resting upon the diseased vertebræ, and to gradually restore the spine to its original position and reduce the existing curvature. The outline of the back, as taken at three different times, is shown in Figure I., together with the dates; the outline only is given, as that is all that is essential to show the progress of the reduction. The pressure upon the projecting vertebræ was gradually increased, and so arranged as to be constant, in order to retain whatever improvement had been made.

In these cases I have made use of an apparatus constructed after the manner of ordinary corsets, with springs of tempered brass wire, bent in the manner shown in Fig. II. The advantage of such a spring is that greater mobility is thus given than by any other means, and yet it affords all the support and pressure that may be needed. It is so arranged as not to interfere with the action of the chest in respiration, or press unduly upon the abdomen; two points extremely desirable to be attained in any apparatus for spinal curvature. The patients were allowed to walk about as they felt inclined, no restraint being needed, the support remedying the weakness of the spinal column. It is the apparatus used by Dr. J. A. Wood—formerly of this city—and described by him in the *New York Journal of Medicine* a few years since.

In most of the cases of Pott's disease of the spine that I have met with, the paralysis consists of a loss of motion, while there is but little or no loss of sensation, except in extreme cases. The reason for this, assigned by Sir Charles Bell, seems to be the most rational; it is, that the inflammation, except in severe cases, is mostly confined to the bodies of the vertebræ, and would be most likely to affect the anterior branches of the spinal nerves, which are the nerves of motion. Mr. Liston thinks it is caused by the curvature being with the convexity posteriorly, which produces pressure upon the anterior branches of the spinal nerves; but in Case I. there was no curvature, and yet there was almost entire loss of motion, with unimpaired sensation.

January 28th, 1862.

FIG. II.

THE VARIETIES AND TREATMENT OF WHITLOW.

[From "Traité de Chirurgie Navale," par LOUIS SAUREL, Chirurgien de la Marine.]

TRANSLATED BY THOMAS WELSH, M.D., ACTING ASSISTANT SURGEON U.S.N.

By the term whitlow is meant a phlegmonous inflammation of the fingers. Its ordinary causes are the same as those of circumscribed phlegmon generally; but pricks, contusions and burns are the most common. These external causes are sometimes wanting, however, and the disease appears to be spontaneously developed. Attentive

observation proves that atmospheric influences are far from being an unusual cause; thus it has been observed that it is more common in winter than in summer, and in cold than in warm countries. Dr. Dechange reports that he has seen many cases on the passage around the Cape of Good Hope, and my own observation proves the pernicious influence of a low temperature. M. Ramonet, Surgeon of the Sarcelle, in her cruise in the Southern Seas (1853-6) states that in going into the Frigid Zone, from La Plata to Valparaiso, an epidemic of whitlow occurred. Twenty-four hours after the slightest prick or contusion of the fingers, the inflammation made rapid progress. Certain medical atmospheres predispose to this affection; thus there are countries where this disease is endemic, but more frequently it appears in an epidemic form.

On board of vessels this epidemic is frequently coincident with one of furunculi. Reports of many cruises mention this peculiarity. Coincidentally with whitlow, there is a deranged condition of the *primæ viæ*. An administration of an emetico-cathartic ameliorates almost always the local inflammation.

The symptoms of whitlow are not always the same, varying according to circumstances, and especially to the tissues of the hand and fingers where the inflammation originates. Authors have admitted four distinct species and varieties:—

- 1st. That which is situated between the skin and epidermis.
- 2d. That of the cellular tissue under the skin.
- 3d. That of the tendinous sheaths.
- 4th. That of the periosteum.

This division is not only anatomical, but is founded on numerous clinical observations. The difference of seat affects the progress and consequences of the disease. Thus the two first varieties remain ordinarily limited to the part attacked, and are not attended with any immediate danger; whilst the third may extend, by following the sheaths of the tendons, to the hand and forearm; and the periosteal variety may be followed by caries or necrosis of the phalanges. It must, however, be remarked that this division into many varieties is far from being absolute; for inflammation of the periosteum and synovial sheaths may exist without inflammation of the cellular tissue. The most simple varieties are, then, the only ones which can appear isolated.

