not feel confident without a companion. Six months after this there was no vestige of rheumatism, joints natural, pain quite gone. Even that in the chest, which had interfered with her swallowing fluids except by small sips, was no longer experienced, the power of swallowing being natural. Sleep was continuous from soon after retiring to rest until the time for rising, a contrast to the pain and restlessness of former times. The general health is now excellent. To use her own expression, she "scarcely knows herself," for whereas during the whole thirty odd years she does not remember having been free from pain, she is now entirely free from it; and whereas she had been unable to move about the house or go out without assistance, she can now go out by herself, and has walked four miles without a rest. Indeed, it has afforded some amusement to hear her expressions of delight, and the description of the tests which she has applied to satisfy herself that the improvement was real. On a recent occasion she was in the park, when, looking round to see that no curious eyes were watching her, she said to a relative who was with her—"Don't laugh, I am going to run," which she did with great satisfaction to herself.

With regard to the treatment and its success. Although there is no claim of novelty to be applied to the remedies used, that they were effectual in promoting the desired end is manifested by the result. There is a wide gulf between disbelief of, and exaggerated confidence in, medicine—the one objecting to any *propter hoc* reasoning, the other accepting without question the empirical dogma. The long period during which the iodide, bromide, and conium were continued without producing any constitutional disturbance is not a little remarkable. Only twice had the iodide to be discontinued in consequence of the characteristic catarrhal symptoms. In like manner the conium was discontinued for a short time on three occasions, not from any evidence of toxic action, but from a feeling that it might be prudent to do so. The system had become so tolerant of the medicines, or, as one might say, the disease had so "consumed" them, that they might have been continued for a much longer period. It may be inquired, How do these medicines act?—which almost necessitates another question, What is rheumatism?—too wide a matter to discuss here. Suffice it that we observe the same divergence of opinion as elsewhere. We have certain forms of words to express the difference between health and what we call disease. We analyse the blood and secretions to discover the *fons et origo mali* without producing uniformity of opinion. Hence in the treatment we find remedies of opposite characters employed for the cure of the same malady. Thus in the acute stage of rheumatism one considers the alkaline treatment to neutralise the excess of acidity in the system the only natural one, while another administers large doses of lemon juice. One will attack cholera with purgatives, another with astringents and opiates; one with cold water, another with hot water; and so on. From time to time the field of argument changes. That which was pretty firmly established in one generation is rejected by the following. Whatever may be the nature of the physiological changes effected in this complaint, rheumatism, it appears from the symptoms in its acute development to be rightly classed both under febris and neurosis. Hence in that stage remedies are sought for amongst those which reduce temperature and allay pain, and the chemical theory of neutralising the acid secretions is rational in theory and useful in practice. But when we come to a chronic condition less susceptible of a satisfactory explanation we are reduced to a more empirical system of treatment, the *rationale* of which we are somewhat at a loss to understand. The iodides and bromides are present to the mind, and have been used with temporary benefit or with no effect. Conium has been employed with marked benefit in chronic rheumatism and in syphilitic periosteal inflammation. With these were joined buchu, broom, and sarsaparilla, with the object of assisting to eliminate from the system the *materies morbi*. Now, I attribute the success of the treatment to its regular and long-continued administration. It is very seldom one meets with a patient so willing and anxious to assist by strict adherence to directions, especially for so long a time, and the unusual tolerance of the medicines gave full opportunity for the trial. One other thought suggests itself to me. In a contribution on fibroid disease, which was published in THE LANCET, I was led to theorise on the relative connexion between those diseases of heredity, cancer and gout, referring to cases where one had been replaced by the other, relating the case of a family which, having for generations suffered from gout, suddenly developed

cancer, the former disease disappearing and the latter carrying off the members of two generations. If there be any ground for the idea of substitution, it may be just possible in this instance that, as cancer was developing, the rheumatism so closely allied to the gouty diathesis may have weakened its hold and rendered it more ready to yield to the remedies employed. Be that as it may, I think, taking into consideration the many years during which this poor woman was bound by her infirmity, and despite the medical care she had received at different times, the favourable result now obtained must, without any forced argument, be accepted as the direct result of the action of the remedies used; and, as they are not novel, there is evidence to show that their long and continuous exhibition is necessary to produce such a result.

St. Mark's-square, E.

TWO CASES OF DISEASE OF SACRO-ILIAC SYNCHONDROSIS.

By F. J. GANT, F.R.C.S. ENG.

