

In these remarks I have limited my observations to those dolmens and covered chambers which are of the simplest grade, but they would, I think, be equally applicable to the more complicated structures similarly circumstanced. It seems, therefore, premature to apply the term "dolmen mound" to such barrows as Carnoët, for instance, where the small and accurately-made kist bears no resemblance to the frequent dolmens of the district.

Harbottle, Rothbury, May 4

G. A. LÉBOUR

The University of Freiberg

MAY I be allowed to ask in your pages for information about the University of Freiberg in Saxony as a place of instruction in Geology, Mineralogy, and Chemistry? I should also be glad to know which German Universities are held to be the best for learning these three subjects, and when their terms end. Any information on these points will oblige,

Cambridge University, May 5

UNDERGRADUATE

Sources of Sandstone

YOUR geological readers will readily admit the importance of any hint that will assist them in determining the source from which a particular bed of sand or sandstone has been derived.

How to discriminate between sand produced by the breaking-up of quartz, and sand produced by the breaking-up of flint, does not appear to be generally understood. Chemical analysis gives no assistance; and when examined microscopically by ordinary light, no difference can be detected.

Polarised light, however, differentiates these two substances in such a decided way, that where they alone are concerned, no doubt can remain for an instant as to whether a grain of sand consists of one or the other. The quartz, as of course everybody knows, is resplendent with prismatic colours, while the flint shows a cold steel-grey surface covered with a peculiar marking, which I am obliged to call a species of reticulation for want of a term more exactly descriptive. This marking I consider to be indicative of something in the structure of the organism replaced by the flint. When once seen it is easily recognised. Some species of chert, that from the Portlandian beds for instance, show the same marking as flint.

I may also add that polarised light shows chalcedony to be, like quartz, a crystalline instead of a non-crystalline substance, as usually taught. It bears the same relation to quartz crystals and massive quartz as fibrous gypsum does to selenite and common gypsum.

M. HAWKINS JOHNSON

Polarised Light

WE have all noticed that when the sun shines directly through a window hung with figured muslin curtains, the reflection of the pattern of the curtains in the window interferes with the prospect.

When this reflected image is viewed through a Nicol's prism it disappears when the prism is rotated, leaving the prospect unobstructed; the experiment is very interesting, and can be performed by any one who has a polariscope attached to a microscope, and it is only necessary to observe that the image is viewed at the proper angle. The effect will possibly be best when the sun's rays make an angle with the curtains and the glass nearly coinciding with the polarising angle. (In my case the angle was $36^{\circ} 52'$.)

Tyndall has mentioned a case in which the haze obstructing the view of a mountain-top was rendered transparent by the Nicol.

The readers of NATURE have probably observed how completely the leaves of the ivy polarise light; viewed through the Nicol and a pink selenite, the plant appears covered with blossom.

R. S. CULLEY

CHOLERA AND SUN-SPOTS

ON Friday evening, the 26th ult. Mr. B. G. Jenkins, of the Inner Temple, read before the Historical Society a remarkable paper on Cholera, founded on a communication to the Russian Imperial Academy of Sciences, and now under the consideration of the Medical Council of the Minister of the Interior. The author of the paper maintained that no true advance could be made in any science founded on experience, and looking to facts for its development, until the history of that science had been recorded and correctly interpreted; and that it was, because we have been looking at the facts of cholera,

which have been accumulating for half a century, as facts without attempting to show, or rather without succeeding in showing, in what relation they stand to each other, that we are really no wiser than we were forty years ago.

He held that, instead of one "home" of the cholera in the delta of the Ganges, there are seven, all situated on or near the Tropic of Cancer, equally distant from each other, of which the most important is that at the mouth of the Ganges; the others are to the east of China, to the north of Mecca, on the west coast of Africa, to the north of the West India Islands, to the west of Lower California, and among the Sandwich Islands; that a reference to the map would show that the recorded appearances of cholera over the globe may be satisfactorily explained by supposing seven atmospheric streams, each 1,400 miles in breadth, to proceed from these foci in a north-westerly direction; and that at some periods, as 1833, 1850, and 1866, nearly all the streams were inactivity.

Having pointed out the course of these streams on a map especially prepared, and shown how the disease moved within the limits of each, in both the north-west course and its south-east extension across the Equator, the author, in tracing in detail the course of the cholera in India during 1817 and 1818, called attention to a remarkable law which manifested itself, a law which he held was generally applicable wherever cholera appeared.

Although the course of cholera during 1817 was not very clear, still it is evident that it was north-west and south-west. The lull in virulence and advance which occurred in December 1817 continued to March 1818, when cholera broke out again just where it had ceased the previous December. He drew attention to a very recent similar instance: the cholera last year halted on the western border of Russia, and about a fortnight ago broke out in Poland, which augurs ill for the North of England this year. The remarkable law which the author pointed out was that in 1818 the cholera advanced simultaneously in two directions, north-west and south-west, in such a manner that all the places attacked at any given time by its north-west advance were situated at right angles to all the places attacked at the same time by its south-west advance. This double advance is made evident by cutting a piece of paper square, placing a corner upon the map at Calcutta, and moving it across India in a direct line to Surat. In 1819 the cholera crossed the Arabian Sea to Muscat, and passed simultaneously through Persia, and up to 1823 advanced as far as Asia Minor and the Caspian, and then died out. In 1823 a fresh outbreak occurred in India; this steadily proceeded to the north-west, and halted in the west provinces of Russia in 1830, and the next year broke out in full force in the same locality, thus presenting a parallel to 1871-2, and went as far as Britain. By referring to the map it will be seen that all places attacked by this stream of cholera in 1831 lie within the boundaries represented by two lines, one drawn from the southern point of India to the north of England, and the other from the Ganges through Orenburg to Archangel. The author having described with great minuteness the rise and progress of the other six streams, bringing the subject down to the present day, stated that Europe was liable to attacks from two great sources, India and Arabia: Russia and Northern and part of Central Europe coming under the influence of the Indian stream; Southern and Western and part of Central Europe under the influence of the Arabian; and that the Continent would certainly be attacked by both this year. The curious cases of ships at sea being suddenly attacked by cholera, and, again, the instances of ships sailing along the coast of India being struck by the disease when at the same place, he explained on the supposition that they had been sailing within the limits of the cholera streams; for when they got outside the limits the disease suddenly ceased. He called attention to a fact worthy of mention, that all the places recorded by Dr. Gavin Milroy as unaffected hitherto by cholera lie