



THE DARLEY YEW-TREE.

## The Darley Yew.

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BY C. S. GREAVES, ESQ., Q.C.

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**T**HE question of the age of very large trees is one which cannot fail to interest those who are admirers of them, and no tree is more likely to excite interest than the yew of our Churchyards, especially when it is remarkable alike for its size and age, and amongst those yews none is more worthy of admiration and interest than the Darley Yew. It is many years since my attention was first called to this magnificent tree, and I have long wished to be able to discover some means by which its age might be at least approximately ascertained, and at last I think that I have succeeded in so doing.

When staying at Clysthydon, Devonshire, in the spring of 1869, I learned that a remarkable custom has existed there for more than one hundred and fifty years. Whenever a parish clerk has died, a yew tree has been planted upon his grave, and three yews were growing in 1869 upon the graves of three successive clerks; and it occurred to me that, as the Register would show the time when each clerk was buried, the age of each yew might be ascertained, and the amount of increase in circumference since it was planted found out, and that that might afford a very fair means for calculating the probable age of the Darley yew, especially as the circumstances in both cases appear to be extremely similar. Both churchyards are in a sheltered position, and the vigorous growth of the trees and hedges around them shows that the soil of both is equally well adapted for the growth of timber.

In order, therefore, to test the matter, I measured the boles of the yews at four feet from the ground, and ascertained by the Register the time when the clerks were buried, and then proceeded to compare the growth of these yews with that of the Darley yew.

Various statements have been made as to the girth of this noble tree, but they are all in excess of the reality; the bole of this tree bulges out at a short distance above the ground, and is certainly less in girth nearer to the ground than four feet above it, at which height I measured it, and found it to be 31 feet in girth; and Mr. Cox,\* at the same height, which is the widest part, failed to make it 32 feet by a few inches, and 30 feet will be an ample allowance for it nearer to the ground; and, as the Clythydon yews rise regularly from the ground, that is the proper measure to compare them with.

I would gladly have avoided any calculations by figures; but that is impossible. I will, however, confine my statements to giving the correct results from the calculations, which have been carefully made, except in one case, which I give as an example of the manner in which I calculate the probable age of the Darley yew. I have taken Owens' yew as having increased nine inches in diameter in thirty-five years, and ten feet or 120 inches as the diameter of the Darley yew. Here we have three points, which enable us to work by the Rule of Three. Thus the diameter of Owens' yew is to the number of years in which it has been grown, as the diameter of the Darley yew is to the number of years in which it has grown. Thus—

Inches.	Years.	Inches.
9 :	35 ::	120
		35
		-----
		600
		360
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		9)4200
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		466 <sup>6</sup> / <sub>9</sub>

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\* *Derbyshire Churches*, vol. ii., p. 170.

Thus we obtain the probable age of the Darley yew in this case, and similar calculations will give it in others.

T. Owens, the last clerk, was buried July 20, 1834, and his yew was thirty-nine inches in girth, or thirteen inches in diameter, in the spring of 1869; but, as he died at the age of 84, and the yew had been growing in his garden for some years before his death, with a view to its being planted on his grave, it must have been larger than trees usually are when they are transplanted. I therefore allowed four inches for its possible diameter when it was planted on his grave, and this left an increase of nine inches in diameter in the thirty-five years since his death; and if the yew continued to increase at the same rate, its diameter would be ten feet in 466 years.

T. Petherick, the next clerk, was buried July 30, 1797, and his yew was fifty-two inches in girth, or full seventeen inches in diameter, and as there is nothing to show that the yew was larger than usual when it was planted, I allowed one inch for its possible diameter at that time, and that left an increase of sixteen inches in diameter in the seventy-two years since his death; and if the yew continued to increase at the same rate, its diameter would be ten feet in 540 years.

E. Critchet, the third clerk, was buried April 21, 1748, and his yew was ninety-three inches in girth, or 31 inches in diameter, and in this case also I allowed one inch for its diameter when it was planted, and that leaves an increase of 30 inches in diameter in 120 years; and at the same rate it would reach ten feet in diameter in 480 years.

The ignorance of the exact size of the yews when they were planted necessarily left some doubt as to the precise accuracy of these calculations, and in order to obtain greater certainty, and to ascertain at what rate the yews continued to increase, they were again measured in the spring of 1876, and in October, 1878, and the following table exhibits the different measurements and the increase in inches, to which are added the last measurements in October, 1879.

