sea had the form of a lipped cylinder. Adopting the description given in I. Kings, which differs somewhat from that of II. Chronicles, M. Moors has deduced for the cubic contents of the *bath*, a measure of capacity frequently met with in the Old Testament, the relation

$$1 \text{ bath} = \tfrac{1}{6} \text{ (Mosaic cubit)}^3.$$

The remainder of the work deals with the system of weights, measures, and coinage in use among the Israelites. Carefully disclaiming any bias in questions theological, he adopts the Bible as the chief authority on the subject of which he treats. The weights and measures mentioned in the Bible are not, however, always very clearly defined, and in attempting to combine them in a homogeneous system we are confronted with apparently hopeless inconsistencies. Owing to this difficulty M. Moors finds it necessary to have recourse to materials of somewhat incongruous character. From a strange medley of midwives, manna and mummies, he evolves, with much ingenuity, a series of metric equivalents for the weights and measures of the Israelites. He claims that his equivalents are confirmed by all those passages in the Bible which contain references to weights and measures. It is interesting to note that his value for the length of the cubit, viz. 443·61 millimetres, agrees very closely with the value obtained recently by Sir Charles Warren (17·64 inches, = 448·05 mm.).

It is hardly possible to accept the view of M. Moors that the Bible was intended *inter alia* as a text-book on mensuration. In spite of his laudable effort to throw light on the old Hebrew weights and measures they still remain dim to us. In the region of metrology the Israelites would indeed appear to have baffled the commentator, and to have buried their authoritative standards "deeper than did ever plummet sound" out of the excavator's reach.

So far as we have checked the numerical calculations made by M. Moors, we have found them invariably accurate. There is, however, an obvious misprint in the last line of his letterpress; "43·5" should read "43,500."

A Primer on Explosives. By Major A. Cooper-Key. Edited by Captain J. H. Thompson. Pp. xii+94. (London: Macmillan and Co., Ltd., 1905.) Price 1*s*.

THIS little book should prove of great value to those for whose benefit it has been mainly written, viz. the local inspectors under the Explosives Act, and those dealers whose trading necessitates the handling and storage of explosives.

No one can better realise the want of some little handbook on the subject than H.M. Inspectors, and it is to meet this want that Major Cooper-Key has written this useful book, which, it is pointed out, is "not a treatise on explosives." The author gives a short description of the manufacture of the chief explosives, but its great value will be found in the sections devoted to special risks with each class, the methods of packing and storing, and a particularly useful chapter on the general construction and management of a store, the destruction of explosives, &c.

It is certain that a careful study of the book by local inspectors will lead to a better understanding of the whole question of explosives and the Act generally, and hence to a more intelligent performance of their responsible duties. For those traders and users who have the handling of these goods after they have left the manufactory the book should be equally valuable, and it should do much to lessen the risk of those untoward accidents which occur from time to time, generally from ignorance of the properties of the bodies dealt with. J. S. S. B.

A Note-book of Experimental Mathematics. By C. Godfrey and G. M. Bell. Pp. 64. (London: Edward Arnold, 1905.) Price 2*s*.

THIS book gives concise instructions for carrying out a number of simple quantitative experiments in mechanics. It is specially suited for students who intend to sit for Army Entrance Examinations, but the excellence of the course outlined renders the book very serviceable for general use in schools; the students get accustomed to fundamental methods of measurement, obtain concrete conceptions of elementary science, and secure much data well adapted to serve as examples and illustrations in a course of practical mathematics. The experiments include measurements of lengths, areas, volumes, weights, specific gravities, fluid pressures, forces, moments, velocities, accelerations, and many other physical quantities. A full and careful list is given of the requisite apparatus and fittings, and the book will be of very great assistance to teachers in the arrangement of a thoroughly sound elementary course of experimental science.

LETTERS TO THE EDITOR.

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of* NATURE. *No notice is taken of anonymous communications.*]

Cause and Prevention of Dust from Automobiles.

THE article on the above subject in the issue of NATURE for September 14 (p. 485) is an important contribution to a subject of great interest and importance to the community, but it contains a statement with reference to tar-macadam which in the interests of engineers should, I think, be verified. Speaking of "Tarmac" the writer says, "the slag is thoroughly impregnated, so that if the pieces are broken further a tarred surface is still found."

I have examined many specimens of tar-macadam, including "Tarmac." I have never found any sign of penetration of tar. I am aware that some believe in this alleged penetration, but it seems to be obvious that any material sufficiently porous to enable tar to saturate it would be totally unfit for road-making.

That tar-macadam, and, of course, "Tarmac," have virtues for motor road-making may be admitted; but this penetration theory is not the reason, and it is a pity that the myth should still exist, as it tends to prevent the trial of other substances far more suitable for roads than furnace slag.

The reason why tarred granites and similar hard stones have not hitherto been found so effective is entirely a matter of surface adhesion. Given a suitable tar mixture, there is no reason why hard, non-porous stone should not be as efficient as slag. Penetration has nothing to do with it. J. VINCENT ELSDEN.

38 St. Stephen's Gardens, Twickenham.

IN reply to Mr. Elsden, I agree that it is of no use to hold mythical views. I think, however, that he is really mistaken in his views that the slag in "Tarmac" is not penetrated by the tar. Possibly it may not be penetrated by the most viscous constituents, but upon examining a broken piece of "Tarmac" I have found that the surface is distinctly darker than that of slag which has not been treated. The difference is very noticeable under the microscope, and if a bit of slag from the interior of a treated portion is heated the tar is readily seen, which fact appears to be conclusive evidence that penetration by the tar takes place. I do not, however, suppose that the penetration is very uniform, as slag is not a very uniform material, and therefore in some parts the effect might not be so evident. W. R. COOPER.

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