REMARKS.—It will, I think, be generally admitted that the above case, the clinical features of which I have endeavoured to describe, was röteln. The following points in connection with the case are noteworthy.

1. *The Severe Character of the Eruption during the Stage that the Rash was developing.*—During this period, the quick pulse and high temperature, taken along with the constitutional symptoms, made me apprehensive that a much more formidable disease was being ushered in.

2. *The Character of the Fever.*—The temperature remained steadily at 104° Fahr. during the greater part of the second day; while, in the evening, coincident with the maximum development of the eruption, there was a very sudden defervescence, the thermometer registering 99° Fahr. at 10 P.M. With this marked crisis, there was also a lowering of the pulse, and a decided improvement in the condition of the patient. The next morning, the temperature was normal, and did not rise again.

In looking over the literature of röteln, one meets with contradictory statements as to the character of the fever that accompanies the disease. For example, Wunderlich, in his classical book on *Medical Thermometry*, in speaking of rubeola (röteln), says: "It does not necessarily entail any fever at all, or only a slight transient attack before or during the eruption. The elevations of temperature are generally subfebrile, or, at the worst, moderately febrile. And although, in isolated cases, more considerable elevations of temperature may be met with, they depend, no doubt, either on complications or on the peculiar mobility of temperature which is characteristic of very young children." (*Medical Thermometry*, New Sydenham Society, p. 351.) Vogel, in writing of this disease, says: "In most instances, it appeared and ran its course without the least catarrhal symptoms, and without fever." (*Diseases of Children*, p. 495.) On the other hand, Dr. Edward Long Fox states, from what he has seen of this disease, that "the rule certainly is that, on the first two days of the disease, whilst the eruption is coming out and advancing to its maximum, the temperature is rather high". He gives the thermograph of one case in which the temperature rose above 104° Fahr., but adds that this was a higher point than usual, and that more frequently the highest point is 103° Fahr. (Clinical Observations on the Temperature of Disease, *Medical Times and Gazette*, April 2nd, 1870, p. 360.) Very full statistics relating to the temperature of röteln are given by Dr. Lewis Smith of New York, in his book on the *Diseases of Infancy and Childhood*; and his conclusions are as follows. "The observations, therefore, of Dr. Reid in the Foundling Asylum, and my own in private practice, show that the febrile movement is constantly mild in most cases of uncomplicated röteln, but that certain patients have temporary exacerbations of fever, in which the temperature is as elevated as in scarlet fever or severe measles." (*Diseases of Infancy and Childhood*, by Lewis Smith, M.D., 4th edition, p. 195.) Thomas, in his monograph on Röteln in Ziemssen's *Cyclopaedia* (vol. ii, p. 145), while he holds that in the majority of cases there is no fever, states "that the course of the temperature during rubeola (röteln) is a very varying one; for there occur cases with normal temperature throughout; cases with fever during the whole eruption, with a rapid initial increase, and a defervescence with crisis or lysis; and, finally, cases with an initial fever, and a defervescence concluded before the expiration of the eruption."

In the case of which I have given the notes, the temperature seems to have run unusually high for röteln, and there were no complications present to account for it.

3. *The Eruption.*—This came out on the second day; appeared first on the face on May 13th; spread thence over the body and extremities, and had quite disappeared on May 17th. In character, it resembled measles on the face and trunk; on the extremities and in the cleft between the hips, it was scarlatiniform. As I have stated, it was not attended by itching, and was not followed by desquamation.

"There is scarcely another disease upon which the views of authors differ so vastly as upon rubeola" (röteln). So wrote Vogel; and although, since the time these words were penned, very great advances have been made in our knowledge of this disease, its exact nature and position among the exanthemata do not seem to be absolutely determined, as is evidenced by the fact that, in the section devoted to diseases of children at the forthcoming International Medical Congress, one of the subjects that the committee have selected for discussion is the real position of röteln, and its relation to scarlatina and measles.

