I strongly advise that in operations on the eye under chloroform, there should be at least one competent assistant besides the operator and the administrator of chloroform; each of these has his own department to engage his attention, and it is most embarrassing to have the patient partially recover and struggle just at a critical moment. This occurred in the first extraction under chloroform performed by me; and, as it was the first case of the sort in which Dr. Snow had administered the vapour, the patient had not a sufficient dose. It unfortunately happened that the gentleman who was to have assisted me was prevented keeping his appointment, but I imagined that the doctor and I could manage the lady ourselves: in due time, she appeared completely insensible, but just as the section was being satisfactorily completed, the patient threw her head on one side and tried to sit up; the consequence was, that the operation was impeded, considerable prolapse of the iris took place, and a closed pupil was the result.

The patient should be recumbent. In that posture he can rest quietly after the operation, and is more manageable during the period of excitement than when sitting in a chair. I have tried the administration of chloroform on a handkerchief, and by means of Dr. Snow's apparatus, and decidedly prefer the latter. When the handkerchief was used, it was in my way, and the fumes of the chloroform annoyed me,—matters of importance in such a delicate proceeding as extraction. A full dose of chloroform is necessary, and the patient should not partake of food for five or six hours prior to the operation; but he may swallow a few fragments of ice just before it is commenced, and again as soon as consciousness returns. This (which I believe was first suggested by Dr. Simpson of Edinburgh) allays any tendency to vomit. I prefer operating in the afternoon, as the soporific effect of the chloroform continuing, generally ensures a good night; but the hands must be secured, and the patient carefully watched, as under ordinary circumstances.

With regard to the operation itself, it is important to have the point of the extraction-knife as sharp, and the edge as keen as possible. If there be the least *hanging*, the eye will be pushed before the knife, from the utter passiveness of all the muscles, and unless the operator is prepared for this, there will be great probability of the counter-puncture being made too near the centre of the cornea, whereby the section will be too small.

During extraction, as ordinarily performed, the lid is dropped as soon as the section is completed, and a pause takes place to permit the eye to become quiet. Under chloroform this is unnecessary: there being no spasm, the curette may be used, and the cataract pressed out the moment the section is completed. When the lens has escaped, the eye presents a curious appearance, always supposing enough chloroform has been administered; the muscles being passive, the iris falls back in a concave form, and the cornea having no support, sinks, becoming as wrinkled as a shrivelled apple. The eye having been gently cleansed, and the lids dried with a soft rag, the upper lid should be lifted by the lashes and brought down over the cornea; then two broad strips of adhesive plaster should be crossed over the eye and cheek, a bandage applied, and the patient left quiet for half-an-hour or an hour, after which he can be removed to bed. When all fear of vomiting has subsided, the plaster may be taken off: but it must be thoroughly softened with warm water, and lifted with the utmost caution and gentleness, so that there be no dragging on the lids. The subsequent proceedings differ in no respect from those practised after the operation as ordinarily performed.

In these remarks I have especially mentioned Extraction, but the general directions are equally applicable to all operations on the eye; and I may add, in conclusion, that when operating on an eye in a state of inflammation, as in the extraction of a foreign body, a shot, a fragment of steel, or copper cap, the value of chloroform cannot be too highly estimated.

19, Berkeley Square, November 1852.

ON FIXED AND LONG-CONTINUED PAIN IN BONE.

By HENRY LEE, F.R.C.S. Eng., Surgeon to the Lock Hospital, Assistant-Surgeon to King's College Hospital, etc.

In the concluding volume of the *London Journal of Medicine*, I ventured to offer some observations on, and to relate some cases of, fixed pain in the tibia, which had been relieved by perforating the bone with a trephine. The cases appeared

naturally to divide themselves into two classes, namely, those in which the pain depended directly upon the pressure of confined matter, and those in which some other source of irritation, situated within the bone, had kept up a chronic inflammation of the part.

The following case, which has since come under my care, appears especially interesting, as partaking of both the above forms of disease; the pain having fixed itself in the part before there was reason to suspect the formation of matter, and having continued for some time after the pressure of the confined fluid was artificially relieved.