No.	When planted.	Girth Spring, 1869.	Girth Spring, 1876.	In-crease.	Girth October 1878.	In-crease.	Girth October 1879.	In-crease.	Total in-crease from 1869.
1	1834	39	44	5	46	2	47	1	8
2	1797	52	56	4	58	2	59	1	7
3	1748	93	98	5	99	1	101	2	8

The oldest and youngest trees, therefore, had increased five inches in girth in the first seven years, and the other four inches; and, if the former continued to increase at the same rate, they would reach the girth of 360 inches, or 30 feet, in 504 years; and the other in like manner would reach the girth of 30 feet in 630 years. But it ought to be mentioned that this tree is much less vigorous and luxuriant in appearance than the others.

In the first ten years, the youngest tree had increased seven inches in girth, and at the same rate it would reach the girth of 360 inches, or 30 feet, in  $514\frac{2}{3}$  years; and the two other trees had gained six inches each in that time, or at the rate of a foot in 20 years, and 30 feet in 600 years.

It will be observed that in the last period of three years No. 2 had increased more rapidly than previously, and No. 3 more slowly; but there is nothing unusual in such a change. A growing tree every year makes an addition round its bole, which is commonly called a ring, and these rings vary occasionally in their breadth; sometimes the change is considerable, and sometimes there has been a regular series of broad rings for some years, and then a succession of narrow rings, followed by a series of broad rings again of various sizes. [The head of a crutch of Baltic fir, which was exhibited, was a very remarkable instance of all these things. Although none of the rings in it were broad, there were many variations in size. In one part there was a continuous series of rings so small as to be hardly visible, and altogether about an inch wide, and broader rings suddenly on both sides. It is often difficult, if not impossible, to discover the cause of such variations; but in this case the fir may have grown in a forest, and been all but smothered by surrounding trees during the time of the formation of the small rings, and these trees may have been

cut down, and then the top of this tree may have spread out, and larger rings may have been formed.] Variations also may be caused by the growth of a tree being accelerated or retarded by the difference in the seasons, as will be shown hereafter. The changes in the growth of the Clysthydon yews are very trifling, and hardly worth notice ; for it is clear that the increase of one or two years may completely make up for any deficiency in size in any other. And it must be borne in mind that the question we are discussing is in what time a yew tree *might* attain the size of the Darley yew, and a single tree may afford a means of forming a reasonable judgment upon that question ; and we have nothing to do with any average of any number of yews, for in all probability any average would give a less result than the fastest growing tree amongst them. It is, however, very well deserving of notice that in the same churchyard there are three yews, each of whose growth so nearly corresponds with that of the others, and that they are of such different ages, as these facts strongly tend to render any conclusion drawn from them very much more trustworthy than if it were drawn from a single tree ; and they also lead to the supposition that such a growth is not extraordinary where yews are planted in churchyards. Indeed, it may be questioned whether the richness of the soil caused by the dead bodies may not produce a much more luxuriant growth in yews than may have been supposed. In an urn, which I found five feet below the surface of a barrow at Bradley, the roots of grass growing on the barrow were amongst the decaying human ashes in the urn—a remarkable proof of the distance to which the roots of plants will penetrate in search of nourishment, and of the great length of time during which the remains of man may supply it.

It may very reasonably be inferred from the preceding facts and considerations that the Darley yew *may* well have attained its present size within 600 years.

But there are other matters that deserve notice.

There is a manifest difference between the trees. There is nothing remarkable in the shape or growth of the Clysthydon yews. Their boughs are of moderate size, and leave the bole

nearly at right angles, and shoot out horizontally, as yews usually do.\* But the Darley yew, in height, in the size and upward direction and spread of its limbs—indeed, in its whole figure—is very much more like a gigantic oak or ash than a yew. The appearance altogether indicates not only a very rapid growth, but also that it has a distinct character—indeed, I have never seen any other yew, with the exception noticed hereafter, which bore any near resemblance to this tree.

