another case of moderate effusion, two days after the withdrawal of a small quantity of serum, the effusion had so completely disappeared that it was impossible to withdraw any more.* When the history is recent, and the effusion serous and small or moderate in amount, we prefer to abstain from further operative interference. When three weeks elapse without improvement, we recommend the additional removal of a small quantity, either by the hypodermic syringe or the aspirator. If the effusion be considerable, we believe that it is right to perform paracentesis at once; not only to relieve dyspnoea, but to give the lung a chance of re-expansion before adhesions bind it down. In a case where seventy-two ounces were removed from the chest by aspiration, from a boy nine years old, the lung immediately expanded and there was no reaccumulation. In another case, from a boy six years old, twenty-two ounces were removed, and there was also no re-accumulation. We think paracentesis should be performed quite irrespectively of pyrexia. As to drugs, although we have the strongest belief in the value of diuretics in the treatment of passive effusions into the peritoneal cavity, we cannot say that we have seen any benefit whatever from their use in pleuritic effusion; and, considering how frequently small serous effusions into the pleura in children are associated with the tubercular diathesis, we should be exceedingly chary in subjecting any such cases to a mercurial treatment. In young children, the use of blisters is not without grave risks of producing troublesome sores. We have not seen any harm result from the external application of iodine; indeed, it has seemed to us that its use, combined with the internal administration of iodide of potassium, has produced benefit. In this, as in every other wasting disease of childhood, cod-liver oil is invaluable.

2. *Purulent Effusion.*—If the exploratory puncture reveal the presence of pus, it is recommended to withdraw *as much as possible* with the hypodermic syringe. We have found great advantage in using a syringe capable of holding at least two drachms. Occasionally this will remove all that is present in one spot; moreover, gently moving the needle will give information as to the size of the cavity. It is quite marvellous to observe the rapid improvement which frequently follows the emptying of a very small collection of pus. We have found by experience the necessity of bearing in mind the possible existence of multiple collections of pus completely separated by adhesions. If the quantity of pus removed be incommensurate with the extent and intensity of the dulness, subsequent punctures must be made. We have never seen any evil results from such punctures during five years' experience, and thus have become as convinced of the safety as of the utility of the measure. If there be more pus present at a given spot than the hypodermic syringe will remove, it is better to introduce the aspirator trocar, and withdraw as much as possible.† The occurrence of a little bleeding in the course of the paracentesis has frequently ceased after the valve has been shut off for a few moments. If, after reopening, blood should continue to flow, it is recommended to stop the aspiration. In most of our cases, aspiration has been performed under anaesthetics. This has appeared to have three advantages: 1. The facility thereby gained for making a thorough exploration; 2. The avoidance of shock and collapse; 3. The avoidance of the troublesome cough, so well known in the conclusion of paracentesis thoracis without anaesthesia. Chloroform, preceded by a small dose of brandy, has appeared to us better than ether for these cases, on account of the avoidance of bronchial flux. We believe strongly that, if anaesthetics are used at all, they should be pushed to complete insensibility. When the effusion is general, we have found again and again the angle of the scapula a better position for puncture than the mid-axillary line. In localised effusions, the puncture ought to be made at the centre of maximum dulness, wherever that may happen to be. In a certain number of cases, there has been excellent recovery after a single aspiration. Seven at least of such cases have been observed. Successful results have been obtained after repetition of the aspiration up to six times. We have never seen albuminous expectoration. If the pus do not become fetid, and if at each successive operation the quantity notably diminish, there seems no reason to limit the number of attempts to cure the empyema by repeated aspiration. If the pus should become fetid, or rapidly reaccumulate in larger quantity, permanent drainage is recommended. In all cases, it is contended that this should be by a double opening. If possible, the first opening should be made in the front of the thorax, and the second below and internal to the angle of the scapula. A long probe, threaded with a piece of drainage-tube,

