amazing that a man with a heart like this was capable of any work.

Bearing on this last point—viz., employability—I made another post-mortem examination yesterday on the body of a man, aged 35, a labourer in an ironworks; he had never been medically treated. He also was said never to have had a day's illness. He finished his day's work on Sept. 6th at 5.30 P.M., making no complaint during the day. He coughed up some blood and died. I found a cavity in the right lung large enough to hold a hen's egg, consolidation of the apex of the left lung, with a small abscess just below the consolidated portion. His right kidney, 8 inches long by 5½ inches wide and 4 inches thick, was lobulated; the capsule was ¼ inch thick, the surface yellow. On section there was found a collection of abscesses, the ureter being very slightly thickened. The left kidney, enlarged and congested, had one soft cheesy patch in the hilus holding about 1½ drachms of thickened pus, &c.—I am, Sir, yours faithfully,

Hindley, Sept. 10th, 1912.

J. CHRONNELL.

HIGH BLOOD PRESSURE IN ARTERIO-SCLEROSIS.

To the Editor of THE LANCET.

SIR,—In a recent article¹ Dr. Herbert French has shown that in arterio-sclerosis the arterioles remain patent, the middle coat of these vessels degenerates, fibrous tissue taking the place of the original muscle; he attributes the increased blood pressure to hypertrophy of the heart, which arises from demand for blood by the different organs in carrying on their work. Several years ago I drew attention in the columns of THE LANCET to the active propelling action of the arteriolar muscle in the circulation of the blood. I then tried to demonstrate that the state of semi-contraction of the muscular arterioles implied a force acting at right angles to a moving column of blood impelled from behind—force which would necessarily result in an auxiliary propelling action. The circulation would thus be carried on apart from secondary factors by two hearts—a central and a peripheral one.

Now if such expresses the real condition of the propelling agency of the circulation, it is obvious that the practical absence of one of these factors entails increased action on the part of the other. When in health any organ or part of an organ works, there is a demand for more blood, and through the vaso-motor reflexes a physiological congestion occurs, which means that the muscles of the arterioles relax, allowing more blood to fill up the capillaries. When this takes place over considerable areas, as during digestion or in walking, the absence of propelling action in the local peripheral heart becomes sensible, and reflexly the central organ is called upon to greater exertion, as becomes manifest during these acts by the increase in the number and strength of its contractions. This extra exertion on the part of the central heart, carried on several times during the day, does not lead to a state of hypertrophy.

In arterio-sclerosis the function of the organs may, through different routes than normally, exact more work from the heart, but still with our experience of what does not occur after repeated daily calls for increased exertion on the part of the central heart in health, we can scarcely ascribe the cardiac hypertrophy in arterio-sclerosis to similar calls. We may, however, fully explain this hypertrophy, and the consequent increased blood pressure, when we remember that not only during given periods of the day but throughout its 24 hours the central heart has to carry on the circulation without the propelling aid of the arteriolar muscle.

I am, Sir, yours faithfully,

JAMES T. R. DAVISON, M.D. Edin.

Buenos Aires, August 8th, 1912.

A NATURAL CORRECTION OF MYOPIA.

To the Editor of THE LANCET.

SIR,—The truth of your remark upon the need of further evidence as to the refraction effect of the recti muscles is so obvious that it was in fact the like persuasion which induced me to bring the matter before the profession at the present stage. The doctrine that convergence tends to elongate the healthy eye has become almost a first principle

of ophthalmic science; has blinded the retinoscopist to things that are every day transpiring, in the most literal sense, under his nose; and has confused the theory of myopia to a degree calculated to make a cynic smile and an educated Chinaman stare. In particular it has been the flooding of the British ophthalmological market by this cheap importation from Germany which, more than aught else, has caused the facts connected with the relaxation enlargement of images to be overlooked and ignored. In a mental atmosphere like this the opinions of an isolated inquirer can be of little moment. What is needed is that the multitude of practitioners, who have accepted the elongation theory upon trust, should be induced to admit the possibility that it may after all be less true, or less exclusively true, than they had imagined. May I take the present opportunity of saying how pleased I am to be assured of your sympathy in the work of reopening the question, and of expressing a hope that, as the result of your advocacy, some of your readers may be led to repeat and extend my experiments? The best subjects are, as I have said, uncorrected myopes of low degree, but others, in whom the association between convergence and accommodation is not too strong, may, with the aid of lenses, be made to yield quite definite information. With ordinary precautions—watching the accommodation, taking care not to fatigue his subject, giving ample time for the lens and eyeball to alter their shapes—the retinoscopist in moderate practice ought to be able, in a few days, to satisfy himself on the main point as to whether the globe shortens or elongates in convergence.

I am, Sir, yours faithfully,

Stoke Newington, Sept. 16th, 1912.

I. B. MUIRHEAD.

ENUCLEATION v. TONSILLOTOMY.

To the Editor of THE LANCET.

SIR,—The letters of Mr. H. Barwell and Mr. W. Stuart-Low in the issues of THE LANCET of Sept. 7th and 14th respectively raise two important points in the surgery of the tonsil. At the outset there appears to be some confusion in the literature regarding the terms used to describe the operations mentioned. Enucleation of the tonsil generally refers to complete removal, generally in one piece, by some form of dissection, although, I suppose, if taken out in two pieces it would be no less an enucleation. Removal by the guillotine is usually spoken of as tonsillotomy. Since it has been shown by several authorities that the tonsil can be equally well removed in its capsule by the guillotine, the term enucleation has been applied to this procedure. Less confusion might arise if complete removal were styled a tonsillectomy, which might be further described as being carried out by dissection or by the guillotine. Tonsillotomy should be reserved for incomplete removal. With regard to tonsillectomy by the guillotine it is still stated that this operation fails in a large number of cases, and that it is applicable to certain types of tonsil only. Mr. Whillis and myself showed in two papers on the Enucleation of Tonsils by the Guillotine, published in THE LANCET, Sept. 17th, 1910, and the *British Medical Journal*, Nov. 25th, 1911, that 74 per cent. of tonsils could be removed, complete in their capsule, in one piece by that instrument. In addition to that a further 13.5 per cent. could be removed clinically complete, while an additional 9.5 per cent. could be removed completely in two or more pieces, making in all 97 per cent. The necessity for removal in two or more pieces was due to the fact that a small-sized guillotine was used, and when the tonsil could not be completely pushed through the ring and removed whole it was necessary to remove it in two or more pieces. This method then described has been further advocated by Milne Dickie in the *Edinburgh Medical Journal* for this month. For the small percentage of failures by this method, and in adults, we practise tonsillectomy by dissection, following the technique described by Waugh in THE LANCET, May 8th, 1909. In the latter of our papers we stated: "We believe that if the tonsil requires removal it should be completely removed," and we have found no cause to alter this attitude. It is generally admitted that tonsils causing infection, either (1) local; (2) peri-tonsillar; (3) lymphatic; (4) of the natural passages, either respiratory or digestive; or (5) of the blood stream, should be extirpated wholly. It is for the hypertrophied tonsil with a preponderance of mechanical

¹ THE LANCET, July 13th, 1912, p. 69.