Among carpenters, blacksmiths, and sailors, who are occupied with rude manual labor, the epidermis of the hand becomes abnormally thickened; this thickness may amount, in certain parts, to as much as one or two millimetres. Its hardness is correspondingly increased, so that the fingers and palm of the hand are enveloped in a horny covering, nearly inextensible. The tactile sensation of the skin is undoubtedly very much diminished, but this excessive thickness of the epidermis, which protects it from a certain number of traumatic agents, becomes a source of pain and complication when the hand is the seat of inflammation. Then the pain is so much the

greater as the thickened epidermis effectually opposes the inflammatory expansion. I have seen these intense characteristic pains cease or diminish so soon as the epidermis has grown thin or been divided.

Erysipelatous whitlow is that form which is developed beneath the epidermis, on the surface of the dermis. It consists in redness and slight swelling of that portion of the dermis which surrounds the root of the nails, with a pulsative pain and rapid formation, in a few hours, of pus or purulent serosity, which collects between the skin and epidermis. It is ordinarily necessary only to excise the epidermis and apply an emollient cataplasm to obtain a rapid cure, followed sometimes by the loss of a nail.

The symptoms just indicated are light in the greater number of cases; but they are not so with those whose epidermis is thickened, as spoken of above. It is very difficult, at first, to tell if we have to do with an erysipelatous or phlegmonous whitlow. Indeed, erysipelatous inflammation is not always limited to the circumference of the nail. It may begin at any other point of the fingers, or, after having commenced near the nail, extend to all the surface of the finger and even to the hand. Then a more or less marked swelling of the hand takes place; the patient complains of very great throbbing pain; has no sleep, and great jactitation, the same as in the phlegmonous form of the disease. At the commencement of the trouble it is difficult, if not impossible, to recognize fluctuation, although there is at this time some pus formed. An incision down to the dermis ends these disorders; pus or purulent serosity comes out, and the pain ceases, as if by enchantment, without a division of the dermis. But the inflammation is not in every case limited to the part of the skin at first attacked; frequently the whole circumference of one or many fingers is affected. If we are contented to make a single incision, only a momentary relief is afforded. To obtain a cure, all the epidermis must be detached with the scissors or bistoury; wherever pain is experienced, it must be thinned. This practice has always given me the happiest results.

Erysipelatous whitlow is the most common of the varieties observed on board ship; phlegmonous a little less so. These two varieties occur frequently, isolated, but they are found sometimes united. Sometimes the inflammation commences in the dermis and extends thence to the cellular tissue; whilst the reverse takes place at other times. This form is manifested by symptoms similar to those we have described, only they are more intense. A painful tension comes on in the pulp or palmar region of the fingers, and extends sometimes to their dorsal aspect; the bright red of the commencement becomes deeper; the pain is acute, frequently excessive; the collateral vessels are strongly pulsative; pus is formed very early, and is distinguishable by an increase of pain and a change in the color of the part, which is softer, and sometimes fluctuation. So long as the disease is limited to the cellular tissue, the local and general symptoms are of a moderate intensity; but, if the tendinous

sheaths are attacked, the morbid phenomena increase in gravity. Then the tension is extreme, the pain is lancinating and intolerable; the swelling gains rapidly on the neighboring parts; the palm of the hand, the wrist, the fore-arm, and even the arms, are sometimes affected. The swelling of the axillary glands is constant. General distressing symptoms then manifest themselves, such as fever, vomiting, delirium and convulsions, agitation and want of sleep. Abscesses are formed in all the parts affected; they produce considerable destruction of tissues, and are sometimes followed by gangrene, exfoliation of tendons, &c. Lastly caries and necrosis may supervene, when the inflammation has extended to the periosteum.