Every one who has devoted any attention to the matter, must have observed that amongst trees that were planted at the same time, some will from the first take the lead of others, and leave them far behind. This is sometimes due to the difference in the soil in which they are planted; but there is no doubt a natural superiority in some cases in one plant over another. Some years ago all the seeds of a Newtown Pippin were sown in a flower pot. One plant sprang up in the first year to the remarkable height of a yard, and grew another yard in the second year. The other seeds produced very puny plants. Of course, if such a superior plant happens to be placed in soil that thoroughly suits it, its increase will naturally be very great; and such, I should infer, has been the case with the Darley yew.

The Darley yew stands in the place where the soil in that churchyard is the richest, and most frequently refreshed; for the proximity to the south porch has always been preferred for burials in Derbyshire, and in that county the practice is but too common to bury members of the same family in the same grave, one after another. The burials are in all parts of the churchyard at Clythydon.

At Darley, also, the yew is protected from the north by the church; not so the other yews: the largest stands on the north of the church, and the others on the east.

When I drove past Darley Hall, I was so very much struck with the lofty boles and timber-like appearance of some yews there, which seemed so like the yew in the churchyard, that I had them measured, and the largest of them is six feet three inches round,

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\* See I. Evelyn's *Silva*, by Dr. Hunter, 264 note, 5th Ed.

and it is supposed that they are about 200 years old. They, therefore, might reach 30 feet in girth in 1,000 years. They have had many of their boughs cut off, and that has, no doubt, very much retarded their growth in circumference; they stand on a high and exposed situation, and I doubt whether the soil there is naturally as good as that of the churchyard; and it can have had no additional richness imparted to it. The great similarity of these trees leads me to suspect that it must have arisen either from some natural superiority in the trees, or from some other peculiar cause. It appears to be very probable that the yews near the Hall were grown from seeds of the yew in the churchyard. This would not only account for their similarity, but would also tend to show that there was some natural peculiarity in the latter.

In the copy of the Register of Carsington, in Mr. Cox's excellent work on the Derbyshire Churches,\* it is stated that a yew was planted in that churchyard in 1638; and I had it measured in 1877, 239 years after it was planted, and it was ten feet in girth at four feet from the ground; and, if it continued to grow at the same rate, it would be thirty feet in girth in 717 years. Most, however, of its large branches have been cut off, and its girth is consequently much less than it otherwise would have been.

In Woodbury Churchyard, Devonshire, "a yew or palm tree was planted" in November, 1775, as appears by the Register,† and by the kindness of my venerable friend, the Revd. H. T. Ellacombe, I ascertained that this tree was fifty-five inches in girth last May. It has, therefore, grown much slower than the oldest Clythydon yew.

At Sir H. Dryden's, in Northamptonshire, there are some remarkable yews in the Green Court, but their girth cannot be ascertained, and two yews in the front garden, which probably were also planted in 1710, are about nineteen inches in diameter at four feet from the ground. These yews also have grown much more slowly.

Having learned much about a great yew in Crowhurst Church-

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\* Vol. ii., 460.

† *Notes and Queries*, 3rd Ser. Vol. vii., 364.



yard, some five miles from Hastings and two from Battle Abbey, I visited the place on October 4, 1879. The tree is a very remarkable one. It is completely hollow in the bole, which has a large opening into it on the west, and a still larger one on the south. The branches have separated at about eight feet from the ground, and probably wet may have got into a crack, and caused the decay of the inside, for a large limb on the south-east side of the opening on the south has plainly separated from the other part of the bole, and the part of the bole from which it issues protrudes beyond the space it originally occupied. Although the statements of its girth, which vary from 27 to 40 feet, are all in excess, the girth is exactly twenty-six feet and seven inches at four feet from the ground on the north side; but this is something in excess of the true girth, on account of the protrusion above mentioned, and the great irregularity in the exterior of the bole, which, as I approached the tree, led me to suppose the bole consisted of several trunks united. My measure was made by a string passed round the tree twice in order to secure accuracy. The head of the tree exhibits great signs of age. There is much dead wood in it, and it obviously extends much less in height and in every direction than it formerly did. It is quite out of the question to form any opinion as to the age of the tree from itself, and no mention of it is known to exist in any ancient document.