Nothing has caused more confusion than the number of names under which this disease has been described. Thus it has been called rubeola, German measles, scarlatina morbillosa, hybrid measles, epidemic roseola, rose-rash, röteln, etc.

Is röteln merely a mild form of measles, or of scarlatina, or a combination of both (a sort of hybrid)? or is it a disease *sui generis*?

In the *Dictionnaire Encyclopédique des Sciences Médicales*, it is described under the head *Roséole*; and the writers of the article think that those cases which have been published as cases of röteln are to be regarded either as measles or abnormal forms of scarlatina, or as combinations which they term rubeolo-scarlatinas (*rubeolo-scarlatines*). These writers state that cases of röteln are exceptional in private practice, and occur only in the course of certain epidemics; and that they are but little observed except in children's hospitals, where, from the crowding together of patients suffering from the different exanthemata in different stages of their development, hybrid products arise, which are deviations from the normal type of the fevers—in fact, pathological monstrosities (*monstrosités pathologiques*).

I think there can be no doubt that many cases of röteln are diagnosed as mild or abnormal varieties of measles or scarlatina, especially when epidemics of these fevers are prevailing. Many so-called second attacks of these diseases are probably also cases of röteln. That, however, röteln is a specific disease quite distinct from either measles or scarlatina, and having definite features of its own, has long been held in Germany; and this view has been steadily gaining ground in England, where it has been supported, among others, by Aitken, Murchison, Bristowe, Liveing, Duckworth, etc. That it is quite distinct from measles and scarlatina seems to be established, apart altogether from its own peculiarities, by the fact that a previous attack of measles or scarlatina does not give immunity from röteln (and this was exemplified in my case), and that having had röteln does not prevent one from taking measles or scarlatina.

It is only by the careful observation and reporting of cases that our knowledge of röteln can be rendered complete; and, when this is done, it is probable that röteln will occupy a position as distinct as measles or scarlatina. These were for many years regarded merely as varieties of one and the same disease, and were only finally separated about the middle of the eighteenth century.

CLINICAL NOTE AND REMARKS ON A DISEASE OF THE EYES PECULIAR TO COLLIERIES.*

By WILLIAM SYKES, M.R.C.S., L.R.C.P., Mexborough.

THE reasons which induce me to bring the paper I am about to read to your notice are these. 1. The observations it contains are entirely original; for though, since preparing it, I have been informed that the disease in question has been previously described, I have never met with any work bearing upon it. 2. It is not even mentioned in any of the text-books devoted to diseases of the eye which I have consulted (Carter, Walton, Macnamara, Lawson, etc.); neither is it given in those other works devoted to the diseases caused by unhealthy trades which I have read. 3. A large number of colliers (at least one-half or quarter per cent.) are affected by the complaint. The case which first drew my attention to the question was the following.

E. N., a collier, aged 29, consulted me for the first time in August, 1877. His eyes were in the following state: the left pupil was widely dilated, and perfectly insensible to the stimulus of light; the right one was also dilated, but to a less extent, and was slightly sensible to light. Nystagmus to a marked degree was present, both eyes oscillating, or, as the patient's wife described it, "flickering", at a tremendous rate. With the left eye, he could only distinguish light from darkness, but could not discern objects at all; with the right eye, he could distinguish my features, but could not read the largest-sized print. The patient said that he first noticed any failure in his sight when he observed, as he used to walk homewards at night the previous January, that the gas-lights in the streets looked dim, and jumped and flickered about—(and I may here remark that, in all, or nearly all, of the cases I have since examined, this failure of sight at dusk, as the first symptom of the disease, has been present). He had been to a local infirmary, and the surgeons there had discharged him as incurable—telling him that there was cerebral disease, and he would ultimately become quite blind. He had also attended a school for the blind, and the physician to that institution had told him he would not recover. I diagnosed the case as one of atrophy of the retina, and told the man he would surely never be any better. I prescribed tincture of perchloride of iron, with liquor strychniæ, as a medicine, without either perceiving, or indeed expecting, any improvement during its administration. The poor fellow collected sufficient money to purchase a horse and cart, for he hoped, with assistance of his little boy, that he could still manage to get about sufficiently well to gain a livelihood by selling coals, etc. His eyes, he said, however, were deteriorating very fast during the last few months, and he feared that before long he would be entirely blind.