may be passed downwards and backwards from the first opening, and the second incision made over the point of the probe when it is felt through the integuments. The drainage-tube should then be drawn through and secured by tying the two ends together. We contend that, by the method of double openings, there is the certainty of more complete and rapid evacuation of pus, and consequently of more rapid adhesion of the parietal and pulmonary pleurae, than by the single opening. We have seen one case where a single opening only was made, and where subsequent closure took place; and it was found afterwards that two separate collections of pus had not been drained by it. The use of double openings and of a through drainage-tube diminishes this risk, although it may not entirely obviate it. We have often seen difficulties arise with respect to evacuation, when a single opening has been made only in the mid-axillary line. Apart from the unfavourable shape of the pleural cavity for drainage, it is important to bear in mind that, when retraction begins to take place, the ribs approximate most in the axillary region, and, in a child especially, there is risk of the intercostal space, through which the tube passes, being so narrowed, that the tube is occluded by the two contiguous ribs. In front and behind, the width of the intercostal space is greater, and undergoes less diminution as the side retracts. Most of the cases with which we have been concerned have been dressed with oakum. We have seldom had need to use stimulant injections; but in one case we saw marked and rapid improvement from the use of a solution of quinine, five grains to the ounce. One of the strongest arguments in favour of the method of double openings is that, in a large proportion of cases, it dispenses with the need of washing out the empyema-cavity. It is well known that washing out the chest has been followed, in a certain number of cases, by sudden death. Of this, fortunately, we have no experience; but we have experience of the terror and distress which the washing out induces (even when performed with an irrigator), and which in children constitutes a serious drawback. In the rare cases where, in spite of double openings, the pus has become fetid, we have obtained all the advantages derivable from injection by daily placing the little patient in a bath, with warm water sufficiently high to cover the upper opening. This secures a thorough, yet gentle and equable, cleansing of the empyema-cavity, and, moreover, is grateful to the child. Either Condy's fluid may be added to the water, or very weak solution of carbolic acid. If the latter, we wish strongly to point out the necessity of using carbolic lotion previously prepared with boiling water. When pure carbolic acid has been simply poured into the bath, we have seen some of it float in oily drops on the surface, and give rise to trouble.

REMARKS ON A SKIN-AFFECTION LATELY OBSERVED AND DESCRIBED AS DYSIDROSIS, CHEIRO-POMPHOLYX, AND POMPHOLYX.

By GEORGE THIN, M.D.

IN Dr. Tilbury Fox's book, *Skin-Diseases* (third edition, London, 1873), the author refers to a disease which "he describes in detail for the first time", under the name *dysidrosis*. The disease is, he states, "characterised essentially by the retention, in the follicles of the skin, of sweat rapidly and freely secreted". Dr. Fox portrays the affection in his *Atlas of Skin-Diseases* (plate li).

In his *Illustrations of Clinical Surgery*, plate x, Mr. Jonathan Hutchinson has portrayed the same disease under the name *cheiro-pompholyx*. A question of priority was raised by Dr. Fox (*Lancet*, 1876, page 563), to which Mr. Hutchinson replied (*ib.*, 1876, page 618). It seems that, while Mr. Hutchinson had been familiar with the disease for many years, and had described it in his lectures (the report of a clinical lecture on the subject, written out in April 1871, is published in the *Lancet*, 1876, page 630), he had not published an account of it, the first printed description of this affection being contained in an article by Dr. Fox in the *American Journal of Syphilography and Dermatology*, January 1873. The portrait in Mr. Hutchinson's plate was taken from a well-marked case of the disease in 1864, the same patient being seen during one of the attacks by Dr. Fox in 1871. To Mr. Hutchinson, therefore, belongs, in my opinion, the merit, as far as the published evidence goes, of having first recognised that there is a distinct and previously undescribed vesicular or bullous disease chiefly attacking the hands. To Dr. Tilbury Fox belongs the merit of having, at a later date, satisfied himself independently of the existence of the same disease, and of being the first to publish an account of it which was accessible to the profession. The symptoms and appearances which characterise this

* Such a result would not be without its analogies. The puncturing with a fine needle of hydroceles in young children is often followed by absorption. The increase of bulk which occurs for a day or two is doubtless due to the starting of an inflammatory process, which ultimately effects the cure.

† We have not seen any English aspirator equal to that of Dr. Potain, as made by Mathieu of Paris.

affection are fully described and portrayed in the writings and atlases of Mr. Hutchinson and Dr. Fox to which reference has been made.