The position in which it stands is very remarkable. The entrance to the churchyard ascends rapidly from the south-east corner to the level on which the church stands, and just at the top of this ascent, and close to the left of the path, and immediately opposite the present chancel door, the yew stands. It is exactly in the spot at which the bearers of a coffin would rest when they had reached the top of the ascent. Again, the ground slopes very fast towards the south where the tree stands, and there is at least a foot and a half difference between the north and south sides of the tree, and as the sub-soil is sand rock, the soil cannot have fallen or slidden away since the yew was planted. It, therefore, must have been planted on the slope, and there must have been some reason for that course.

The body and chancel of the church were re-built within the last 30 years, and it occurred to me that funerals might have been taken in through the old chancel; but upon enquiry, Mr. Papillon, the present proprietor of Crowhurst Park, has been good enough to inform me that the present chancel was built on the old foundations of the former chancel, and that, if there was a door into the old chancel, he feels sure a corpse was never taken into the church through it.

There are three other yews in the churchyard—one at the west end, another at the north-west corner, and the third at the north-east corner. The last is a very vigorous tree, with a very bushy head, and has not reached its best. The others are past their best, but their boles are still sound. The one at the north-west corner is thirteen feet five inches in girth.

No other yews have been discovered with which any fair comparison could be made; but the Darley Hall and Carsington yews, when due allowance has been made for the matters that have been pointed out, fully confirm the conclusion drawn from the Clysthydon yews.

As every tree naturally increases more or less in every year, there is a means of testing the age of a tree which, although it may never afford more than a proximate result, will exclude extreme estimates. It has been said that the Darley yew is 2,000 years old, or even more. As it is ten feet in diameter, on that supposition it could only have grown one foot in diameter in 200 years, or one inch in sixteen years, and its annual ring would have been less than the thirty-second part of an inch in breadth, which would scarcely be visible. It is out of the question for any vigorous tree to have increased so slowly; and the fact that the oldest Clysthydon yew has increased four times as fast (2 ft. 6 in. in 120 years), is ample proof that that conclusion is right. Even if the Darley yew were supposed to be 1,000 years old, its yearly ring would be less than the sixteenth part of an inch in thickness, which is much too little for so vigorously growing a tree.

But, on the other hand, if we suppose the age to be 600 years, a more reasonable state of things will be found. In that case the

increase would have been a foot in diameter in 60 years, and an inch in five years; and the annual increase would have been a tenth of an inch. It may be that the yew took 600 years to attain a diameter of 10 feet; but I entertain considerable doubt whether it was so long, and the more so, as the oldest Clythydon yew has increased at least two feet in 100 years, which strongly tends to show that this yew might have attained 10 feet in diameter in 500 years.

Generally, very large trees have grown as much more rapidly than others of the same species, as they exceed them in size. It is only necessary to look at any wood or plantation where all the trees were planted at the same time, to be convinced of this fact; for there the largest trees *must* have grown the fastest. And, although it is quite true that the longer a tree may continue growing, the larger it will become, still it may well be doubted whether such remarkable trees as the Darley yew could ever have grown slowly in their earlier years.

The increase of a tree in girth is caused by the sap, which annually ascends to feed the leaves, and the quantity of sap that ascends is greater or less in proportion to the quantity of foliage on the tree, and the foliage is the greatest wherever the tree stands in the open, so that it can spread its branches in every direction uninterruptedly, and hence it is that the increase in girth is greatest where the tree stands in the open, which is the case both with the Darley and Clythydon yews. Generally, a tree increases regularly until it reaches a point which may be called its best, and the head of the tree then generally continues for some time nearly stationary, and then gradually dies away. As long as the tree continues stationary, the same quantity of sap ascends, and the same increase in girth occurs. But as the foliage diminishes, so does the sap and the increase in the girth. The Clythydon yews have none of them reached their best; but the Darley yew seems to have done so. It still, however, bears a very large quantity of foliage, and that shows that its girth continues to increase, and this is put beyond a doubt by Mr.

Cox's measurement before 1877,\* which exceeds mine, in September, 1867, by several inches, and, after making allowance for any trifling inaccuracy in either measurement, tends to show that the Darley yew is increasing in girth even now about as fast as the Clysthydon yews. As, however, it is possible that for some time past the Darley yew may have increased at a less rate than when it was at its best, some allowance may be made on that account; for my calculations were made upon the supposition that a regular increase had taken place up to the time when my measurement was made. It would seem, however, that 100 years would be amply sufficient for that purpose; and it is not worth while considering whether this would make any deduction necessary from the number of years ascertained by my previous calculations.

