was then overhauled in a most thorough manner, and the result is that in the same house where chronic tonsillitis was continually affecting one member or another of the family (so much so that I was informed "it was in the family") it is now unknown, not a single case having occurred since, and that was over two years ago. This is only one of many cases I have met with in which defective drainage was the sole cause of all the trouble; in fact, I believe it to be the cause of at least 70 per cent. of the cases of chronic tonsillar inflammation we are called upon to treat. Knowing this, we can attack the *font et origo mali*, and so cut short cases which if treated by routine will be long-continued, and unsatisfactory both to patient and attendant. In these cases, instant removal of the whole family to the sea-side (while the drains are being put into perfect working order), with a course of tonics, is the only satisfactory procedure. To treat such cases in the still defective house, is attempting a hydra-slaying task. I have observed no benefit to accrue from the use of the salicylates in the treatment of these cases.

4. We sometimes find one member of a family peculiarly susceptible to attacks of chronic tonsillitis, with no history of a previous attack of acute tonsillitis. Another member of the same family is perhaps liable to repeated attacks of gastric catarrh, and another to easily excited diarrhoea. Whether this is due to an hereditary tendency in which the mucous membrane—tonsillar, gastric, or intestinal, as the case may be—is the *locus minoris resistentie*, or whether, by hair-splitting, we consider it to be an individual susceptibility to chronic tonsillitis, to gastric catarrh, or to diarrhoea, must be decided by each one for himself. These cases very often, if the patient is exposed heedlessly, assume an acute character, and are then frequently followed by acute rheumatism. Salicylate of soda is here of great use, often, I believe, warding off an attack of the acute variety. It should be administered in fifteen-grain doses every four hours, with astringent gargles and cold applied to the throat externally, and also internally by allowing the patient to suck ice continually.

Now, to consider the causes of acute inflammation of the tonsils, we find:—

1. That, of all causes, exposure to cold or damp is the most frequent and the sole cause of all cases which are followed by rheumatic fever. In these cases, salicylate of soda acts almost, if not quite, as a specific. Given internally, with gargles of salicylic acid, I believe it to be of the utmost value, as I have yet to find a case, so treated, followed by rheumatic fever. I also believe that, as this treatment gains ground, cases of chronic tonsillitis will become rarer—I mean those which follow acute attacks. I always commence by giving a purgative, a pill of calomel and colocynth for adults, and a powder composed of rhubarb and calomel, or grey powder, followed by castor oil in the morning, for children. Then I give twenty grains of salicylate of soda every four hours, and a gargle of ten grains of salicylic acid with two drachms of glycerine to the ounce, to be used very frequently. I find, generally, that the pain has nearly disappeared next morning, and the patients can swallow more easily, and are less constitutionally disturbed; suppuration of a tonsil is no longer feared. In fifty-seven cases of acute tonsillitis caused by exposure to cold, and all treated by the manner above mentioned, I met with no case of even threatened suppuration. The remedy should be given regularly till all pain disappears, and then the dose should be ten grains every four hours for at least five or six days. Then, I think, neither chronic tonsillitis nor acute rheumatism need be feared. In very severe cases great relief is given by sprinkling some salicylate of soda over a hot linseed poultice, and applying it to the throat. Also by crushing ice in a long flannel bag and applying that round the neck. The gargle also gives great relief from pain. I have not found that the drug will check suppuration when once it has set in.

2. That acute tonsillitis is much less frequently caused by the emanations from defective drains and sewers than is the chronic variety I have described. Still cases do indubitably occur for which the only discoverable cause is defective drainage, and consequently we, in these cases, find that more than one member of the family suffers. When so caused the disease runs a fair chance of becoming chronic, and is not, in my experience, benefited by the salicylates.

3. That when scarlet fever is accompanied by acute tonsillitis, the salicylates are extremely useful when ad-

ministered internally. A gargle of salicylic acid made up with rose-water and iced often relieves the pain very rapidly, and is very grateful to the patient. I believe it to act to some extent by virtue of its antiseptic power, all the cases in which I gave it being of a mild type, if given early; and I have had no fatal case since ordering it.

4. That in erysipelatous tonsillitis we might expect to find some benefit following the use of the salicylates. In two severe cases of the genuine disease I believe some benefit was derived from the drug.

5. That in cases of the disease caused by belladonna poisoning no good has resulted from the exhibition of the salicylates. In the two cases in which I gave it no benefit was derived; and in one case the inflammation was so severe as to cause suppuration of the tonsils, both being affected.

Cheltenham.

ON TWO CASES OF COMPOUND COMMINUTED FRACTURE OF ELBOW-JOINT.

By JOHN DICKIE, M.D., L.R.C.S.E.