Mr. Hutchinson and Dr. Fox have very different views as to the nature of the malady: Dr. Fox affirming that the disease is one of the sweat-glands; Mr. Hutchinson believing, on the contrary, that there is "not the least fragment of evidence in favour of the assertion that cases of recurrent bullous eruption, on the hands of nervous persons, have anything to do with obstruction of sweat-glands", the "hypothesis seeming to him most improbable".

The question is clearly one that could not be settled by *à priori* reasoning. The description given by these observers could hardly leave a fair doubt that we had here to do with a hitherto unrecognised disease (to say nothing of the fact that, now that attention has been directed to it, cases are found to be by no means rare). But plausible as the sweat-gland hypothesis seemed, it could not be accepted until something at least in the shape of evidence was offered. Dr. Fox has produced no evidence which could affect our judgment one way or the other. The secretion of the vesicles was not shown to be sweat, and the sweat-glands or ducts were not shown anatomically to be affected.

For the first exact information regarding the nature of this disease, we are indebted to an American physician. Dr. A. R. Robinson has published, in the *Archives of Dermatology*, vol. iii, No. 4, 1877 (New York: Putnam's Sons), a memoir entitled "Pompholyx (Cheiropompholyx, Hutchinson; Dysidrosis, Tilbury Fox)", in which he has shown that the fluid of the vesicles and bullæ is not sweat, but identical in its essential properties with blood-serum, and that the sweat-glands are not the seat of the disease.

Dr. Robinson's observations, it appears to me, are of sufficient importance to merit reproduction in a condensed form in this country; and I shall now endeavour to give a short abstract of the results of his investigations. I shall at the same time take the opportunity of describing a case of my own, typical of others I have seen, in which there were not present those symptoms of nervous debility and exhaustion which have been frequently observed, and which have been hypothetically assigned as causes.

Dr. Robinson, when in London, had been made familiar with the disease by Dr. Tilbury Fox, and had afterwards seen a considerable number of mild cases of the affection in New York. The patient from whom he obtained material for chemical and histological study was a delicate man, born in 1846. Previously to 1866, a few vesicles appeared occasionally on his hands, but the first severe attack was in July 1871. It appeared first on the hands, afterwards on the feet, and lasted two months. The palms, palmar aspects, and sides of the fingers and soles were the parts affected. It was unaffected by treatment, but ceased spontaneously after two months. For six years afterwards, isolated vesicles appeared; and, in February 1877, the second severe attack occurred. As Dr. Robinson's account of this attack is valuable as a contribution to the usual history of well-marked cases of the disease, and as the weight of his evidence regarding its pathology must partly rest on his having accurately identified his case as one similar to those described by the English observers, it will be well to give it in his own words. "During this last attack" (he observes), "begun in February 1877, and still continuing (June 14th), he has been under my care. The eruption had lasted about three weeks when I first saw him. It had commenced on the palms of the hands near the wrist, and spread over the entire palms and between the sides and on the palmar surfaces of the fingers. When I saw him, the majority were seated between the fingers. The eruption has changed but little in its mode of appearing and in its course since I first saw him. An outbreak is always preceded by a tingling, burning sensation in the parts, and the patient is more than usually depressed and nervous. The eruption appears as small clear vesicles, deeply placed in the skin. They may be single or collected in groups of two, four, or more. Very frequently the vesicles forming a group are all of the same age and size. The eruption always was symmetrical, and I have often observed that exactly corresponding parts of the hands or feet became affected at the same time. If but a single vesicle existed, it almost invariably dried up. Where there was an aggregation of vesicles, they were at first isolated, but afterwards frequently united and formed a bulla. If then the liquid was absorbed, the skin covering them became very hard and dry. I stated that the vesicles appeared to contain a perfectly clear liquid, but this afterwards generally became more or less opaque, though scarcely ever yellowish in colour. This latter occurred only when large bullæ were formed and the liquid slowly absorbed, *i. e.*, in other words, it was observed only when the bullæ were of several days' standing, and, as will be seen afterwards, was owing to the number of pus cells present in the liquid. The vesicles were never seen to have a red base. The walls of the vesicles appeared of a darker colour (from compressed cells) than the surrounding skin or the contained liquid. This really made the vesicles

