time and the pace at which he goes; the latter cannot do so. It is certainly essential that men who are to drive for long periods regardless of the weather or traffic conditions should be picked men. All motorists appreciate the skill of the London omnibus driver. He has to go through searching practical tests by experts. All motorists dread the Ford delivery van with the youth in charge who goes through no tests whatever. In a recent number of The Times there is a short account of the tests for motor drivers now being used in Paris. These are certainly of great value but call for very expert examiners. The three chief demands kept in view have been: (1) Power to attend rapidly to the movements of vehicles and persons; (2) ability to heed sounds coming from different quarters; (3) capacity to react effectively and quickly to such stimuli. Further, muscular force and "fatigability" are tested, and also rapidity of perceptions. Such tests are, of course, quite ideal, but without the resources and skilled workers of a regular anthropometrical laboratory of no practical value. In this note in The Times it is stated that at Barcelona it has been found that the frequency of accidents among 35 drivers who did poorly at these tests was 300 per cent. higher than among 45 drivers who did well at them. Either the frequency of accident at Barcelona must be a little out of the ordinary or this type of statistics must be of the kind that enabled Mark Twain to prove that the Mississippi had in quite recent times stuck out for hundreds of miles like a fishing rod into the gulf of Mexico.

The solution offered by the British Medical Journal has much to recommend it. "It might not be a bad thing, however, to require from every applicant for the issue or renewal of a driving licence a signed declaration that to the best of his belief he has no defect or disease which makes him unfitted to drive a car or motorcycle. This would indicate upon whose shoulders the legal burden rested." We may add also that it would eliminate the plea of nervous shock, plus alcohol as an excuse in case of an accident.

Psicaine

Two papers on this new local anaesthetic are published in the British Medical Journal of January 2, 1925. The first is by Dr. Copeland, Ernest Hart Memorial Scholar of the British Medical Association. Psicaine is an optically active isomer of cocaine which has been prepared by Willstätter in collaboration with Merck of Darmstadt. In Germany the new drug is twice as expensive as cocaine; it is said to have double the anaesthetic power, half the toxicity, and to be free from addiction properties. It is
freely soluble in cold water up to 25 per cent., and it is not precipitated by saline solution, Ringer, nor by proteins.

Copeland finds that on the cornea psicaine has approximately one sixteenth the anaesthetic power of cocain; on the other hand a 0.5 per cent. solution of cocain and an 8 per cent. solution of psicaine are equally effective in giving complete anaesthesia averaging thirteen minutes under the same experimental conditions. Psicaine causes a moderate dilatation of the pupil in rabbits which lasts for twenty-four hours; a slight vascular congestion, but no drying of the cornea. Three instructive tables are given. The first shows the effects of local anaesthetics on nerve fibres, using: (1) the vagus, cardiac fibres; and (2) the anterior crural, sensory fibres. Comparisons are drawn between cocain hydrochloride, tutocain, psicaine and novocain. The second table shows the minimum lethal doses compared in the rabbit, guinea-pig and mouse for cocain, psicaine and novocain. The third table shows the minimum convulsive dose of these three drugs for rabbits, employing intravenous and subcutaneous injection. In rabbits psicaine injected subcutaneously was found to be more toxic than cocain; while intravenously the two drugs are of almost equal toxicity. In frogs, psicaine is a more powerful stimulant than cocain; the irritant effect of psicaine is less than that of cocain. The new drug has relatively little effect on blood-vessels; but in the cat, the mucous membrane became markedly swollen after an application of 5 per cent. psicaine by the author's perfusion method.

Copeland has been unable to verify the claims for efficiency and low toxicity; and states his opinion that if his experimental results are confirmed, psicaine is unlikely to be of use as a cocain substitute.

The second paper is by Dr. E. Watson Williams of Bristol. He deals with the subject from the clinical side in the human being in cases of nasal surgery. His conclusions are as follow:

1. Psicaine is the acid tartrate of an artificial isomer of cocain. It is soluble in water, giving a definitely acid solution. The solution is not harmed by brief boiling. It requires the addition of salicylic acid to prevent the growth of moulds.

2. Used in the nose, 7 per cent. psicaine solution gives anaesthesia identical with that produced by 5 per cent. cocain hydrochloride solution. The anaesthetic value of the new alkaloid is the same as that of natural cocain.

3. The same "shrinkage" as is seen with cocain is found in using psicaine.

4. The experimental toxicity of psicaine in 5 per cent. solution is three-quarters that of cocain hydrochloride; the toxicity of the new alkaloid is therefore identical with that of cocain.
5. It is probable that excitement, fainting, etc., will not be so readily produced by psicaine as by cocain; it may therefore be useful in susceptible persons.

6. For the same reason psicaine should not be used except by those well accustomed to use cocain; the dose of psicaine should not exceed that found safe with cocain.

7. Psicaine is a "dangerous drug."

8. The price of psicaine has not yet been published.

ABSTRACTS

I.—OPERATIONS


Forster's paper opens with an interesting survey of keratoplastic surgery dating from 1823 when the first operation of this kind was performed by Reike. The early operations were mostly done with heteroplastic grafts and were almost without exception unsuccessful. Many different methods were adopted. Nussbaum for instance in 1853 used little glass collar buttons 3 mm. in diameter inserted through a trephine hole in the cornea; —infection, iris and lens complications followed. A moderately successful result was obtained by von Haselberg, who in 1913 transplanted a disc of human cornea ½ mm. thick and 5 mm. in diameter on an opaque cornea and secured it with sutures. The graft was opaque at first but clear later, and a year after operation the vision was 1/60, the patient being able to go about alone.

Forster notes that "not only are tissues specific to the species, and so specific that there is no hope of transplanting tissues from one species to another, but it seems now generally agreed that there is an individual specificity within the species itself." A familiar instance of this is afforded by the grouping of cases for blood transfusion. He has, therefore, devised the following technique in conjunction with C. R. Bridgett. An equilateral triangle of 7 or 8 mm. is outlined on the cornea with small-pointed forceps. The entire thickness of the triangle area is cut out, placed in sterile oil and with its angles transposed is again replaced and stitched. The stitches placed at each angle are also sterilized in oil and penetrate all the layers of the cornea and flap. The