CASE 1.—C. M.—, aged thirty-six, married, was admitted into the Royal Free Hospital on March 2nd, 1887. The patient had always been healthy until Christmas, 1886, when he first noticed a swelling over the sacrum to the left of the middle line. He had fallen from a ladder eighteen months previously. When admitted this swelling was found to be soft and fluctuating—evidently an abscess, painful only on deep pressure. On standing, the man complained of a sensation as though the left half of the pelvis were giving way, and of pain running down towards the hip. No wriggle in walking. Viewed posteriorly, the left limb appeared elongated, but there was no real alteration in length when measured between the anterior superior spine and inner malleolus, the apparent lengthening being really due to the patient habitually standing on the right leg, and thus producing drooping of the opposite limb. There was some abduction and eversion of the limb, with slight forward projection of the foot. The anterior superior iliac spine was more prominent than on the other side, and on a somewhat lower level. The above-mentioned swelling had enlarged, so as to occupy the adjoining portion of the gluteal region. On April 19th I made an incision over the swelling, and pus escaped. At one point a small aperture could be felt, through which a probe passed into the sacro-iliac articulation. This was enlarged, and the articulation gouged out until the surface appeared healthy. The abscess cavity was scraped with a Volkmann's spoon, and washed out with 1 in 40 carbolic solution. A drainage tube having been introduced, the wound was dressed with dry carbolic gauze and salicylic wool, and closed with mackintosh cloth and retained with elastic bandage. The wound rapidly healed, and the temperature reached normal in two days. The dressings having been reapplied as occasion required, the patient was discharged on May 22nd. He could then walk and stand without inconvenience.

CASE 2.—E. G.—, a young woman, aged nineteen, was admitted on June 29th, 1887. She was by occupation a box-maker, which for the last three years had entailed much standing in her work. Nine months ago she first noticed a small lump nearly over the left sacro-iliac articulation. This slowly increased in size from a hazel-nut to about the size of an orange. She had received no injury. In standing or walking, she experienced a sensation, as she herself expressed, of "falling asunder behind." Pressure on the iliac bone outwards by the finger caused severe pain in the articulation. The movements of the left hip joint were free and unattended by pain. The appearance and position of the limb were precisely similar to those of the former case, there being apparent lengthening with abduction and eversion. The anterior superior iliac spine projected conspicuously forwards. On July 12th the abscess was opened, from two to three ounces of pus evacuated, and the synchondrosis scraped, as in the last case, together with the pyogenic membrane. The cavity was syringed out with carbolic solution (1 in 40), drainage tubes introduced, and antiseptic dressings applied. The after course of the case was uninterrupted by any unfavourable symptom, and now (July 19th) the wound is quite healthy and healing up.

Remarks.—The above cases seem worthy of being recorded, if only on account of the rarity of the disease of which they are

examples. This is only the fourth case that has come under my notice during thirty-four years at the hospital. The diagnosis would lie between this disease and that of the hip joint. In the early stage at which both of these cases presented themselves, the sacro-iliac disease bore a striking resemblance to the first stage of "morbus coxæ," with regard to the apparent lengthening and attitude of the limb; but the marked prominence of the iliac spine in front is distinctive. Equally characteristic is the sensation of yielding in the articulation in the act of standing or walking, with sometimes a wriggling movement in progression. These characters taken together, with the absence of any signs or symptoms referable to the hip joint, are diagnostic of sacro-iliac disease.

A SERIES OF CASES OF INJURIES FROM EXPLOSIVES:

By W. LOUDON STRAIN, M.B.

SURGEON TO ST. JOHN DEL REY MINING COMPANY; LATE HOUSE SURGEON, WESTERN INFIRMARY, GLASGOW.

DURING the last three years I have had to deal with a number of surgical injuries produced by various explosives, and I think them of sufficient interest to warrant their publication, with the short remarks I have to make on each case.

CASE 1.—This case I had to deal with while resident in the Western Infirmary. A strong working man on his way to work picked up a piece of copper tubing and put it in his pocket, intending to make some use of it. On reaching home he proceeded with the help of a darning needle to clean it out, when it exploded in his hand. On admission, it was found that the thumb, fore and middle fingers had been so shattered that amputations had to be performed through the proximal phalanx of the thumb, the middle joint of the forefinger, and at the knuckle of the middle finger. The man did well. This case is interesting when compared with Case 3. The explosive—fulminate of mercury—was the same in both cases, and the mode of production and damage sustained were almost identical.

CASE 2.—J—, a very old negro, certainly over eighty years of age, was brought to Morro Velho Hospital on Feb. 16th, 1886, terribly injured by the exploding of a quantity of dynamite and percussion caps, with which he was working. The old man's duties were to attach the cap and fuse to the dynamite cartridge. How the accident occurred will never be known. It is estimated that about 5 lb. of dynamite and about one hundred caps, with fulminate of mercury, exploded at the old man's feet. On admission he was not unconscious, and complained loudly of pain on any attempt to move him. His left foot, with the lower half of the leg bones, was shattered; the right leg bones were fractured in several places, and almost completely stripped of the soft parts. Beyond scorching of the skin and singeing of his wool, no damage was done to the head, trunk, or upper extremities, all the force of the explosion being exerted on his legs. The poor old fellow survived the removal of his shattered limbs about twelve hours.

