markable clearness and distinctness to the auditory impressions; it assists in the definition of many feeble sounds; and it is particularly useful in the diagnosis of cardiac disease. The utilisation of this channel to increase the auditory impression, is theoretically correct. It is a well-known fact that vibrations, thus conveyed, not only produce an effect independently of the tympanic apparatus, but also that they appear to become intensified by an obstruction to the transmission of sound-waves through the middle ear, caused either by aural disease or by intentional plugging of the meatus. Now, when the double stethoscope is used in conjunction with the auxiliary conductor, the ears are in the most favourable condition for the reception of sonorous impressions in

Fig. 4.

this direction, as the canals are artificially plugged by the instrument itself. The activity of the tympanic apparatus, however, is not interrupted by this condition; for, when vibrations are transmitted through both routes at the moment, they react favourably upon each other; and the artificial obstruction of the canals, while increasing the direct cranial conduction, also intensifies the whole auditory impression. There may be considerable individual differences as to the susceptibility of the labyrinth for feeble vibrations, excited directly through the skull, and these variations may be detected without any apparent aural defect; still instances, in which persons of normal hearing power find a difficulty in appreciating auxiliary conduction, will be extremely rare,

Fig. 5.

and will always be removable by a little trouble and practice. The method of utilising the sonorous continuity of the skull and the auditory nerves, will prove a valuable aid to any who labour under unilateral tympanic disease. Sound, transmitted through the conducting apparatus of the middle ear, produces a greater effect upon the organ than when conveyed through any other medium; still, when the tympanic apparatus is injured, the vibrations of a solid body, in contact with the cranium, are heard distinctly louder on the injured side. This effect, which is constantly observed in chronic aural affections uncomplicated with disease of the nervous structures, is caused by the repeated reflections of the waves of sound in their outward passage from the tympanum towards the meatus. The auxiliary conductor will thus form a very serviceable addition to the double stethoscope, for those auscultators

who are unfortunately injured in the conducting apparatus of one ear. Under this condition, the ordinary channel of sound is obstructed, still the vibrations are not lost, but are utilised by direct transmission to the auditory nerve; and, in this way, they materially intensify the sensation received by the sound organ.

5. The convertible stethoscope is capable of another modification. It can be used as a differential stethoscope, by substituting two elastic chest-tubes for the single chest-piece. The double tube, introduced by Dr. Scott Alison some years since, is now used by many experienced auscultators in the diagnosis of cardiac disease. By its aid, sounds proceeding from two distant parts can be conveniently distinguished and examined, and a comparison obtained between any two points on the surface of the chest. Sounds are thus distinguished and separated by the ear, their position defined, and their relation to each other determined, both as regards character and time. It is a good plan to examine both points of the chest simultaneously, and then alternately; and also to obtain single and double impressions of the different sounds. For all the purposes of accurate definition and refined auscultation, the differential stethoscope is a very valuable instrument; but its application requires careful study.

In conclusion, I beg to express the hope that the convertible stethoscope may prove of value to some of my professional brethren. It is a very portable instrument, of few separate pieces, although it admits of many combinations; and I trust it will help the hardly pressed student of the present day to educate his ears, and obtain a practical knowledge of one of the most useful branches of our science. The instrument is made by Messrs. Arnold and Sons, of West Smithfield, and is supplied in a small case, so that it can be carried in the pocket very conveniently, and with more safety than the ordinary stethoscope.

IS SALICYLIC ACID A SPECIFIC FOR ACUTE RHEUMATISM?

By P. W. LATHAM, M.D., F.R.C.P.,

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In the courteous replies to the above question given by Dr. Strange and Dr. Lewis Shapter in the JOURNAL for December 24th, some doubt is expressed as to the meaning that should be attached to the word "specific". In my short note of December 10th, I certainly did not refer to the acid as "an infallible remedy for the cure of a disease", but limited its curative powers by the statement, that I regarded it as much a specific for acute rheumatism as quinine is for ague. There are remedies, says Stillé, "which may with propriety be called specifics, because each one presents peculiarities depending upon its essential nature or upon its association with an element possessed of specific powers. The most important article of this class is iron." (Stillé's *Therapeutics*, 4th edition, vol. i, page 448.) He then mentions cinchona and willow barks, saying, that the specific properties of the latter are "very feeble and, indeed, according to some, do not exist at all." In this sense I used the term "specific" in my question. Dr. Strange applies the same meaning to it, and answers the question in the affirmative.