Being very anxious to give the fullest information down to the latest period, I had the Clysthydon yews all measured in October, 1879, which was so late in the year, that it may well be taken that the measurements include the whole of this year's increase, and the results are very important.

It will be seen by the table that I have given, that the two younger yews at Clysthydon have each increased an inch in girth within the year, and the oldest two inches, and this increase is greater than has occurred in any previous year, as far as it can be ascertained, and the extraordinary quantity of rain in this year has no doubt caused it. The greater increase of the older tree has probably arisen from the much more abundant foliage in its large head, and it is well deserving of notice, as it fully makes up for the previous deficiency at the last measurement, and proves that it arose from some temporary cause, and that the tree is still increasing at least as fast as ever, and that age has not retarded its growth.

The Darley yew has this year put out fresh wood all over, especially on the south side, and has borne a great many berries of a very large size, some of which are lying beside me whilst I write. The luxuriant growth of this tree is, no doubt, also due to the excess of rain this year.

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\* The preface to Vol. ii., *Derbyshire Churches*, which contains the account of the yew, is dated 1876.

Mrs. Fearn, the widow of the late Clerk, had the Darley yew measured for me in 1879, and reported that it was thirty-three feet in girth at four feet from the ground, as close to the bole as the little twigs would allow it to be measured. Not satisfied with this account, I sent string sufficiently long to encircle the bole, and desired that it might be passed round the bole under the twigs, and cut off at the exact girth; and this having been done, and the string returned to me, I found the girth to be exactly thirty-one feet and eight inches; and as the tree was only thirty-one feet in girth, in September, 1867, when I, myself, measured it, it has increased eight inches in twelve years.

This is a very important addition to my knowledge, and affords a very remarkable confirmation of my previous observations.

It proves that this yew continues increasing in girth in its present state.

It shows that even now it goes on increasing at a very similar rate to the Clythydon yews. Two of them have increased eight inches in girth in eleven years, and the third seven inches, and the Darley yew has increased eight inches in girth in twelve years.

Supposing the Darley yew to have grown at the same rate as during the last twelve years, we have

$$8 : 12 :: 360$$

12

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$$8)4430$$

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540

according to which the yew is 540 years old. But when the great number of large boughs that have died and been broken or cut off, are taken into consideration, there can be no doubt that in its most flourishing time the increase in girth must have been more rapid than in later years.

We are now able to prove that the opinion, which we have always held and expressed, that this yew was of a peculiar kind and of extraordinary growth, is correct. Mr. Derbyshire, of Darley Hillside Nursery, who has plants of some 20 different kinds of yews, informs me, that seedlings from it have grown 4 feet in height in 8 years, though grown in a high and exposed situation, and trans-

planted three times, and have made shoots 10 and 12 inches long this year, and that no other yew is so free growing.

On the whole, everything being fully considered, I am unable to assign more than 700 years to the age of the yew.

The following facts may, perhaps, fortify this view. A custom seems to have prevailed, from very early times, of planting a yew opposite to the south porch of a Church. An extremely old yew is so placed at Beeley; another is at Mayfield; and a very large and old one at Mugginton, and formerly there was one at Chel-morton, and, if I rightly understand the picture of St. John's at Belper, in Mr. Cox's work,\* there is another there, and I have since heard of many similar instances in other counties. This naturally leads to the inference that there was some reason for planting yews in such a position, and the probability is, that it had some connection with some religious ceremony. At first it occurred to me that a funeral was the cause. The reason why the yew was "so universally planted in our Churchyards was, doubtless, from its being thought a symbol of immortality, the tree being so lasting and always green."† Evelyn also tells us that "garlands of taxus were usually worn at funerals; as Statius implies.

Fugere meos Parnassia crines

Vellera, funestamque hederis irreperere taxum

Extimui, trepidamque (nefas) rescere laurum.‡

A yew planted opposite the porch, through which a corpse was carried, would be in the place best adapted for mourners to obtain a branch.

Dr. Hunter, however, says that "the best reason why the yew was planted in Churchyards is, that branches of it were carried in procession on Palm Sunday instead of the palm;" and he cites from Caxton's Direction for keeping feasts, the following relating to Palm Sunday: "Wherefore Holy Church this day makyth solemn processyon, in mind of the processyon that Cryst made

\* Vol., iii., 142.

