material such as sterilised bouillon, or with putrid material. The Pasteurian disease was specific, and very distinctly characterised by its course and symptoms, which were different from those of any other disease; it invariably ended fatally, and was transmissible by inoculation from animal to animal. Dr. Hime did not give the statistics with regard to the success of Pasteur's treatment, but stated that the protection afforded to dogs by Pasteur was proved beyond doubt or question, and analogy would suggest that the same method was applicable to man. Dogs could be protected either by inoculation before infection or afterwards. Further, the protection afforded was against a virus far more active than ordinary canine virus. The reality of this protection established the truth of Pasteur's principle. That his practice was capable of improvement was not impossible; but he had already effected a great deal in a short time. It had been objected that the inoculated prophylactic virus was inert because the patients showed no specific symptoms, but the objection had no weight; it might as well be said that arsenic was inert because a patient taking that drug showed no toxic symptoms. Dr. Hime was inclined to think that there was a decided though slight reaction. He himself had experienced local symptoms and distinct axillary tenderness while under treatment, and in others these were more marked. He had made numerous thermometric observations on persons under treatment, but, so far, could not assert that there was any characteristic thermal change. Some, while admitting that protection had been successful in cases of slight wounds, thought Pasteur's system ineffectual against severe wounds. These persons admitted that the principle of the method was scientific and sound, but found, they thought, a weak point in detail. Finally, from the fact of the undoubtedly low mortality among Pasteur's patients, corroborative evidence was obtained. The rabid condition of the animals in a very large number of these cases was proved either by experimental inoculation or by certificates from veterinary surgeons, the statistics included no doubtful cases, these being purposely omitted. Dr. Hime expressed the opinion that Pasteur had established a true prophylactic treatment against rabies. The establishment of a Pasteur Institute in this country, he thought, was called for; such institutions were already established in Paris, Moscow, St. Petersburg, Odessa, Samara, Varsovia, Naples, and Milan. Turin and New York would soon be provided with such institutions. The English public were still vainly waiting for the report of the Royal Commission of inquiry into this subject. While this report was being prepared other countries were acting, and we were satisfied to send our patients to Paris for treatment, instead of making provision for them in England.

A NEW POSITION FOR OPHTHALMIC OPERATIONS.

By G. M. GILES, M.B., F.R.C.S., Surgeon, Indian Medical Service.

THE supine position is, as most must have felt, by no means a convenient one for eye-operations. It is, however, the only practicable one when chloroform is used as an anæsthetic. The discovery, however, of a local anæsthetic, in the shape of cucaïne, leaves us free to adopt any position that may be found most convenient for patient and operator.

For the last fifteen months I have been employed with an exploring party in the regions lying beyond our North-West Indian frontier. Transport difficulties have rendered it necessary for us to fly very light. Hence, as may be well imagined, an operating couch formed no part of my equipment. A good deal of surgery of all sorts came to my hands, much of it ophthalmic, and I was often at a loss how to improvise a couch of some sort. Not unfrequently even the low country bedstead was unobtainable, so that one had to operate on the ground. Now, to operate even on a low bed is most difficult in ophthalmic cases, the surgeon's position being so constrained that all steadiness of hand is lost. Hence, after adopting cucaïne, which I came to do very early in our travels, I began to try various positions with the view of finding one suitable to the peculiar exigencies of camp life, and finally hit upon the following position, which has been found so entirely convenient that I feel sure it is well worth a trial, not only by such as have to operate under difficulties, but even as a position of election.

The operator sits on an ordinary chair, with the knees well separated so that the patient may be able to sit on the ground between his feet. The position of the latter varies according to the nature of the operation and the side operated on. In ordinary cases, such as iridectomy, removal of pterygia, etc., he is seated with his back nearly to the operator, but with the face turned slightly to the

left for the left eye, or to the right for the right. Seated thus, between the operator's feet, he throws back the head so that the occiput rests firmly on the surgeon's thigh; the left thigh in operations on the right eye, and *vice versa*. This position answers equally well for cataract-extractions on the right side. For left cataract, however, unless the operator actually prefers to use the left hand, the following modification is necessary. Seated, as before, on the ground, between the operator's feet, he faces quite to the surgeon's left, then throwing back his head, and turning it slightly so that the chin points to the surgeon's hip-joint, he rests the occiput firmly on the operator's right knee. With the patient in this posture, it will be found perfectly easy to operate with the right hand.

The method is, no doubt, specially suited for dealing with Orientals, who are accustomed to sit on the ground; but for the limited time required for an operation, I do not think it will be found too constrained for Europeans. Primitive as it may seem, I feel sure that anyone who will give it a fair trial will find the position much more convenient than either an ordinary operating-couch or a dental chair.

The illustration shows the relative position of operator and patient in a cataract-operation on the left eye.

LOOSE CARTILAGES IN THE KNEE-JOINT.