This case illustrates how curiously dynamite acts. An inspection of the place where he was working showed a hole about a foot deep and two feet in diameter blown in the ground. The house came down about him, and a gable close by was blown in. The wonder is how he was not blown to atoms. The dynamite with which he was working was on the ground, and he sat on a little bench.

CASE 3.—On Saturday, April 4th, 1886, a Chinaman stole a cap, intending to use the tubing as a ferrule for a stick. Finding it obstructed, he proceeded to clear it out, when it exploded, shattering the thumb, fore and middle fingers of the left hand. Being almost identical with the injuries in Case 1, the amputations were also identical. At the end of a week the stumps were dressed, and looked well. Four days afterwards pain was complained of, and on removing the dressings pus was found lodging in small quantity in the sheath of the extensor tendon of the middle finger. This was freely incised, and relief followed, but three days afterwards tetanus appeared, and in exactly three weeks from the date of the injury he died asphyxiated.

What caused the tetanus? Had the faulty drainage—the pus lodging as it did in a tendon sheath—anything to do with it? He suffered from chronic tubular nephritis, with

aortic regurgitation and dropsy. Had this anything to do with it? The only other Chinaman in the hospital at the time was a man suffering from anæsthetic leprosy, with ulcers. The two were continually together. I merely mention these three things, as I think it not improbable that one or other had to do with the origin of the tetanus. Calabar bean was given in large doses, and continuously, but without benefit. He smoked opium largely.

CASE 4.—In this case I will briefly narrate the injuries sustained by several persons in an explosion which occurred in a mine on April 9th, 1886. After blasting out masses of rock with dynamite the larger pieces are broken up with sledges to a convenient size for conveyance to the surface. On the above date a man was thus engaged, but on striking a mass of rock an explosion occurred, shattering the mass and sending pieces in all directions. Practical miners are at a loss to account for these explosions, which occur at rare intervals; but it is thought that it is due to nitro-glycerine which has exuded from the dynamite during the blasting and remained at the bottom of the "hole" unexploded, and that the sledge coming down on this causes the explosion.¹ This is a matter of importance for the consideration of dynamite makers. By this explosion five persons sustained serious injuries. J—, an Italian, sustained a compound comminuted fracture of the tibia just above the ankle, total destruction of the right eye, and numerous cuts and scratches. Ten small fragments of bone were removed from the seat of fracture, and three days afterwards extirpation of the eye had to be performed on account of pain. He made an excellent recovery. C—, a Brazilian, was using the sledge. He escaped with a simple fracture of the tibia below the knee. T—, a black man, had a severe laceration of his right arm, and across the left side of his throat there was a deep, clean cut, which bared the side of the larynx and also the carotid, which most wonderfully escaped injury. He suffered from profound shock, from which he did not recover for twelve hours. After this, recovery was uninterrupted. A—, a black man, had a deep punctured wound in front of his left shoulder. A small artery was wounded, and bled so profusely that I had to cut down and tie it. He suffered a good deal from loss of blood. L—, a black man, was cut across the right eyeball, which was completely destroyed. One curious incident occurred. A man was actually standing on the stone when it exploded. He was thrown for a considerable distance up an inclined surface, but escaped uninjured. All these men were employed close to the place of explosion, besides many others who escaped uninjured.

CASE 5.—Senhor J. F. P—, a Brazilian, aged about sixty, was terribly injured by the exploding of a dynamite cartridge in his hand. It occurred in the following manner. On a certain day after Easter the terrible fate of Judas the Betrayer is typified or commemorated by the exploding of bombs, firing off rockets, &c. On this particular occasion dynamite cartridges were used. A short piece of fuse was attached to the cartridge, which was held in the hand until the fuse was seen to have caught fire; then the intention was to throw it away as far as possible for it to explode. The sun shining brightly at the time obscured the sparks flying from the fuse, and thinking it had not caught fire the man held it in his hand until the explosion occurred. I may incidentally remark that the use of dynamite and other dangerous explosives at their religious and other festivals prevails to an alarming extent amongst the Brazilians, and is winked at by the authorities. However, this case has had a very salutary effect in diminishing the nuisance. I was on the spot in about a quarter of an hour, and found the man on the floor in an unconscious state. His right hand was blown off just above the wrist, and his right eyeball burst; a day or so after I also found both tympanic membranes burst. The amputation of the hand was completed, and a great gash in the palm of the left hand was dressed. The shock was very severe, and required free stimulation for twenty-four hours. On the third day the pain in the destroyed eye was so great that I had to extirpate it. The man's recovery was very slow. Sloughing of the palmar flap occurred and much retarded healing; but after two months he was able to be on horseback again—"a sadder but a wiser man."

This case is of interest in showing the very localised action of the dynamite. The bursting of the eye and

¹ Experienced miners here say that in mines where dynamite is largely used, exuded and unexploded nitro-glycerine is frequently met with, and is a recognised danger in using dynamite for blasting.