

dangerous pollution of the water in the higher interests of the public health.

The work is a welcome addition to public health literature, and it is sure to meet with general appreciation. It should appeal to a wide circle of readers, for it is written in a manner which presents a most important subject in a clear and intelligible light to everyone.

*Nature Study: Realistic Geography. Model based on the 6-inch Ordnance Survey. Designed by G. Herbert Morrell, M.A. (London: Edward Stanford.) Price 3s.*

THIS is a model of the country round Streatley-on-Thames, constructed by cutting out pieces of cardboard according to the contour lines and placing them one above another in the positions shown by the map. Spare pieces of cardboard, on which the contour lines are printed, ready for cutting out to make a second model, are enclosed in a portfolio along with the first. The construction of models of this kind has been carried out for some years in a number of schools, both in this country and abroad, but the general experience seems to be that, like the trigonometrical survey of the school and playground, and other similar devices, the time necessary to carry them out is too much for the value of the results obtained. The use of Mr. Morrell's model undoubtedly saves some time, inasmuch as the contour lines are already traced, but we suspect that the tracing of the contour lines is really the most important part of the exercise. But anything which assists in familiarising British school children with the ideas of contour lines and surfaces is to be welcomed; it is astonishing how many children who are familiarly acquainted with isobars, isothermals and "iso-" lines of all sorts have scarcely heard of contour lines, and it is not too much to state that the failure to present the conception of a contour or "iso-" line as the intersection of a surface with the surface of the earth is almost the fundamental defect in our teaching of advanced physical geography. Apart from its application to the purpose for which it is immediately intended, Mr. Morrell's model should be of value to teachers for demonstration.

*A Junior Chemistry. By E. A. Tyler, B.A. Pp. viii + 228. (London: Methuen and Co., 1902.) Price 2s. 6d.*

THE author's primary object seems to be to enable boys to present themselves successfully for the examinations in chemistry held in connection with the Oxford and Cambridge locals and similar examinations. He recognises the existence of a better way of teaching his subject than the one he adopts, and urges in extenuation of his procedure the inadequate provision made for practical science in most secondary schools and the small amount of time devoted to science in them. Mr. Tyler expresses the hope that the book he has written will enable boys in ordinary schools "to acquire, as far as possible, a scientific knowledge of chemistry," but he does not seem to understand that science is not properly included in the curriculum because of the information its study imparts, but rather as a means of developing a habit of mind. Unless chemistry is studied experimentally, and is made to train the pupil to observe and to reason from his observations, it has no right to a place on the school time-table. Before the pupil has been set to study the preparation and properties of a few simple substances, and from his own deductions taught to discover the laws of chemical combination, Mr. Tyler tries to explain to him the atomic theory, Avogadro's law, compound radicals, and other theoretical considerations. Though the author understands well enough all the chemistry a boy need learn at school, he does not quite appreciate why men of science desire such subjects as chemistry to be introduced into school work.

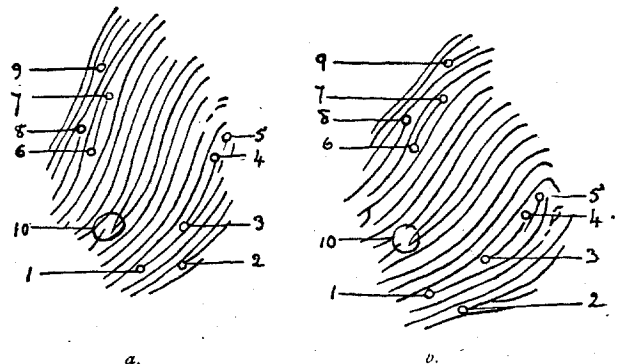
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## LETTERS TO THE EDITOR.

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### Finger Print Evidence.

BY the courtesy of authorities in Scotland Yard, I have just received duplicates of two enlarged photographs (on slightly different scales). These photographs were lately submitted in a court of law to prove the identity of *a*, the mark left on the window frame of a house after a burglary had been committed, with *b*, the impression of the left thumb of H. J., a criminal then released and at large, whose finger prints are preserved and classified in Scotland Yard. I wished to show the resemblance between *a* and *b* by the method described in my "Decipherment of Blurred Finger Prints," believing that to be the readiest way of explaining to a judge and jury the nature of the evidence about to be submitted to them. I send the results. The questions of the best mode of submitting evidence and of the amount of it that is reasonably required to carry conviction deserve early consideration, for we may have a great deal of it before long. It is as a contribution towards arriving at a conclusion that I send the enclosed. I should say that in the above-mentioned book, each pair of impressions was printed in triplicate and on a still larger scale than these. One of the three was untouched, the second had lines drawn like those in the figure, down the axes of the ridges, the third had the lines and numbers and nothing else, just as in the figure. The attention



of the judge and jury could be easily directed by counsel to whatever pair of corresponding points he might desire, by reference to their common number on the chart. Without some such guidance it would be extremely difficult to do so, for persons unaccustomed to finger prints are bewildered by the maze of their lineations.

Certain more or less faint lines run across *a* that seem to have been made with the brush when painting the window frame. They seriously interfere with the lineations just above No. 5 and to the right of it. No. 5 is itself so far affected by them that I do not attach full weight to it as a point of reference. But accurate comparison is possible at nine other points, all of which are marked, and a close agreement will be found between every pair of them as well as in the number of intervening ridges.

FRANCIS GALTON.

[The prints have been too much reduced from the tracings I sent, to be quite clear. Thus unless a lens be used, No. 2 in *b* will probably be misinterpreted.]

### Remarkable Fossil Oysters from Syria.

IN examining a series of more than one hundred specimens of *Ostrea (Exogyra) flabellata*, Goldfuss, from the Middle Cretaceous of Lebanon, I was struck with the marked reproduction in the free upper valves of the figures of other shells to which the lower valves have been attached. These specimens were all collected in the same place, a hill near Bhamdun, Mount Lebanon, Syria. They have been freed by weathering from a soft marly rock exceedingly rich in fossils. Specimens of *Ostrea*, *Plicatula*, *Pecten* and *Anomia* have the shell well preserved. Many others, including species of *Cardium*, *Trigonia*, *Corbula*, *Isocardia*, *Cytherea*, *Leda*, *Nucula*, *Cerithium*, *Alaria*, *Melo*, *Pterocera*, *Turritella*, *Natica* and others are preserved only as casts. Consequently the shell to