AMONGST your "Annotations" in THE LANCET for January 14th I notice your judicious observations on the Dudley case of compound fracture of the elbow-joint. As this case terminated unfavourably, the surgeon who recommended amputation of the arm seems to have given his evidence at the inquest with greater assurance than the case warranted, seeing that the hospital surgeons resolved to give the arm a chance; and although one should be cautious in passing an opinion without seeing the case, yet naturally one would suppose they decided upon this course after due consideration. The short account of the two following cases will illustrate the wonderful power Nature possesses in restoring injured joints, if permitted to do so. My cases were of a somewhat similar character, and both, curiously enough, were complicated in their treatment by recommendations to amputate at once; they occurred in private practice, one in this country and the other in South Australia. The brief notes are taken from memoranda in my possession.

CASE 1. *Treated by water-dressing only.*—In 1886 W. B—, aged thirty-three years, a gardener, rather intemperate, while making his way home at an early hour, somehow wandered alongside the railway and fell asleep with his right elbow resting on the rail; the result was that a train in passing smashed the joint and lacerated the soft parts of the posterior aspect very considerably; the anterior soft parts escaped injury. Another medical man first reached the case, and after due examination decided that the only chance to save the man's life was to amputate below the shoulder. I arrived at this stage, and my friend explained his view of the case—namely, that the nerves, bloodvessels, and tissues were so much injured that mortification of the arm would inevitably follow any other treatment. However, I pointed out to him the mass of sound textures in front of the joint, and the strong radial pulse at the wrist, and observed that the injury was very like a natural excision. After some hesitation he agreed to delay the operation, but anticipated a secondary amputation. Meantime we proceeded to remove all the small pieces of bone, which were parts of the humerus and ulna, the head of the radius having escaped injury. The ragged wound was cleaned and adjusted as well as possible without ligatures; very little hæmorrhage existed, and no vessels required to be secured. This case occurred just before Mr. Lister had developed his antiseptic method, and simple water dressing was applied, and a figure-of-8 bandage to support the whole. The arm was flexed and laid upon a sand pillow. Without following the case from day to day, it will be sufficient to state generally the after-progress of the case. For the first four or five days matters looked very critical, the arm and hand becoming swollen, cold, and doughy. Reaction set in moderately, however, and free suppuration, which got ready exit from the open joint, commenced. In a few days all risk of mortification had disappeared; the general condition of the patient continued very satisfactory, and soon granulations sprouted up in all directions. At the end of three weeks consolidation had so far taken place that the arm was put in a sling, and the forearm flexed and extended, more or less, daily. At the end of

two months the wound had cicatrised, and the patient retained a useful arm.

CASE 2. *Treated by antiseptics.*—This case occurred in South Australia, in the year 1873, at the Moonta copper mines, to which place I had, in the meantime, removed, and where accidents were of daily occurrence. In the Australian colonies, from the excessive heat during the summer months, compound fractures are more dangerous to life, and more liable to perverted action of the capillary system than in this country. The patient was a boy, aged fifteen years, employed during the night shift about the crushing machine. Dr. Bull, who acted as one of the mine surgeons, was called during the night when the accident happened, and superintended his removal home; I was sent for in the morning to assist him at the amputation. On examining the injury I objected *in toto* to removing the arm, and related my experience of the first case, and pointed out the similarity of the two cases; the doctor, however, would not consent to delay the operation, and withdrew entirely from the case, burdening me with the whole responsibility. Nothing daunted, I proceeded to dissect out all the loose fragments of bone from the lacerated tissue, I then thoroughly swabbed out the entire joint with pure carbolic acid, inserting the antiseptic into every crevice that I could find, then brought the wound together and covered the whole with lint saturated with carbolic oil (1 to 15), supporting the limb with a figure-of-8 bandage. I now placed the arm at right angles on a pillow. The patient was very comfortable, and complained little of the dressing. The carbolic oil was continued without interruption throughout the whole treatment; and although suppuration took place to a certain extent, no untoward accident occurred. After the first week I had an annular splint made of perforated zinc, with a movable joint, which enabled the patient to exercise his arm, which was done gently and diligently, with the result of a very useful joint, having considerable flexibility, and strong enough for the boy in three months after the accident to return to his employment.

These cases are, I think, sufficient proof that in compound comminuted fracture of the elbow-joint—and I might even now include all other joints—Nature has a wonderful restorative power, and they certainly show that surgeons are often too ready to condemn a limb. Even although the elbow should remain stiff and motionless, if the hand could be preserved entire, this would be infinitely preferable to taking away the limb.

Strone, Argyleshire.

CONVULSION COMMENCING IN THE FACE AND HAND FROM THE INFLUENCE OF NITROUS OXIDE GAS.