An apology will scarcely be wanted for drawing attention to the details of such cases, as the utility of surgical interference is far from being universally acknowledged. Even in a work of much authority, by a distinguished professor of surgery in Edinburgh, as late as the year 1847, we find it stated that the cases where the operation of trephining the tibia is necessary, must be extremely rare, as no case had presented itself to the professor's notice during a long and extensive practice.

CASE. During the last summer, a gentleman of a highly nervous temperament applied to me, having suffered, for between two and three years, very severe pain in his left leg. At that time there was an oval swelling over the centre of the tibia, evidently depending upon an enlargement of the bone; and about three inches lower down, was a second smaller projection, apparently of the same nature. The bone in both these places was very tender to the touch, and the upper enlargement presented at one point a sense of fluctuation, as though a small quantity of fluid were contained between the periosteum and the bone. The necessary examination of the leg was followed by a considerable increase of aching pain. When requested to point out the part where he experienced most suffering, he would pass his hand generally over the lower part of the tibia, but would not point out any one spot as habitually more painful than the rest. He however thought that the upper swelling was more sensitive at night, and the lower one during the day when the leg was hanging down. He stated, that twelve years previously, he had taken large quantities of mercury for an affection of the throat, which there was no reason to believe was of a specific character. At that time his mouth was kept sore for five months, and he took occasionally as much as twenty-five grains of blue pill a day. Six years after this he had the small-pox, which left him much debilitated.

In the year 1843, he became subject to a very severe cough, for which he consulted Dr. Golding Bird, and there was reason to believe that a small cavity had formed in one of his lungs.

During the early part of the following year his ankles became swollen, and a pain settled in his left shin. About a fortnight after the first appearance of the pain, he struck his leg severely. The pain then became suddenly increased, and continued without intermission for many weeks. At length, the pain in the leg subsided, and he passed three months in tolerable comfort; after this, however, all the former symptoms again returned, in consequence, as he supposed, of having taken a very long walk.

In the spring of the year 1851, the leg was struck a second time, and the pain then became of a much more severe character than it had previously been. From this period the pain was so severe as to prevent his sleeping at night. Between six and eight o'clock in the morning, the limb generally became bathed in perspiration, and he would then fall asleep. This was the only rest he got, except when under the influence of the iodide of potassium, which had been prescribed for him by Dr. Golding Bird. After he had taken five or six doses of this medicine, his pain was usually relieved, and he slept tolerably well; but as soon as it was discontinued, the pain returned with all its former severity. Not wishing to take the medicine unnecessarily, he tried more than once to do without it, and had, under these circumstances, passed as much as a month without any sleep, except the short nap that he got between six and eight o'clock in the morning. He was, therefore, driven latterly to have almost constant recourse to his medicine, and took from eighty to a hundred grains of it a month. At length he found, although the pain was relieved, that his gum-became spongy and apt to bleed, and in other ways it became apparent that the continued action of the medicine was exerting an injurious effect upon his system. It was under these circumstances that, with Dr. Golding Bird's concurrence, he came to me to ascertain whether any more permanent relief could be afforded by surgical means.

The existence of pain in the part previous to the reception of the first injury, the tenderness of the bone, and the evident

affection of the periosteum, rendered it probable that this was not an ordinary case of abscess in the tibia. Having shortly before had a somewhat similar case, in which the pain was relieved, although a very small quantity of matter was evacuated, I recommended that the tibia should be trephined.

The operation was accordingly performed on the 27th of September. The patient having been rendered insensible with chloroform by Dr. Snow, a trephine, five-eighths of an inch in diameter, was applied over the centre of the larger projection about the middle of the tibia. The surface of the bone was here found to be soft, but its substance was hard as ivory, and it was with much difficulty that the trephine was made to perforate it. The original cavity of the bone was found to be occupied by dense bony structure, so that a cylinder of solid bone, an inch in depth, was removed, without any cavity or cancellous structure being exposed. The centre of the portion of bone thus removed was found, when subsequently more carefully inspected, to be softened to a very limited extent.

A smaller trephine, three-eighths only of an inch in diameter, was then applied over the second projection lower down upon the tibia. The bone here was much softer, and before the instrument had penetrated half an inch, a small cavity was opened containing some thin brownish-looking matter. This cavity was examined with a probe, and extended a little way up the centre of the bone.