look like sago-grains imbedded in the skin. The vesicles gradually became larger, and raised. Isolated vesicles in the palms of the hands seldom became raised above the level of the skin previous to absorption. Where they appeared in groups, they always became raised above the general surface, as also most of the isolated vesicles between the fingers. They were never pointed, but always had a more or less flattened top. After the absorption of the contents or rupture of the vesicles or bullæ, a reddened surface (on account of the thinness of the epidermis) was left behind. At no time was there a cracked or discharging surface, or any appearance resembling that of eczema in this region. Occasionally the eruptions spread peripherically, especially in the palms of the hands. There has been no change in the appearance of the vesicles since I first saw him; but at present the disease is not so severe, the eruption consisting principally of isolated vesicles and but very few bullæ. Occasionally, however, an 'outbreak' occurs lasting two or three days. Then the eruption presents more of the character it had in an earlier period of the disease. The feet are also affected, but only in a slight degree, a group of vesicles appearing occasionally here and there. Their appearance is always preceded by a tingling in the part. They appear symmetrically, and often on exactly corresponding parts. There has never been any accompanying eruption on the other parts of the body. I have tried various local applications, and naturally without any benefit, except keeping the parts soft. Internally he has taken iron, strychnine, and pure phosphorus, and evidently with some benefit. To-day I have prescribed Fowler's solution of arsenic in five-drop doses, three times a day.* The patient is exceedingly nervous and depressed in spirits. He was so nervous that he hesitated several weeks before allowing me to remove a second portion of skin from his finger. Even then I was obliged to benumb the part with ether spray before using the knife. He says his forearms and hands feel benumbed and 'sleepy', especially in the morning, if he keeps them elevated above the bed-clothes. He sweats a great deal, yet the hottest day in summer is not too hot for him."

The contents of the small vesicles, and of all vesicles of only a few days' existence, contained no formed elements; but, at a later stage, "out-wandered white blood-corpuscles were found", the number present being proportionate to the age of the vesicle or bulla. Their presence pointed to the probability of the liquid in which they exist having had its origin in the blood, *i. e.*, that it was effused serum. This was confirmed by testing with nitric acid. "An albuminous coagulum was immediately produced, with the nitric acid in the usual proportion obtained from serum; whilst testing the sweat, in the same manner, not a trace of a precipitate was observed. Thus the disputed point between Mr. Hutchinson and Dr. Fox was clearly decided by this simple test."

The histological part of Dr. Robinson's memoir is full and able, and is well illustrated by woodcuts from the author's own drawings. Portions of skin, containing vesicles in all stages of formation, had been removed and examined microscopically by means of approved methods. The process was found to consist of an escape, first, of serum, and later of serum and white blood-corpuscles, from the blood-vessels of the papillæ. The serum pushes its way upwards amongst the cells of the rete Malpighii, and, pressing them aside, collects in the form of vesicles either in the upper part of this layer or between the rete and the corneous layer. Each primary vesicle corresponds to one papilla. As these primary vesicles become larger, the epidermis between them becomes more and more compressed, until, finally, the partitions give way and the larger bullæ are formed. The subcutaneous tissue below the vesicles was found to be normal; but considerable round-cell infiltration was found in the upper part of the corium. "The sweat-glands were found to be perfectly normal, and there was no distension whatever of their ducts with sweat. In one case, a sweat-duct was the principal structure separating two vesicles and delaying their union."

Dr. Robinson believes the disease to be a neurosis, and dependent upon a change in the central nervous system, not of the brain, but of the spinal cord. Mr. Hutchinson remarks: "There can, I think, be no doubt that this eruption is a neurosis, its tendency to spontaneous cure and its frequent coincidence with other nervous symptoms being of considerable weight in that direction." Dr. Tilbury Fox observes that it "occurs in subjects of what is termed nervous debility, or in those in whom anomalous nervous symptoms have occurred, or in such as have been prostrated by worry, mental anxiety, overwork, or the like".

