

RAMBLES WITH NATURE STUDENTS.

By ELIZA BRIGHTWEN, Author of "Wild Nature Won by Kindness."

AMBER.

I HAVE in my museum a piece of amber in which some small flies with gauzy wings can be plainly discerned. Ages ago must have alighted upon some resin oozing out of a pine tree of a species that is now extinct (*Pinus succinifer*) and held fast by the glutinous sap, they were embedded and enshrined there, until, in the course of time, the resin became mineralised into what we call amber.

Although this substance is occasionally found in England and France and rather plentifully in Australia, the chief supply comes to us from the southeastern shores of the Baltic. A forest of the amber-yielding pine must have existed there long ago. It is now submerged, and in calm weather the fossil trees and immense deposits of amber can be discerned on the ocean-floor.

The amber fishers, clothed in leather and provided with hooked forks and hand nets, wade into the sea and gather such fragments of amber as may be floating on the surface; but the larger and finer pieces are obtained by rowing out from the shore and raising the masses of amber with pronged forks and nets. Even better results are obtained by divers,



FLIES IN AMBER.

who work under water for five hours at a time, prising up large blocks of amber from the weed and sand in which they are embedded; these are hauled up to the boats and brought to shore.

Amber is chiefly used for mouth-pieces for pipes, partly because of its smooth surface and originally on account of the belief which prevails in Turkey that it cannot transmit infection.

Some amber, like my own specimen, is as clear as yellow glass, while other pieces are more or less clouded.

The first mention of this substance is in Homer's "Odyssey"—

"An artist to my father's palace came,
With gold and amber chains."

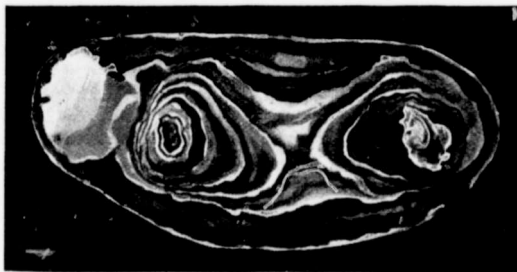
So we learn that necklaces of amber are of high antiquity.

As many as eight hundred different kinds of insects have been discovered embedded in amber, all formerly natives of warm climates, but now extinct.

If a piece of amber is firmly rubbed upon flannel or cloth, it will become so electric as to attract small pieces of paper, which will adhere firmly to it. To this electric quality we may trace its Greek name of

Electron, from which our word electricity is derived.

If we like to experiment with a piece of amber and apply it to a candle, it will burn, giving out a rather disagreeable odour and



POLISHED QUARTZITE PEBBLE.

black smoke; but, if we blow out the flame, there then arises a white vapour which exhales a pleasant aromatic scent.

To this Milton refers when he says in "Samson Agonistes"—

"An amber scent of odorous perfume
Her harbinger."

As may be gathered from numerous references in our old poets, the aroma of amber was used in the Elizabethan age to give gusto to foods and wines as well as to perfume garments.

ROCKS AND STONES.

It has always been a source of interest to me to observe the various kinds of stones I meet with in a morning's ramble.

Living, as I do, where quartzite pebbles abound, I am always being reminded that the sea once covered this place, although it now stands between 400 and 500 feet above it, and that it was by the sea's action that these stones were rolled backwards and forwards, until all their angles were smoothed away. In fact, they are exactly such as we may find on any sea beach at the present day.

"Where rolls the deep, there grew the tree;
O earth, what changes hast thou seen?
There, where the long street roars, hath been

The silence of the central sea."

Common flints out of a chalk-pit are usually dark grey or black within the outer white crust, but our quartzite flints are beautifully stained, banded and veined, and partake of the nature of agate and cornelian. When polished they form ornamental paper-weights. Red jasper, fit to be cut into seals, is also abundant here.



CORNISH GRANITE (showing orthoclase crystals).

Blocks of pudding-stone are occasionally exposed in our fields as the plough turns up the soil. This stone was once grey mud, into which pebbles large and small became embedded, then, in process of time, the mass hardened into solid rock which, when sawn into pieces, will take a fine polish, the stones in it looking much like plums in a pudding, hence its common name.

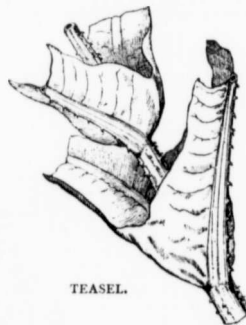
Some of my readers may live in mountainous places where granite rocks exist; these will afford an interesting subject for study.

Granite consists mainly of three substances, the white or yellowish grains being quartz, the pink felspar, and the black mica.

In the Museum of Geology in London we can see case after case filled with specimens* of polished granite of every description and of great variety of appearance.

That which is mainly felspar is bright pink or dark red; some pieces are light grey as quartz predominates, and the darker kinds are full of mica.

I always glance at the heaps of stones by the roadside, since a very slight knowledge of



TEASEL.

geology tells me where they are likely to have come from, and an otherwise uninteresting walk along a dusty road may be enlivened by a little thought about the materials of which the road itself is made.

Even the kerbstones of the London streets, when washed clean by a heavy shower, reveal by their varied tints of grey, red or pink, that they have come from quarries in Scotland, Cornwall, Devonshire, or the Isle of Man.

In the beautiful Cornish valley of Lamorna, blocks of granite measuring twenty-five feet in length by eleven feet in diameter, have sometimes been cut, and the plinths for the railings of the British Museum came from the Carnsew quarries in Cornwall.

Should any of my readers pay a visit to the Land's End, they will be able to observe in the curious columnar granite blocks on that coast the pieces of felspar (of the variety called *orthoclase*) sometimes as much as three inches in length, which give this granite a very distinct character.

* This museum in Jermyn Street is always open and quite free of access.