† I. Evelyn's *Silva*, 267, 5th Ed.

‡ Statius lib. v. 3, line 7. Expiciedion in patrem.

this day. But for encheson\* that we have none olyve that bereth grene leaf, algate † therefore we take ewe instede of palm and olyve, and beren about in processyon, and so is thys day called Palm Sunday." And Dr. Hunter adds "the yew trees in the Churchyards of East Kent are at this day called palms."‡ One of the great ceremonies of the Roman Catholic Church is the blessing and distribution of "Palms" on "Palm Sunday"—the last Sunday in Lent. In Ireland, the branches of the yew, which is called Palm by the peasantry, are always used for this purpose. § The same practice prevailed in England in Catholic times, and still remains in Catholic Churches and Chapels, and yew trees were often planted for this purpose near the porches of our old Churches.|| Enough has been said to show that yews were planted opposite to the porches of Churches for some reason, and the natural inference is, that such yews are not older than the porches, but probably near the same age. Now Mr. Cox, in his extremely clear account of Darley Church,\*\* says that it appears to have undergone a thorough renovation about the end of the twelfth century, and he attributes the porch to that period, which would make it about 700 years old, and that would agree with the supposition that the yew may be of that age.

Mr. Cox says that Mr. Bowman's theory, that the Darley yew is 2,500 years old was "based on actual sections taken from the trunks of different trees," †† and I suppose this means from the rings in them. Nothing could be more likely to lead to error. The rings in a tree can only show the rate of growth of that particular tree, and all they can tend to prove as to any other tree is that it *may* perhaps have grown at a similar rate. But they have no tendency whatever to show that it did not increase faster. The rings in the head of the crutch that was exhibited, were so small in some parts that it was very difficult, if not impossible, to count them; and if the age of another fir were calculated by them, probably it would be made three times more than it really was. There is many a yew springing out of the rocks in the Peak, which doubtless would

\* Cause.

† However.

‡ Evelyn, ubi supra, note.

§ *Notes and Queries*, 2nd Ser., Vol. v., 391.|| *Ibid*, 147.

\*\* Vol. ii., 154.

†† *Ibid* 171.

have rings hardly distinguishable one from another, but to compare them with the Darley yew would be absurd.

When I was at Darley, I was exceedingly indignant at seeing that a large piece, in the shape of a wedge, had been sawn out of a projecting root. I should have thought that no one possessed even of the most moderate knowledge of trees, could have been so ignorant as not to know that no trustworthy information could be obtained from such a root. The root is at least four feet from the centre of the tree, and must be very many, though it is impossible to say how many, years younger than the tree, and if all the rings in it could have been counted, they would not have shown the age of the tree. As the roots of a tree never increase in size equally with the bole of the tree, the annual rings in them always will be thinner than those in the bole, and any calculation founded upon their breadth would make the tree older than it is; and nothing would surprise me less than to find that a tree was made four or five times older than it was by such a calculation.

It cannot be doubted that the act was done "wilfully," that is, "intentionally;" and, I think, also "maliciously," that is, "intentionally *and* without any lawful justification or excuse." Now by *The Malicious Injuries Act*, 24 and 25 Vict. c. 97, s. 52, any person committing such an injury either "wilfully *or* maliciously," is liable to imprisonment, with or without hard labour, for any term not exceeding two months, or to a fine not exceeding five pounds, together with a reasonable compensation for the injury done, and it is to be hoped that, if any similar act should be committed, it may be adequately punished under this clause.

It is difficult appropriately to characterize such an act; even Pagan Romans would have held such an act sacrilegious: for they venerated magnificent and aged trees.

Qualis frugifero quercus sublimis in agro,  
 Exuvias veteres populi, sacrataque gestans  
 Dona ducum; nec jam validis radicibus hærens,  
 Pondere fixa suo est: nudosque per aera ramos  
 Effundens, trunco, non frondibus, efficit umbram.  
 At quamvis primo nutat casura sub Euro,  
 Sola tamen colitur.—*Lucan Ph. Lib. I.* 136.



Heartily did I rejoice to hear that a guard has been placed around the venerable yew. It is a very laudable act.