By WILLIAM J. SHAW, M.B., F.F.P.S.G.,
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W. W., aged 27, was admitted into Glasgow Royal Infirmary, September 6th, 1886, suffering from loose bodies in the knee-joint. His occupation was that of a moulder, which he had followed for eleven years, during which time he has had to work almost continually on his knees. Twelve months ago, his attention was drawn to his knee-joint, in which he felt a very severe pain, or, as he described it, "a kind of grip." This pain increasing in severity, he requested admission to the hospital for the purpose of getting something done, as neither by night nor day had he relief from the excessive agony he was suffering. Examination in hospital showed that the right knee-joint was very much swollen as compared with that of the left side; this swelling being due to the presence of a number of loose bodies of considerable size, one of them being nearly as large as the patella itself, and all being very freely movable from one part of the joint to

another. The feeling conveyed to the hand on grasping the joint, and moving it, was the sensation produced by feeling a number of marbles in a bag. The affected joint was rather hotter to the feel than the healthy one. There were no signs of inflammation; and there was no history of rheumatism.

On September 12th, the joint was opened under strict antiseptic precautions, and twenty-two loose cartilages were removed. The total weight of these bodies amounted to 1,681 grains; they varied in weight from 230 grains to 20 grains. The largest body measured fully an inch and three-quarters in length, by an inch in breadth,

and an inch in thickness. The bodies were white in colour, and were of different sizes, one or two being as small as a boy's marble, the

majority of them being of considerable size, up to an inch and three-quarters in length, fully an inch broad, and an inch thick. All were formed alike of smaller rounded masses stuck together like the lobes of a conglomerated gland, each body being distinctly rounded on its outer surface, but flattened on its lateral, or inner adherent surface. A large part of the outer surface of one of the largest masses had undergone calcareous degeneration. On cross section, the surface presented a distinctly laminated character, the outer laminae being firm, bluish white in colour, and about a quarter of an inch in thickness. This disclosed a slightly darker and softer part, which occupied the centre; and the two parts might be distinguished as the cortical and medullary portions. Opaque spots were formed in both the cortical and medullary parts, which were obviously due to calcareous degeneration.

The microscope showed that the structure of the bodies was that of fibro-cartilage, in which the fibrous element was comparatively scanty and the hyaline was predominant. The cells of the latter were arranged in large irregular masses embedded in a granular matrix, which were surrounded and only slightly traversed by fibrous tissue. Numerous patches of calcareous degeneration were found which seemed to affect chiefly the granular matrix of the cartilage.

The individual bodies were carefully weighed by Dr. Du Moulin and myself, and subjoined I give the weight of each cartilage: 230, 200, 170, 90, 90, 90, 80, 75, 70, 60, 60, 57, 56, 51, 49, 50, 44, 40, 40, 37, 22, 20 grains = 1,681 grains.

The patient made very satisfactory progress after the operation, his temperature remaining normal all through; the dressing was not changed till October 9th, twenty-two days after operation, when the wound was found to be healed, the drainage-tube (which was a de-calcified chicken-bone) having become absorbed. Dry dressings were applied.

October 11th. The patient left the hospital able to walk perfectly well, but was advised to wear an elastic bandage for some time to support the joint.

HEARING, AND THE EXAMINATIONS FOR THE PUBLIC SERVICES.

By W. LAIDLAW PURVES, M.D.,
Aural Surgeon to Guy's Hospital.

A PHYSICAL defect, which does not seem to have received the attention it deserves in the examination of candidates for the different services, is that of a deficiency in the normal hearing power. In the case of the eye, any marked imperfection of vision in both eyes generally forces itself upon the observer by the peculiar gait, or position of the head, or closure of the lids, which the sufferer employs to give him his best possible unaided vision. But a loss of hearing power much below the normal, either in both ears or limited to one ear, may escape detection by a careful observer who does not have recourse to more minute methods of investigation for determining the acuteness of hearing. This arises partly from the fact that ordinary conversation is carried on in a much louder tone than is necessary for the proper hearing thereof. With two normal ears the same conversation could be carried on with half the volume of sound, or even in a whisper; and, as the pica or long primer types are employed by the popular publisher to give comfortable and easy reading to eyes much under the normal in acuteness, so does the barrister or lecturer gauge, as far as he can, an intensity of sound which will give his audience easy hearing without straining. But, in the case of the candidate for admission to any of the services, not merely is it necessary for him to have the vision and hearing which can carry him through the daily avocations of private life, but he ought to have a standard normal acuteness of both organs on both sides. With only one sound and normally acute eye or ear, a man may pass through life without anyone, perhaps even himself, having discovered that he was partially blind or deaf; but he is essentially a one-barrelled man, and his chances of remaining with good vision and hearing during life are about 50 per cent. less than those of a man with two normally acute eyes and ears.

Attention has been lately called to a standard of vision which is necessary for entrance to the Indian service, and the non-possession of which ensures rejection. It is, in the opinion of the writer, not less important that a standard of hearing-power should be formed for the same purpose. It is indeed probably of greater importance that a fuller examination be made of the aural organ and its acuteness, than of the visual organ and its function. For, as the loss of function by an abnormal refraction—which is the great cause of defect—can be remedied by the use of lenses, and make the candidate as fit, with those lenses, for the service as a candidate with normal refraction, so may the remedy of altered tension and position of the aural conduct-