Whitlow is not exclusively situated in the fingers; for under the same name is included phlegmon of the hand. Much less common than that of the fingers, but much more serious, whitlow of the hand affects only its palmar surface. When pus is formed on its dorsal aspect, it is almost always by the extension of the disease situated in another part. This form is sometimes primitive, sometimes consecutive like that of the fingers; it may be erysipelatous, phlegmonous, fibrous or periosteal, but it usually presents the characteristics of true phlegmon. In this case the pus forms rapidly, with a great tendency to make an exit. It makes its way to the commissure of the fingers on their dorsal side, because it is conducted by the fibrous layers, and the skin offers less resistance at that point. When this phlegmon attacks the sheaths of the tendons and the deep tissues, it becomes much more grave than in the preceding form; all the disastrous consequences mentioned in speaking of whitlow of the fingers, may take place in a very short time.

The treatment of this disease has been divided into preventive, and curative. It would undoubtedly be a happy result to prevent its development or arrest it when commenced; and if it were possible to commence the treatment quite at its onset, suppuration perhaps could be avoided and resolution effected. But the surgeon, unfortunately, is not consulted until the pain has become intolerable and suppuration has already commenced. The disease has then, in we may call it so, a fatal course, and the pus must either make an exit for itself, or the surgeon favor its issue by means of a greater or less number of incisions of greater or less depth.

I shall omit mention of all the asserted abortive methods of treatment, almost always useless and productive of loss of valuable time. Those only which can be relied on with confidence are the local antiphlogistics and cataplasms of mercurial ointment. If by their use the inflammation is not resolved, there will always be the advantage of moderating it and limiting the suppuration. The only really abortive treatment, which can arrest the progress of the disease, is by incisions, practised as early as possible: These are very painful, and should be made at the point where the pain is most severe, which is ordinarily at the middle part of the palmar surface of the finger. They ought to be extended through the length of the inflamed

part, and should be deep in proportion to the gravity of the disease. We can scarcely understand why surgeons of distinction should oppose the practice of incisions at an early period. In spite of his talent, M. Roux has been able to convince only a few of their impropriety, and incisions with a bistoury still remain the best method of treatment.

There is the advantage, in making early incisions, of producing an almost immediate cessation of pain, preventing the extension of inflammation, which remains localized in the parts primarily affected, and of protecting the fibrous tissues against the changes resulting from the prolonged contact of pus. If we are not consulted until suppuration has commenced, incisions are then indispensable, and are to be made in the parts where fluctuation is perceived. The bistoury is plunged down to the pus, and the tumor divided in its whole length. When the pus has reached the tendinous sheaths and the periosteum, the incision must be made down to them, to avoid the exfoliation of tendons and the alteration of the bones, which succeed so often to deeply-seated whitlows. A single incision is generally sufficient; but if the pain returns, this symptom must be followed up with the bistoury wherever it appears.

After the incision, the discharge of blood and pus must be favored by keeping the hand immersed for some time in warm water, or a poultice; the wound afterwards to be dressed with lint and cerate, or a poultice. These measures must be continued until every trace of inflammation has disappeared; and the solution of continuity should be treated as an ordinary wound, by bringing together its edges and keeping down fungous granulations.

The constitutional symptoms should be treated by diet and emollient drinks; and emetics and purgatives should be administered, when symptoms of gastric or intestinal disturbance are present. They would also be useful as revulsives.

The complications and sequelæ of this disease, such as consecutive abscesses, exfoliation of tendons, caries and necrosis of the phalanges, must be treated by appropriate measures, into the details of which I shall not enter.

FOREIGN BODY IN THE BRONCHIA—MORBID EFFECTS—RECOVERY.

[Read before the Middlesex (Mass.) East District Medical Society, January 19th, 1859, by S. A. TOOTHAKER, M.D., and communicated for the Boston Medical and Surgical Journal.]

IN December, 1857, a son of John L. Howard, of Wilmington, aged 18 months, suddenly became strangled, while being washed, as if from some foreign substance in the pharynx. The mother's finger, introduced as a curved probang, soon brought out of his mouth the round extremity of a custard-squash seed, being about two fifths of its original length. The pointed end of the seed was not to be found. The symptoms of strangulation soon ceased; but immedi-