By FRANCIS WARNER, M.D. LOND., M.R.C.P.,

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THE examination of the muscular system as an index to the condition of the brain is one of the principal means at our disposal for studying the nerve centres. It is well, then, as a method of scientific inquiry, to examine the physiological brain under unusual circumstances, such as the coma produced by anaesthetics. The following case is interesting from this point of view.

A gentleman in good health, about thirty years of age, required to have a large molar tooth removed, and at the request of the dentist I administered nitrous oxide gas. No difficulty occurred in producing anaesthesia; the patient respired the gas freely and easily; he became pale, then slightly cyanotic, and then, desiring full anaesthesia for a difficult operation, he was allowed to take one more full respiration of the gas. Carefully observing the patient all the time, and feeling his left pulse while viewing the face, I now noted distinct twitching of the right angle of the mouth (zygomatic upward twitching), and this was immediately followed by twitching of the right hand; first the thumb twitched mainly in the direction of flexion, and when it was semiflexed the fingers began to fold over it. Anaesthesia was now very complete, the gas was discontinued, the molar was removed by the dentist, and the patient recovered consciousness quickly, and, as is usual after the administration of gas, felt completely well.

This gentleman was in good health, had not suffered from any brain disturbance, and there was no reason to suspect brain disease. Had such a local convulsion commenced in a patient with the signs of brain disease, one would have suspected a local lesion of the left hemisphere, or described the attacks as Jacksonian epilepsy. In this experiment the two hemispheres did not act equally; it is probable that the gas acted equally upon both hemispheres; if this be so, the two hemispheres cannot have been alike. Possibly there was some local difference in the two sides of the brain, but still it was consistent with health, and we should not have suspected any such difference but for the experiment with the gas.

For the purpose of examining the normal functions of the brain, it is *prima facie* more satisfactory to observe healthy brains rather than those diseased. A brain may be said to be healthy when it is able to discharge its social duties or functions without producing a state of over-work, irritability, spasm, weakness, &c.—in short, without the signs of any abnormal or pathological results. In most clinical investigations of the brain we seek knowledge by observing what muscles are affected with palsy or spasm, and at the post-mortem record the area of brain disease corresponding. In this kind of observation the inference is drawn from the comparison of the abnormal nerve-muscular conditions with those corresponding to the normal brain; in a case of hemiplegia, the healthy and the abnormal sides can be compared, and thus information is gained respecting brain functions. In such observations, by selecting cases where certain muscles are paralysed, &c., we may find what local brain areas of lesion correspond. Now, I would argue that we may look to physiological conditions of man, and selecting cases where certain local nerve-muscular signs are observed, we must conclude that a local change has occurred in some nerve-centres, producing the nerve-muscular signs observed. I would further maintain that the observations of a healthy brain under such circumstances as called forth the exercise of or the temporary abeyance of the function of certain parts, are as scientifically admissible as evidence of local brain function as investigations in pathology. The same principle is, in fact, involved in both kinds of investigations—viz., the observation of local muscular phenomena which we believe to depend upon local brain change. When a general condition—e.g., sleep, uræmia, or the “typhoid condition”—chloroform, alcohol, or other drug produces special local muscular change, it must depend upon conditions in the corresponding nerve centres, and there must be such corresponding centres, whether pathology and anatomy can demonstrate their locality or not.

Harley-street.

A CASE OF POISONING BY ACONITE LINIMENT.

By CECIL A. CORKE, F.F.P.S. GLAS., L.R.C.P. E., &c.

A YOUNG woman suffering from suppression of the menses together with hysteria and mental depression developed a suicidal tendency, getting up at night and wandering about in such a manner as to lead her friends to keep a strict watch over her. In spite, however, of every care taken, she, on Jan. 13th, possessed herself of a bottle of liniment and drank some of the contents; the exact quantity was uncertain, but as well as could be estimated about two fluid drachms. The liniment was a mixture of equal parts of lin. aconiti (P.B.) and lin. saponis co., which had been prescribed for her mother some months previously. Directly it was known that she had taken poison, a mustard emetic was administered, and I was sent for. The mustard produced vomiting, but not to such an extent as to empty the stomach, the vomited matter smelling very strongly of the liniment. The patient, who at no time will give much information, and when ill generally states she is quite well, said she felt no inconvenience, and was quite well. An emetic of sulphate of zinc was prescribed immediately, but only taken on being threatened with the stomach-pump. The patient, who appeared somewhat frightened, but not then under the influence of the poison, suddenly became very giddy and faint, and the skin bedewed with a cold perspiration. Much pain at the stomach was complained of, and earnest entreaties were made by her that we would let her alone. The pupils