Whilst, however, by no means maintaining that salicylic acid is an "infallible remedy", I regard it as something more than an "antidote". In my opinion it acts, not by neutralising or eliminating the poison (? lactic acid) which gives rise to the symptoms of rheumatic fever, but by actually preventing the excessive formation of the poison. In a communication which I made to the Cambridge Medical Society in November 1880, I forestalled the inquiry with which Dr. Shapter closes his remarks; for I then endeavoured to show that quinine and salicylic acid differ very essentially in their action: the first lowering temperature by simply impeding the carrying of ozone from the lungs to the tissues by the red blood-corpuscles—as in Binz's experiments with ozonised turpentine and guaiacum—and passing out of the system almost entirely unchanged; the other undergoing chemical change in the body, and being eliminated, in part at least, as salicylic acid. That this is only part of the change is shown by the fact that, when benzoic acid (which undergoes a similar change in the system into hippuric acid) is administered, it produces little or no effect. Salicylic acid, however, can be readily oxidised into formic and carbonic acids, which is not the case with benzoic acid; and this may help to explain the difference in their action.

The theory which I hold with regard to the pathology of acute rheumatism resolves itself into the following points.

1. A nervous centre exists, which controls the nutrition of the muscular and other tissues, and which has been termed the "inhibitory chemical centre".

2. The action of cold, on some individuals, by lowering the power of this centre, modifies the nutrition of the tissues, and leads to the excessive formation of lactic acid and other products.

3. The presence of lactic acid in abnormal amount in the blood produces functional change in the medulla oblongata and the spinal cord (? posterior columns) when brought into contact with them, and develops the local symptoms of acute rheumatism in a manner similar to the production of the symptoms of locomotor ataxy, with its arthropathies, by organic change.

4. If the portion of the medulla oblongata in the neighbourhood of the origin of the vagus is a point of minimum energy, either hereditary or acquired, then, according to the particular fibres involved, may cardiac, pulmonary, or pleuritic complications be developed during an attack of rheumatism.

5. Salicylic acid combines with the antecedents of lactic acid, and so prevents its formation.

6. If the administration of the remedy be suspended after the symptoms are relieved, and before the "inhibitory chemical centre" has recovered its tone, a relapse will certainly take place.

Such a theory explains, moreover, the necessity for giving at the commencement, at least, of the treatment, as much of the remedy as the system will bear.

I hope before long to be able to prove, more conclusively than I did a year ago, the truth of these propositions, and to indicate more accurately the chemical changes which take place in the nutrition and disintegration of muscular tissue. The object of my note, however, of December 10th, was not to raise a discussion on these points, but to suggest that the effects of the true and the artificial salicylic acids are not identical; and that where the head-symptoms have been alarming, or much gastric or intestinal irritation has been produced, or where the remedy has failed, after the administration of a sufficiently large dose, to give relief, these results were due, not to the true acid, but to that artificially prepared, and possibly more or less contaminated with carbolic acid, paraoxybenzoic acid, or other impurities.

CLINICAL MEMORANDA.

NERVE-STRETCHING IN ACUTE TETANUS.

As the real value of nerve-stretching in acute tetanus has yet to be proved, I would remark that a correct estimate cannot be arrived at from such cases as that referred to by Mr. Henry E. Clark in the JOURNAL of January 7th, 1882.

The medicinal treatment adopted by Mr. Clark was too active to permit any conclusion in favour of the operation. Calabar bean has more than once been credited with success in tetanus, and this drug was given in Mr. Clark's case immediately after the operation, in doses of 20 minims of the fluid-extract every twenty minutes, and continued in the same dose every hour through the two following days. Subsequently, morphia suppositories in half-grain doses and chloral-hydrate were administered. It should, besides, be noted that Mr. Clark's case was one which by many would be considered chronic from beginning to end; chronic in its mode of onset, in the mildness of the spasms, and in the duration of the disease. It is true that, after an interval which followed the operation, the spasms were frequent and the temperature rose to 103°. But the acuteness of tetanus is in proportion to the frequency, the violence, and the prolongation of the spasms, not to the frequency of slight spasms; whilst febrile excitement is no essential part of the disease. Dr. O'Beirne (as Mr. Poland repeats) saw 200 cases of tetanus without one being accompanied by fever.

Mr. Clark's patient, however, had only one "severe and prolonged spasm" throughout the attack, and that was just after the nerve-stretching. It was when this occurred that the Calabar bean treatment was commenced, and, after the administration of this drug, there was a cessation of all spasms for twenty hours. Further, there is the objection to Mr. Clark's case which was raised against Dr. Eben Watson's and my own, viz., that all the nerves of the part affected were not derived from the trunk stretched; and the branch which came from another source was not divided.