The smaller trephine was now again applied about midway between the two former openings. The bone here was softer than in either of the other situations, and the instrument entered its substance readily. It had penetrated about three-fifths of an inch, when a considerable quantity of reddish matter oozed up by its side, and the trephine entered a distinct cavity in the bone; a probe introduced through the aperture passed up to the neighbourhood of the first opening made by the larger trephine. This was therefore enlarged, and a communication established between it and the opening last made. The cavity exposed by the second application of the trephine appeared not to communicate with the other. Had it done so, the matter would have passed through it, and not have been forced up by the side of the trephine when applied the third time. The two collections of matter, in all probability, corresponded to the two distinct injuries which the part had sustained.

For some days after the operation, the patient suffered severe pain in the leg, but nevertheless occasionally got some natural rest at night. On the 2nd of October, he for the first time experienced an interval of complete ease. The pain, when it recurred, had now changed its character. It was rather an excessive smarting than the dull aching sensation formerly experienced.

On the 6th of October, the pain from which he had so long suffered had entirely subsided, but he complained of an increase of the smarting sensation upon the surface. He was directed to apply some flannel sprinkled with chloroform over the leg, but experienced little relief from its use. On the 7th, he had some remission from the smarting pain, but it returned again on the 8th. On the 9th, he continued tolerably easy, but the pain again recurred on the following day. On the 11th, a fortnight after the operation, he was free from pain, and slept well, although the parts were still tender to the touch. On the 19th and 21st of October, he continued free from pain.

This patient continued under observation during the month of November, after which he left town. There had been no return of pain at that time, the swelling of the leg had gradually subsided, and he slept soundly at night without any medicine. There was every reason to believe that he was permanently relieved of a complaint which had for so long a period caused him so much suffering.

In cases like the preceding, where a continued pain fixes itself in a bone, and where its nature cannot be satisfactorily ascertained from the symptoms, an exploratory operation may be necessary. The interior of the bone may be occupied either by pus, or by some more solid morbid deposit, or by scrofulous matter, or by a piece of necrosed bone. In such doubtful cases, I have been led to prefer, in the first instance, a trephine of a small diameter to one of a larger size. A portion of bone is by this means more quickly removed, and the opening made more readily heals. Should the first application of a small trephine not discover the disease, a second or a third opening may be made in the bone without inconvenience.

The accompanying wood-cuts (which were introduced to illustrate some other points, in a paper in the *London Journal of Medicine*) will show how advisable it may be that in some cases the crown of the trephine should be applied over a very

limited surface, and in others, how necessary it is to use the instrument a second time.

Fig. 1. Abscess in Tibia, opening into knee-joint.

Fig. 2. Abscess in upper end of Tibia, containing putrid pus and dead bone; trephined unsuccessfully. The cavity lined by a dense membrane.

In determining the precise spot at which the trephine should be first applied, the most projecting and most sensitive point is to be selected. But it will sometimes happen that a considerable portion of bone is equally enlarged, and that no one part is particularly tender to the touch. A slight increase in the temperature of the skin, which can be appreciated by the touch, will then in some cases indicate the proper situation for the operation.

13, Dover Street, Piccadilly, Nov. 1852.

CLINICAL REMARKS UPON THE EFFECTS OF THE BATH THERMAL WATERS IN THE TREATMENT OF CHRONIC RHEUMATISM.

By JAMES TUNSTALL, M.D., Physician to the Eastern Dispensary of Bath, and formerly Resident Medical Officer of the Bath General Hospital.

I AM perfectly aware that, in bringing under the notice of my professional brethren the good effects of a course of the Bath waters, in the treatment of Chronic Rheumatism, I run the risk of being accused of telling a thrice-told tale; it will be said that every medical man knows that these waters have been unduly celebrated, and that at present they have no reputation whatever: this, however, has been the case in reference to all our British springs. I hold it to be a duty to the profession, that those who practise at our Spas, should occasionally bring forward the result of their practical experience in the employment of these valuable remedies. I am persuaded that much