It must not be supposed that I put forward the Clysthydon yews as an example of the finest or fastest growing yews that exist. It is to be hoped that other yews may be discovered that may serve at least equally well for comparison. But it must be borne in mind that none that have grown less rapidly than the Clysthydon Yews can be of any use. In Guilsford Churchyard, Montgomeryshire, the age of a yew is known, which has grown four feet in girth in 100 years.\* If the growth of this yew were used as a test of the age of the oldest Clysthydon yew, it would make it about double the age it really is.

My knowledge of trees commenced at least 70 years ago. For my own amusement, and with my own hands, I have planted, pruned, cut, and fallen trees in all sorts of ways, as well as watched others doing so; and I have made use of the knowledge so obtained in marking the trees which were fittest to be cut down in thinning plantations, or for sale. My knowledge, therefore, is practical. I have always been a great admirer of trees, and the Darley yew has long excited an interest in my mind, not only by reason of its transcendant qualities, but otherwise, and nothing would induce me to depreciate it. But to my mind the excellence of a tree consists much more in its rapid and luxuriant growth than in its age, and therefore the faster a large tree is shown to have grown, the more magnificent it is as a tree. But I naturally feel that additional interest may be created by an appearance of age, which is hidden in the mists of antiquity.

It should be borne in mind that my calculations are based entirely upon the actual measurement of the girths and the known ages of the Clysthydon yews. These are the only grounds upon which any safe conclusion can be founded. Although I have adverted to other considerations, which may seem to show that the growth of the Clysthydon yews may not have been so rapid as that of the Darley yew, I have done so in order to prevent its being supposed that I think that the Clysthydon yews show that

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\* *Notes and Queries*, 5 Series, Vol. v., 376.

the Darley yew could not have grown faster than they have ; and in order to intimate that it may very possibly be that it has grown faster than they have.

I have many apologies to offer for the details in this paper, which I fear may be uninteresting to a great extent. My only object has been to present the matter, as far as I could, in a correct view ; and it seemed to be impossible to do so in any other manner than in that which I have adopted. I shall be very pleased if further information should be produced and greater light thrown upon the subject. I have thought it better to introduce the matter I have discovered since this paper was read in the manner I have done than to recast the whole. This renders the article not a little incongruous ; but in numerous instances it proves that the views, which were originally presented, have been fortified by facts which have subsequently come to light.

A description of the most remarkable oak I have ever known may be added as a note to this paper. In July, 1804, I began to reside at Ingleby Hill, and in the Grass Hill, which is a field on the right hand of the road to Knowl Hills, and nearest to the house, there was an oak of unknown age. It was not remarkable for its girth, which may have been five or six yards ; but it was completely hollow from the ground to the top of the bole, with a wide opening towards the west. There was a tradition that before the field was inclosed, now more than 100 years ago, a man had been chased by a bull, and had saved himself by getting into the hollow of this tree. In my earliest years I and other children used to get into the hollow. It is a property of the oak and some other trees for the bark gradually to extend itself round the edges of a hollow, or a place denuded of bark, and thus the breadth of any opening into the trunk is decreased ; and before I left the place in March, 1824, I had observed that this process had begun in this oak. In 1872, 48 years afterwards, when I revisited the place, I went to the tree to ascertain what had occurred in the interval, and found that the right hand side had increased very much in the line of the exterior of the bole, but the left side had turned inwards, and nearly reached the back

of the hollow. If it had followed a similar course to the other side, the opening would have been completely closed ; but, as it was, there was just room enough left to put an arm through the opening. During all the time I had lived at the place, the head of the oak had exhibited marks of great age ; and when I last saw it, no change was observable, excepting that a large bough had recently been broken off ; and a gentleman, who was born in 1748, informed me that he had never noticed any change in the tree. This instance shows that an oak tree may continue alive for an indefinite time after it has long passed its best, and may still go on making new wood in the bole. \*

A peculiarity of the oak is its tap root, which is large, and penetrates very deeply into the earth. It must strike any considerate mind that some essential benefit must accrue to the oak from such a root, which is not common to other trees ; but I am not aware that it has ever been considered whether the existence of this root may not be essential to the strength of its timber. About the year 1820 a part of Gostilee Wood, opposite Ingleby, was fallen ; on the first day six oaks were fallen, and four of them were shaken or cracked in the fall, which plainly showed that the wood was not so strong or tough as usual in oaks ; and the conclusion which the fallers and myself came to was that the defect was owing to the absence of tap roots, which had been caused by the trees having been transplanted. One of the four was some five yards in girth, and all of them apparently flourishing trees. The last time I was at Ingleby, a very large oak had been blown down in the orchard, and it had had no tap root. It was uprooted exactly in the same way as is so commonly the case with the Warwickshire elms. I never knew an oak with a tap root blown down, and Virgil evidently thought it impossible, even by the most violent storm.

