

original title "The Bath Herald." The small volume of the "Register" is interesting, as giving very full accounts of a dispute proceeding at the time between the Freemen and Corporation of the city, regarding the property of the former.

William Meyler was a member of the Town Council and Magistrate, and held office as Constable and Sheriff; he died of gout on Saturday, March 10th, 1821, aged 65, at his residence in the Abbey churchyard. I will not say more about him, as I hope his biography will be given the Club next year by the executor of the last of his family.

And now having described all the Bath papers I can trace down to the end of the last century, I think I have reached a very good point to draw the line between past and present, and to end my story.

Case of Abnormal Development of Wood in the Root of a Spanish Chestnut.

By the Rev. LEONARD BLOMEFIELD, M.A., F.L.S., &c.

(Read February 15th, 1882.)

This was the case of an excessive development of woody fibre, forming a large globular callosity round one of the roots of a Spanish chestnut in the Park at Bath. The tree had been planted, it is supposed, about 50 years, and had attained a girth of between 6 and 7 feet. In the autumn of 1881, one-half of the tree was seen to be in a dying state, the other half being still healthy and vigorous. The former had been noticed as in a failing condition for four or five years previous, and was so far gone at the time above-mentioned that it was determined to take the tree up altogether. When the roots were laid bare, the callosity in question was discovered on one of the roots on the *same side* as that half of the tree which was dying, showing a connection

between the two things. The callosity or protuberance was not above 3 inches under ground, and there was a distance of about 8 feet between it and the stem of the tree. The root to which it was attached, and which connected it with the tree, though of the above length, and extending a foot beyond the callosity, was very much below size, compared with the larger and stronger roots connected with that side of the tree still in health. The same may be said of some other roots adjoining the one with the callosity. All the roots on that side of the tree were in an unhealthy state.

The callosity itself measures 2 feet $6\frac{1}{4}$ inches in circumference; its length is 10 inches, and the diameter $9\frac{1}{2}$ inches. Its form is not exactly globular, but approaching to pear-shape, one half narrowing at bottom, and reaching down the axis lower than the other half. Its present weight, in its dried state, is 13 pounds. When first taken up it probably weighed from 1 to 2 pounds more.

The circumference of the root just above the callosity is 7 inches; below, where it makes its exit from the callosity, the circumference is only $3\frac{1}{2}$ inches.

The callosity having been sawn in half, perpendicularly down the axis, on examining the section, the course of the portion of the root above the tumour may be traced for $3\frac{1}{4}$ inches after entering it, and the portion at bottom may be traced upwards for near 4 inches. Neither can be distinguished further, each portion losing itself in the closely-compacted central mass of woody fibre, this last spreading out horizontally, in somewhat fan-shaped fashion, towards the circumference, at the same time passing upwards and downwards to encircle those portions of the root which still preserve their forms, though shut out from view externally. The successive layers of wood-growth are clearly seen in the concentric circles that undulate round the axis, these circles being traversed by extremely fine medullary rays reaching from the centre to the bark.

It would seem to be clearly due to the arrest of the flow of sap, by the dislocation of the ducts through this excessive development of woody fibre, that one-half of the tree, after languishing for a time, died. At the same time the sap, not moving onwards in its accustomed channel, would accumulate about the axis, and further tend to increase the development of the wood and the enlargement of the callosity.

Enquiring now into the probable cause of the above monstrosity, it does not appear to be referable to that class of hard woody excrescences, often found on the stems of certain trees and occasionally attaining to a large size, which have been so closely investigated by M. Trécul,* and also treated of by Mr. Berkeley in the *Gardener's Chronicle*,† under the name of "Knaurs." Both these authors agree in tracing the appearance of these hard lumps of wood to adventitious buds, one or more of which may often be observed at the extremity of the knaur when in its incipient state of growth. These terminal buds are always, in the first instance, "connected by a fibro-vascular system with the woody axis upon which they are seated." At some early period of growth the wood itself of the bud increases; changing its character, and passing into the form of a hard woody nodule. As this nodule enlarges it exercises a pressure upwards upon the bark, ending in a rupture of the slender duct connecting the bud with the woody axis, the bud itself becoming atrophied. From the time of this taking place the nodules keep increasing in size until a large knaur is formed. Dr. Maxwell Masters, who has briefly spoken of these abnormal woody growths in his "Vegetable Teratology," considers the nodules as originally "shortened branches, in which the woody layers become inordinately developed as if by compensation for the curtailment in length."‡

* Ann. des Sci. Nat. 3rd ser. (Botanique) tom. 20. p. 65.

† Gard. Chron., 1855, p. 756.

‡ Veg. Terat, p. 419.

In the callosity on the root of the Spanish chestnut above described, there is no appearance of any adventitious buds on its outer surface, though possibly there may have been some when the swelling first commenced. Nor are there any separate nodules to be seen like those in a knaur-- each having its own centre and its own concentric circles of woody layers; but the whole callosity is as one large nodule, the woody layers being all concentric round the axis of the root itself.

From these circumstances it may be inferred that the monstrous growth in question was not due to the same cause that knaurs are, but that more probably it had a pathological origin, all the roots on the side of the tree that was dying being alike unhealthy, and indicating constitutional derangement.

The two accompanying photographs represent the callosity— one entire, the other in section.

A Fact in connection with the Vobster Inversion. By REV.
H. H. WINWOOD, F.G.S.

(*Read February 15th, 1882.*)

So much has been written upon the remarkable geology of the district immediately north of the Mendip Hills, especially upon that part lying between Holcombe, or Nettlebridge on the west, and Mells and Frome on the east, that an apology seems due from me to the Members of the Bath Natural History and Antiquarian Field Club for venturing to bring the subject before them again. Independently, however, of the ever-increasing interest which arises from the study of the causes which had a share in the formation of our so-called "everlasting" hills, a peculiar interest is felt by the geologist in trying to read the enigma and to unravel the complications which present themselves in studying the abnormal conditions of certain rock masses of the district in question. And if a fact can be established in connection herewith tending to the support of one theory or another, it is right that that fact should