

method was developed very largely by Prof. Peddle, of the Rose Polytechnic Institute, U.S.A., and his method of treatment has been followed by the author of the little book before us, with some variation in details. In this system of plotting scales of the variables involved are set off along parallel lines, and a straight-edge laid across the lines enables one of the variables to be determined when the others are given. The author describes methods to be followed when there are three, four, or more variables, and gives illustrations of the plotting of reinforced concrete column, boiler shell, steel beams, shafts, and other engineering formulæ.

Most of the illustrations are clear and easy to read; Figs. 1 and 2 are exceptions, the lettering and printing being poorly executed. There are very many problems of a repetition character in engineering, and much time can be saved by charts of this kind. There is also less risk of error in the results, once the chart has been correctly drawn. We can commend the book to engineers who wish to make themselves acquainted with this labour-saving device.

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.]

Mathematical Printing.

YOUR remarks in NATURE (September 16, p. 79) relating to the important suggestions on mathematical printing recently circulated by the London Mathematical Society, are confined to the examination of special points, in the light partly of application to the special case of an analytical memoir on dynamics of aeroplanes.

It is worth while to direct special attention to what is perhaps the main recommendation, for examples of its disregard are still conspicuous. The introduction of the notation of the solidus or oblique bar for fractions has had much to answer for, especially in this country, on account of its use in excess—for example, in reducing long formulas to the deal-level of a single line, thus obscuring their structure without any compensating gain. As originally revived by Sir George Stokes, and largely adopted on his suggestion, the intention was to render possible the printing of brief expressions isolated in the current text or elsewhere, without disturbing the line; its use for reducing a formula already specially set out, and involving a sum of fractions, to a single line of type, is usually to be deprecated.

The suggestion to replace the dot over a letter, the Newtonian symbol of its fluxion, by an accent following it, was put forward, doubtless with regret, as the lesser evil. If only printers would provide special types with the dot attached for the small number of letters likely to be thus affected, no change would be necessary.

JOSEPH LARMOR.

Cambridge, September 24.

Palæolithic Man in South Africa.

I HAVE read in NATURE of August 5, just received, Mr. F. W. Fitzsimons's letter referring to the discovery of Palæolithic man in South Africa. I would not trouble you with these lines were it not that many

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of its statements are erroneous. Moreover, owing to my name being mentioned in connection with a detailed examination which is being carried out in this museum, it might be thought that I am in part responsible for the conclusions which Mr. Fitzsimons enumerates. As a matter of fact, I informed him, when first the skull was sent to us, and again some nine months ago, that the fragment was not referable to the Neanderthal type. There is, therefore, no more justification in the statement he makes that there is "a close resemblance in shape, thickness, and measurements" of the Boskop to the Neanderthal than in his generalisation on the origin of the Palæolithic implements in South Africa, or in the state of mineralisation of the relic—"The skull is as completely fossilised as the Karoo fossil reptiles," which are Permian and Triassic.

The result of a preliminary investigation of the skull by our palæontologist will be read shortly before the Royal Society of South Africa. Until then I cannot give any details beyond referring those interested in the subject to a short note by Prof. Boule in *L'Anthropologie* (vol. xxv., September–December, 1914, p. 595).

L. PERINGUEY.

South African Museum, Cape Town,

City of Good Hope, September 2, 1915.

The Aurora Australis of June 17, 1915.

IT is interesting to learn, as a complement to the description of the Aurora Borealis by Prof. Barnard in NATURE of July 15 as accompanying the magnetic storm of June 17, 1915, that a display of aurora was also observed in the southern hemisphere. My correspondent, Mr. W. E. McAdam, writes:—"Upon that day (June 17) there was an exceptionally fine display of the Aurora Australis visible all over New Zealand. Here at Dunedin it commenced at 7.30 p.m., and lasted till midnight. The glow in the southern horizon was quite uncanny in effect, producing the illusion that the sun was about to rise in an impossible quarter of the sky, and at an impossible hour. I have been resident in the Southern Hemisphere off and on for over fifty years, and have never seen anything to equal this last display of the Aurora Australis, a somewhat rare phenomenon in the latitude of Dunedin, 46° south."

A. L. CORTIE.

Stonyhurst College Observatory, Blackburn,
Lancs, September 25, 1915.

Distances at which Sounds of Heavy Gun-firing are Heard.

BEING much interested in the question of the distance of propagation of the sound of the firing of big guns, I should be much obliged to any readers of NATURE who could send me some personal observations on the matter, or let me know whether (and when and where) any notices on the subject have been published. Exact references are wanted, as I should try to get the papers containing the information. The gun-firing from the Belgian coast is probably heard in England at times. How far inland? All information will be gratefully received by me.

HENRY DE VARIGNY.

18 rue Lalo, Paris, September 17.

Nodules on the Intermediate Bladderwort.

MR. H. EVANS (NATURE of September 23, p. 88) should refer to Hooker's "Student's Flora," p. 311, *Utricularia*, "propagated by hybernacula"; and to Babington's "Manual of Botany," p. 339, *Utricularia intermedia* "increasing by buds at the end of the shoots and seldom flowering."

ELEONORA ARMITAGE.

Dadnor, Ross, Herefordshire, September 25.