* Read before the Yorkshire Branch.

Six months after he had commenced this mode of living, I met him, and asked him how his sight then was. "Nearly well", he replied; and, to my surprise, on examining the eyes, I found that the nystagmus had almost entirely disappeared, the right iris answering freely and the left slightly to the stimulus of light. The left pupil was also less dilated. I may summarise the after-history of the case by saying, that I have seen this man frequently since, and that the eyes have continued to improve, so that, at the present time, he can read small print fairly well. I will not weary you by relating any more cases of the kind, of which I have several, but will merely make the following remarks in conclusion.

1. *Pathology.*—I have examined the optic disc with the ophthalmoscope, but do not feel sufficiently satisfied in my own mind to record my opinion here. I will just remark that the history of the above case shows that there is probably no grave permanent lesion of the retina which would lead to there being visible anatomical changes, else the rapid improvement of vision described would not have taken place.

2. *Cause of the Disease.*—The miners themselves give the credit of it to the insufficient light cast by the safety-lamp. This may be the case; but, since we do not find the disease mentioned as occurring in other classes of miners who work in almost as dark places, I am inclined to attribute it to the inhalation of the poisonous gases which are found in the coal, which probably alter the composition of the blood; and thus not only interfere with the nutrition of the eye, but also produce a local venous congestion. This question is of importance; for, if the complaint be produced by insufficient light, it is the duty of Government to encourage the invention of a lamp as safe as, and more effective than, the one in use at present. If, on the other hand, the disease originate in the cause I have suggested, better ventilation seems to be urgently required.

3. *Treatment.*—Little or no treatment appears to be necessary. In all the cases I have observed, very marked improvement took place on exposing the patients to free light and air; in many, complete cure was effected; in all, a great improvement was perceived.

NOTES OF A CASE OF INTRA-UTERINE AMPUTATION.

By R. J. ANDERSON, M.D.,

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CASES of intra-uterine amputation, although by no means common, yet present features of interest sometimes that have more direct relation to the cause of the accident. The following example has been thought worth recording, as an opportunity was afforded of dissecting the parts, so that the condition of the muscles after a period of many years was examined.

A female subject, aged 55, was brought to the anatomical rooms early in the session 1880-81. The left upper extremity presented no variation from the natural condition as far as the middle of the arm; below this point, a constriction existed; and in the region of the stricture the skin was darkly pigmented. A large cutaneous fold extended from a point six inches above the elbow to a point four inches below. It was two or three inches in breadth at the elbow-joint, and consisted of two portions of skin placed back to back. The distal phalanx of the thumb, and all the metacarpal phalanx except the base, were wanting. The proximal phalanx of the index finger was all that remained of that digit. The flexor profundus digitorum in the index finger was inserted a little above the flexor sublimis, near the distal extremity of the first phalanx. The flexor longus pollicis was inserted into the base of the metacarpal phalanx. The middle, ring, and little fingers were entire; the latter, however, was bent, the second and third phalanges being placed at right angles to one another. The tendon of the extensor communis digitorum to the index finger was attached to the distal extremity of the first phalanx. The extensor secundi internodii pollicis was attached to the remains of the proximal phalanx of the thumb. Nails were not present on the first and second fingers.

In the right upper extremity, the second phalanx of the thumb and a portion of the first phalanx had been removed. The last phalanx, and the middle, except the base of the index finger, the third, and three-fourths of the middle phalanx of the middle finger, were absent. Nails were absent on these; a nail was present on the ring finger, at its extreme end its distal phalanx had disappeared. The little finger was perfect. The flexor longus pollicis was inserted at the distal extremity of the first phalanx. The tendons of the flexors were inserted together into the base of the second phalanx of the index finger, that of the superficial flexor splitting. The tendons of the same muscles to the middle finger were inserted into the base of the second,

that of the flexor profundus being placed between the two parts of the sublimis. The common extensor tendon was inserted into the base of the second phalanx, and the arrangement in the case of the third and fourth was similar. The extensor primi internodii pollicis was inserted into the base, the extensor secundi internodii into the distal extremity of the first phalanx. A slip from the tendon of the extensor primi internodii passed to that of the latter muscle, and was inserted with it.