If I rightly understand Mr. Clark, he now puts forward his case as the first successful one in Great Britain of acute tetanus cured by nerve-stretching. But in his original paper he states: "I am inclined to take a very moderate view of the part taken by the operation in the cure of the patient. . . . Thereafter" (that is, after the commencement of Calabar bean and the lull in the symptoms) "the course of the disease was much the same as if no operation had been performed, and the recovery cannot therefore fairly be attributed to it."

HENRY MORRIS, London.

INTESTINAL STRICTURE.

THE following case well exemplifies the obstacles which the practitioner has to surmount in arriving at a correct diagnosis in cases of intestinal obstruction.

J. M., aged 38, a pale emaciated man, first came under my notice in May 1880, when he was admitted into the St. Marylebone Work-house Infirmary, suffering from great distension of the abdominal walls. He complained of very little pain, beyond the inconvenience which the considerable distension caused, and at times he had a feeling of sickness with occasional vomiting. The vomit consisted of the gastric contents very much tinged with bile. He defecated every third or fourth day, and then with great difficulty, the evacuations being thin and watery and occasionally coloured slightly with blood, after which he said he always felt better. Abnormal resonance was obtained all over the abdominal area, but no dulness anywhere, neither could any tumour be discovered by palpation. On digital examination of the rectum, the parts were found healthy and normal. Thinking, from the absence of any other symptoms, that a faecal accumulation existed somewhere, he was given aperients, and an enema of soft soap was administered with very good effect, as he gradually got better and took his discharge some two months afterwards. At this time the distension had almost completely disappeared. In February 1881 he again put in an appearance suffering from the same complaint. The same remedies were again resorted to, but with no beneficial result, although the bowels acted every third or fourth day. It was then thought that there might be some atrophic changes taking place in the muscular walls of the bowels, and tonic medicines were given him, and the following was given thrice daily for some time. ℞ Tinct. ferri perchlor. ℥xv; liq. strychniæ ℥iv; sp. th. chlor. ℥x; aquam ad ℥i. For a short period he made a slight improvement, but it was only temporary. After he had been taking this medicine for about two months I found him one morning in a "tetanic convulsion", which in every way resembled that which would result from strychnia poisoning. From this he never rallied, dying four days after. The *post mortem* revealed a very rare and abnormal condition of the lower part of the sigmoid flexure of colon.

The contracted portion of intestinal canal was so small, that a small probe could only be just passed through it. The surrounding tissues, as well as the intestinal walls, were perfectly healthy, exhibiting no signs of old or recent inflammation, neither were they thickened by any new growth; in fact, there were no apparent signs of any disease beyond the abnormal contraction. The conclusion I arrived at was that it was congenital.

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THERAPEUTIC MEMORANDA.

THE TREATMENT OF PSORIASIS BY NAPHTHOL-OINTMENT.

A SHORT time since Professor Kaposi of Vienna advocated the advantages of a new remedy in the treatment of skin-diseases, namely, the so-called beta-naphthol. To quote from an abstract from his paper published in the *Medical Times and Gazette* of June 4th, he states that, "in psoriasis a ten per cent. ointment produces the same effect as a chrysarobin (chrysophanic acid) ointment without the discoloration caused by this." Desirous of testing this assertion, I procured some beta-naphthol, and began using it in an extensively spread and well marked case of psoriasis occurring in a boy aged 12, who had been affected with the disease continuously for eleven months.

On September 22nd, I commenced with the use of an ointment of about the strength recommended by Dr. Kaposi, namely a 12 per cent. ointment, but finding that, by October 1st, it had by no means produced the effect that a 12 per cent. chrysophanic acid ointment would have by that time produced, I doubled the strength of the ointment over the tougher parts of the skin, using a 25 per cent. ointment to his back, and a ten per cent. ointment to the other parts. On October 7th, he had scarcely improved at all. I therefore now employed to his back a 35 per cent. ointment, and finding this tolerated, I, on October 8th, used a 50 per cent. ointment; the 10 per cent. ointment being continued as before to the other parts. On October 15th, I found that on some patches, or rather on some parts of some of the patches, the ointment had produced vesication; the other parts of the same patches, and the other patches, exhibited a brighter red colour than is natural to the disease, but were otherwise unchanged. The boy was extremely sore over the various places where the ointment had blistered him. I therefore stopped the use of naphthol-ointment, and ordered a weak acetate of lead ointment.