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\* In the *Times* of Nov. 1, 1879, Mr. R. S. Baker, of Hargrave Rectory, North Hants., writes that from Queen Elizabeth's time downwards, a stone with the date of the planting oaks in the plantations at Althorpe has been continued, and that the 300 years' oaks are fine tall growing trees, with no appearance of age or decay about them.

Ac veluti annoso validam cum robore quercum  
 Alpini Boreæ, nunc hinc, nunc flatibus illinc  
 Eruere inter se certant; it stridor, et alte  
 Consternunt terram concusso stipite frondes;  
 Ipsa hæret scopulis; et quantum vertice ad auras  
 Ætherias, tantum radice in tartara tendit.\*

Long experience has taught me to think that a tree will always flourish best if it grows from a seed sown where it is intended to stand. And if trees are transplanted, the younger they are at the time, the better they will grow in the long run. The Romans were clearly of this opinion, for some of them thought that a tree ought not to be less than two, nor more than three years old when transplanted, but others a full year old.† No doubt was entertained by them that the greatest care was to be taken not to injure the roots in removing them, and that as much of the soil in which they grew as adhered to the roots should be removed with them.‡ Above all the trees must be removed into similar or better soil, and not from warm and early situations into cold or late ones, or *vice versa*.§ And the south side of the plant was to be marked before removal, so that it might be set in the same position with reference to the points of the compass, and so the north side might not be split by being opposite to the south, or the south side starved by the north. ||

The extreme care taken by the Romans to place the plant in every respect in a similar position to that from which it had been removed, plainly shows that they considered that trees flourished

\* Virg. *Æn.* iv. 441., *Georg.* ii. 291. Pliny *Nat. Hist.*, L : xvi. c. 56. *Robora suas (radices) in profundum agunt. Si Virgilio, quidem, credimus esculus, quantum corpore eminent, tantum radice descendit.* So he doubted the depth to which the top root descended, but not the fact.

† *Arborem nec minorem bimâ, nec majorem trimâ transferri quidam præcipiunt: alii, quum annum impleat.* Plin. *Hist. Nat.* xvii. 16.

‡ *Radicum ejus magnam adhibendam curam, ut exemptas appareat, non evulsas, quis dubitet?—Ad hæc proderit quamplurimum terræ, in quâ vixerint, radicibus cohære.* *Ibid.*

§ *Ante omnia iu similem transferri terram, aut meliorem oportet, nec ex tepidis aut præcocius in frigidis aut serotinos situs, ut neque ex his in illos.* *Ibid.* Virg. *Georg.* II. 265.

|| *Non omisisset (Cato), si attineret, meridianum cæli partem signare in cortice, ut translata in iisdem et assuetis statueretur oris: ne Aquiloniæ meridianis oppositæ solibus funderentur, et algerent meridianæ Aquilonibus.* *Ibid.* Virg. *Geor.* II. 269.

best when they grew in the place where the seeds, from which they sprang, had been sown.

The monks of the olden time held the same opinion. In the Chartulary of an Abbey (in Berkshire, I think), I well remember reading an entry, which described the dibbling in of acorns in a wood of the Abbey.

I have recently heard of an instance where the seeds out of a cone of the *Wellingtonia Gigantea* were sown, and some of the plants given away, and these grew much less rapidly than the plants that were left to grow where the seeds had been sown.

A very intelligent gentleman last autumn exhibited at St. Leonard's a piece of the bark of one of those trees. It was twenty inches thick, and solid at the outside, but appeared to be fibrous within. He informed me that the annual rings were about an inch thick, and, if that were so, the diameter of the tree would increase about a foot in six years, which very much invalidates the statements as to the great age of these trees, which have frequently been made.