

## NOTES ON TREES.

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The labour of a field-geologist leads him much into out-of-the-way places, that are rarely seen by others than those who are employed in them; so that he has chances of seeing notable things outside his own special line of work. Moreover, in the detailed mapping of the various formations, he has often to depend on indirect evidence, the direct evidence of sections being absent. Besides the character of the soil, the form of the ground and the outbreak of springs, he may note the general character of the vegetation, though perhaps having but the smallest amount of botanical knowledge.

These notes therefore must be taken as those of a geologist, not of a botanist, and consequently as in great part from a geologic point of view, referring somewhat to the connection between soil and growth. They are written in the hope that they may be of interest to that large class, lovers of trees, and that they may lead to other records of a like kind.

I. BEECHES ON LONDON CLAY.

On the higher parts of the escarpment of the London Clay northward of Southampton and in some other places, there are very fine beeches, often in groups, as may be well seen in the eastern and western parts of Ampfield Wood, where one spot indeed is named The Beeches.

These sites are at or near the junction of the London Clay with the overlying Bagshot Sand, or rather one should say about the passage of those beds into one another, and in other cases the beeches are also on the uppermost loamy part of the former formation.

Now beeches, it is well known, grow best on a calcareous soil, oaks and elms being more proper to clays and loams; and so, seeing so many fine beeches at this particular geologic horizon, one is led to think that the beds on which they grow

must be more calcareous than the rest of the London Clay: the beeches having, as it were, made a rough analysis of the soil and found therein a proper amount of calcic carbonate, have elected to settle. We know that there is always a certain amount of calcic carbonate in the London Clay, though not enough to tempt beeches to grow, but it is usually collected together for the most part into nodular masses of earthy limestone, known as septaria. Perhaps in the beds in question this segregation of calcic carbonate has not taken place, the material being more diffused through the loam, and so being more available for beech-use.

A little south of Ampfield Wood, by the high road through South Holmes Copse, some two miles as the crow flies (but rather more as the Field Club goes) from Romsey Station, is another group of fine beeches, in this case near the base of the clayey Bracklesham Beds.

## 2. VARYING FALL OF LEAF IN OAKS.

Down the south-easterly slope on the road just eastward of Woodley (E. of Romsey) are some rather fine oaks. Having occasion to pass by these a few times in the autumn of 1889, I was struck by the difference in the relative state of some of them.

Three of the finest trees were selected for observation, all being of much the same size. One of these is close to the top of the slope and on the northern side of the road; the second is just eastward and slightly lower; whilst the third is to the S.E., on the other side of the road, and still lower.

On October 31st, the first had its foliage green, in general effect at all events; the leaves of the second had turned yellow; the third was bare of leaves. On November 11th, the leaves of the first were turning yellow.

This difference in the state of the foliage was very striking, and there seemed to be nothing in the trees themselves to account for it; all were strong and healthy. All too are on the same geologic formation, clayey Bracklesham Beds; but it occurred to me that the first, being little below the edge of the gravel that caps the hill, may perhaps be more plentifully watered, and so may have the power of holding its leaves longer. This however does not seem to account for the difference

between the second and third, and one is led to think that the difference of level, though not great, is the cause (or the chief cause) of the difference in the state of the trees; those in the lower more sheltered sites being more affected by the frost or chill of night, which acts more strongly where the leaves are more covered with moisture than where they are cleared by evaporation in a more open spot.

It is to be hoped that some local observer will watch these trees and see if the above-noted appearance is recurrent.

### 3. DOUBLE TREES.

Something having been said of beech and of oak separately, attention is now drawn to a strange combination of the two, of which beech-oaks however I have seen only two examples.

The first seen is on the high ground in the eastern part of Cranbury Park, at the edge of the wood that clothes the escarpment of the London Clay above Otterbourne, and near the junction of that formation with the Bagshot Pebble Beds. The other is but a little way in Ampfield Wood, by the side of the road to Hursley Park, a little northward of Knap Hill: it is on Bagshot Sand, near the outcrop of the London Clay, and is a remarkably fine tree, which ought to be seen by the Hampshire Field Club and photographed.

The peculiarity of these trees is that they consist of a beech and of an oak, the stems of which grow up together closely, so as practically to form one tree. In both cases beech and oak are equally fine, and in the second each would separately form a notable tree.

The effect in each case is strange (when the trees are in leaf), and at first perhaps unexpected. One might think that the branches of oak and of beech would intermix, but they do not in the least; or that beech would grow on one side and oak on the other, but neither is this the case. Then perhaps the national weakness of an Englishman for the oak would lead him to expect that tree to conquer and to suppress the beech. Not so has it happened however: the oak is nowhere in the contest, the beech takes the whole space at first, so that an observer underneath the tree and standing on the side of the beech-stem, would have no suspicion of the existence of the oak, not a leaf not a branch of which is to

be seen ; but let him walk away from the tree and he will see that, when the beech has grown upward and outward to its full content, then the oak branches out above and has the top part to itself, so that no one seeing the top alone would expect to find a beech tree underneath.

Probably the fact is that the beech is the strongest of trees, as surely it is also the most beautiful.

In the discussion that followed, Mr. W. H. Purkis said that there was a like junction of beech and oak near the Rufus Stone, in the New Forest ; and Mr. M. Miles mentioned instances of holly and hawthorn growing together on Southampton Common.

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### NOTE ON LOCKERLEY CAMP.

BY W. WHITAKER.

The above name is given to the well marked trace of a circular earthwork, in the parish of Lockerley, which is apparently of British origin and seems hitherto to have escaped notice. It was not marked on the Ordnance Maps, nor is it recorded in Mr. Shore's list of ancient camps in the county, published in the first number of the Papers of the Hants Field Club (1887).

The site, on the top of the hill above School Farm, a mile west of Dunbridge Station, is far enough from any road or path to account for the slight mound having escaped notice, and the greater part of the earthwork has been ploughed over.

The work was seen in carrying out the new Geological Survey of the district, in July, 1891, and its British character was then noted. It was revisited, in the same month, with Mr. Shore, and examined in greater detail, the whole circuit being traced.

It has since been mapped by the Ordnance-Survey and it is hoped that a fuller account may appear in a future number of the Papers of the Field Club.