As far as I can gather, the only grounds for referring the disease to the nervous system are its tendency to symmetry, and our ignorance of any other cause. There is no proof offered that the nervous system,

* July 12th. After taking the arsenic one week, the eruption disappeared entirely, but reappeared seven days after ceasing its use.

central or peripheral, is primarily affected in the disease; and the use of the term neurosis means, in this instance, neither more nor less than what it means in the majority of cases in which it is used. Nor am I sure that we can consider it as essentially a disease of broken-down constitutions. Dr. Fox remarks that "no patient is well who has this disease"; but I have seen lately two well-marked examples of the disease in healthy vigorous young men. One of them I saw through the kindness of a colleague. The other occurred in my own practice; and, to illustrate this point, I will give a summary of his case. The history will, I hope, also assist in establishing the independent nature of the malady, which is probably still considered by many observers as a form of eczema or pemphigus.

In June 1877, A. H., building surveyor, a well-built man of medium height, twenty-nine years of age, asked my advice in the following circumstances. During the summer of 1874, he first noticed the appearance of small clear vesicles in the epidermis of the sides of the fingers. They dried up gradually, never burst, gave him little inconvenience, recurred repeatedly while the weather was hot, and disappeared in winter. They reappeared in the summer of 1875, on the sides and backs of the fingers, principally on the forefinger of the left hand. They were then not bigger than a pin's head. They again disappeared when the weather became cool, and, when they returned in the summer of 1876, for the first time five or six of the small vesicles joined to form a large one. They were still limited to the backs and sides of the fingers, and again disappeared during winter. In May 1877, they began on the radial side of the forefinger of the left hand, and within a fortnight had appeared on the backs and sides of the fingers of both hands. At the same time, they appeared on both palms and on the palmar surface of the middle finger of the left hand. They never appeared on the palmar surface of the other fingers. They were now also on the ball, back, and radial side of both thumbs. When I saw him in June, they were found in all these situations. There were none on or above the wrists. They varied in size from a pin's head to bullæ as broad as a sixpence; the contents being clear in the former, and dull or almost yellowish in the latter. The bases of the vesicles or bullæ were accurately limited, and the skin between them was neither reddened, moist, scaly, nor cracked; in short, was not eczematous. The number, especially on the palms and thumbs, was very considerable. The largest bullæ were over the joints of the fingers. He complained of pain and stiffness of the arms and axillæ, and, on examination, several faint red lines were observed, extending on the inner aspect of the limbs from the wrist to the armpits. On examining the feet, I found several vesicles on the inner side of the great toe of the left foot. This was the only part of the feet affected. Within a few days, the irritation of the lymphatics had disappeared, and shortly afterwards the vesicles and bullæ dried up and the epidermis came off in large flakes. But the relief was only temporary. He informs me that, from July till the end of September, he suffered from seven distinct attacks, the latter ones being chiefly on the right hand. In the attack which came on in July, the fingers swelled for the first time, and a discharge of yellowish serum took place between the skin and roots of the nails of the middle and ring fingers of the right hand. The last eruption began three weeks ago, and dried up in about a week. I find now (October 14th) that on the right hand the skin on the radial surface of the thumb, the sides and backs of the fingers, chiefly the middle and ring fingers, is red, slightly swollen, and a little scaly. The nails of the middle and ring fingers are undermined and broken near the root; the nail of the forefinger is slightly affected, that of the little finger is healthy. The palms are normal in appearance; on the left hand traces of the malady being found only on the thumb.

This man is and always has been in excellent spirits and health. He perspires very freely in hot weather or when he takes exercise. His hands are generally colder than is usual; even in summer a cold breeze making them chill. He has been long subject to chilblains; at one time on the feet and latterly on the hands. There are evidences, therefore, that the circulation in his hands is defective. His muscular development and power, however, are quite up to the full standard of health. There is not a single indication of any special debility of the spinal cord or peripheral nervous system, unless the fact of the eruption itself, the cold hands, and the chilblains be so considered.