The right lower extremity presented few features of interest. An almost complete web extended between the fourth and fifth toes; a less marked cutaneous fold was present between the second and third.

The left lower extremity presented an interesting case of talipes varus. The toes had suffered as in the case of the hands. The inner aspect of the gastrocnemius was composed largely of fibrous tissue, and was much smaller than the outer. The other parts did not differ materially from the condition usually found in similar cases.

In a case referred to in the *Medico-Chirurgical Review* (vol. xix), a constriction existed above the elbow. The parts were atrophied and oedematous. The radial side of the wrist was bent, and the fingers contracted. In the case above recorded, the parts beneath and in the neighbourhood of the constriction were not much affected, showing that the constriction, if it were ever present, must have passed away. No constrictions were present in the lower extremities, as in Frickhöffer's case, where, with a talipes varus, a constriction occurred at the left knee-joint.

In volume xxxii of the same journal, an abstract of G. Braun's views is published, with cases. The abnormal growth of the amnion produces definite bands, that are carried to the back of the embryo, and the bands, extending from both sides, coalesce. These bands produce a very marked effect on the development of the embryo. In one case given by the above-mentioned observer, there was a fissured palate. The frontal and occipital bones were undeveloped, and fibrous bands extended across the cranium. In another, the nose and upper lip were fissured.

ELECTRO-DIAGNOSIS.*

By J. DIXON MANN, M.D., M.R.C.P.

THE rapid progress recently made in the pathology of diseases affecting the nervous system, by demonstrating the relation between organic lesions and the resulting train of symptoms, has greatly enlarged the field of diagnosis, and has developed the use of systematic methods of investigating the physical conditions to which such diseases give rise. In seeking to ascertain the essential nature of a neurosis, many methods are used to test the functional activity of the affected muscles and nerves; and, by comparing the results with those obtained from an examination of corresponding and healthy structures, to localise the causal lesion, and to gauge its intensity. In investigations of this kind, much information is derived from comparative observations of the immediate effects produced by electricity on nerve and muscle, in health and in disease. The diagnostic powers of electricity are largely used by those specially engaged in the treatment of diseases of the nervous system; but, owing to an exaggerated estimation of the technical skill required for its practice, electro-diagnosis has not yet received the general attention due to its importance. The time approaches when the diagnosis of many diseases of the nervous system, hitherto considered obscure, will be a matter of ordinary routine; every practitioner, therefore, should be conversant with all the recognised methods of investigation.

The application of the constant, or voltaic current, to a healthy muscle, produces contraction only at the opening and at the closure of the circuit—that is, at the moment the current begins, and at the moment it ceases to flow; whilst the current is flowing, the muscle is passive. Different degrees of current-strength are required to evoke muscular contraction, in accordance with the fourfold manner in which the contraction may be produced—namely: at the closure of the circuit, and at its opening, with either the positive or negative pole. Beginning with a mild current, and gradually increasing it, the first normal reaction which occurs is that produced by making contact with the negative electrode—cathodal closure contraction (C. C. C.). Next comes the contraction produced by breaking contact with the positive electrode—anodal opening contraction (A. O. C.). Almost synchronous with the last is the anodal closure contraction (A. C. C.); and, last of all, requiring a most powerful current, is the cathodal opening contraction (C. O. C.). When the current is very strong, the cathodal closure contraction assumes a tetanic character; if the current be still further augmented, the anodal closure contraction evinces a like tendency. The

* Read at the annual meeting of the Lancashire and Cheshire Branch.