We have seen that Dr. Fox, in accordance with his theory of the disease, named it dysidrosis; Mr. Hutchinson, from its bullous nature and most frequent seat, named it cheiro-pompholyx. Dr. Robinson proposes to call it simply pompholyx. As it is not absolutely confined to the hands, he regards the term *cheiro* as incorrect; and seeing that, according to the later strict nomenclature of skin-diseases, pompholyx cannot be used in its old meaning, he ingeniously proposes that the new disease should be presented to the old name. From the theoretical point of view, little objection can be taken to his proposal.

CLINICAL MEMORANDA.

CHYLOUS URINE.

UNDER the head of Clinical Memoranda, I observe in the JOURNAL of November 17th some observations on a case of chylous urine by Dr. A. Morison. From the age of the patient, and the circumstance that she is an Algerine Jewess, I have no doubt that it is the same person who consulted me several times last year. I took rather full notes of the case, and find under the head of February 7th, 1876, that the urine looked like milk and water; that a copious precipitate was caused by nitric acid; and that by Trommer's test indications of sugar were well marked. The same sample of urine, when filtered, did not, however, yield these indications. It is not stated by Dr. Morison whether he used the filter in his chemical testing, or what chemical test he relied on. Corroborative proofs of the presence of sugar are, however, mentioned, and, as conditions alter, he may be quite right in the entire statement. But the imperfections of the copper test for sugar is well known, and it is possible that the so-called chylous material may in some cases cause the same reaction as grape-sugar.

The vital signs in the case were much debility, pain in the lower back, extending along the outside of the thighs to the knees, absence of perspiration, troublesome heat of hands and feet, and thirst; the legs were oedematous. I have no wish to anticipate Dr. Morison in the promised details of the case; but the special note I had made about sugar, the point on which he lays so much stress, induces me to make these few remarks. I have lately met with another case of chylous urine in a man in which spontaneous coagulation existed in a remarkable degree.

ARTHUR LEARED, M.D.

HERPES ZOSTER.

SUPPLEMENTING the cases of herpes that Mr. Lucas has mentioned as occurring in his practice at Guy's Hospital, I wish to mention two cases which I have lately had under my care, demonstrating, I think, conclusively that there was a local cause which set up irritation to the nerves affected in these cases.

CASE I.—W. G., aged 14, came to me in August last, and complained of great pain in his right side, about the level of the sixth rib. On auscultation, respiration was normal. Percussion elicited a resonant sound. He had no cough. His general health seemed impaired, and there was loss of appetite. Treating him for pleurodynia, I ordered ammonia, bark, and aconite. In two or three days, he returned, feeling no better; and, on examining the chest again, there was a distinct blush three inches wide, reaching round from the middle line in front to within an inch of the spine. On deep pressure, I found a prominence on the rib (sixth), evidently indicating a node. I put him on iodide of potassium, with perchloride of mercury and bark, and told him to call in a day or two. When he next presented himself, there were copious and distinct crops of vesicles, showing clearly the course of the affected intercostal nerve. The eruption continued for some time; but, by persevering with the medicine, the prominence on the rib melted away, and with that the herpes also. I may add that, in this case, there was a strong syphilitic taint.

CASE II.—An old labouring man recently sent for me to see him, when I found great pain in the bend of the knee; this caused him so much discomfort that he had to discontinue work. Hot fomentations were ordered and an opiate at night. Two days afterwards, I found copious and distinct crops of vesicles along the outer half of the calf of the leg, two large crops on the outer side of the tendo Achillis, and two small bunches—one on the little toe, the other on the outside of the next toe—indicating the course of the external saphenous nerve; the bend of the knee appeared hard and brawny, without any pulsation. Judging it to be an abscess, I opened it after Hilton's plan, passing a director into an incision made through skin and fascia, and on this passing a dressing-forceps. Although I passed it deeply, nothing escaped, whereupon I plugged the wound with lint, and next morning was rewarded by finding a large discharge of pus going on; immediately upon this the herpes disappeared. Keeping him on stimulants and bark, he daily improved and returned to his work in seven days.

I think we may conclude from these two cases that pressure on the nerves was the cause of the herpetic eruption in these cases. In conclusion, I would hazard a hypothesis, although it may be a mere matter of speculation, whether the vesicles seen under the tongue in cases of whooping-cough have any causal link with the irritation to the nerve-distribution of that part.

L. HERBERT JONES, M.R.C.S., etc.