



ON THE TRACES OF TIN STREAMING IN THE VICINITY OF CHAGFORD.

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To most of the audience it is probably unnecessary to describe the process of "Tin streaming;" it will suffice to say, briefly, that gravels containing tin ore, either in fine powder, or in stones, occur in Cornwall and Devon, generally laying upon a "shelf" or surface of rock, and covered by clay, or gravel, and peat: a very great variation occurs, both as to the depth at which the "stream tin" is found, and the material by which it is covered. The gravel containing tin is washed away from the ore by being agitated on an inclined plane, down which a rapid stream of water is taken; and hence the name of "stream tin," and "stream works," is derived. This method of procuring tin was practised extensively in former days, both in Cornwall and Devon; in the last named county but few if any stream works now exist, although numerous remains of these works there abound. The traces of the labours of "the old men" are to be seen near the banks of most of the rivers and brooks bordering on Dartmoor; to a notice of those laying near the upper waters of the Teign, near the old stannary town of Chagford, the following pages will be devoted.

The Stannary Parliament of Devon was composed of jurors returned by the Stannary towns of Chagford, Ashburton, Plympton, and Tavistock. Each of these Courts returned 24 jurors, whose united act bound the rest of the county. The written customs were determined in this manner in Parliaments held in 2nd, 24th, and 25th Henry VIII., 6th Edward VI., and 16th Elizabeth. The Stannary Courts are mentioned in two charters of king John, and their privileges were confirmed by charter of 33 Edward I., and by private statutes of 50 Edward III., and explained by 16 Charles I., cap. 15; but their jurisdiction and manner of proceeding was revised by the 6 and 7 William IV., cap. 106, (passed in 1836,) and the court of the Vice Warden has now jurisdiction in both Cornwall and Devon. Chagford

was made a Stannary Town, in 1328, by patent of 2nd Edward III.; and from its being selected as one of the places at which the courts were held, it may be presumed that the tin workings in that vicinity were then extensive; the traces of stream works show that such was the case as to that description of work, and to these superficial excavations the labour of the tinner appears to have been almost entirely confined, as very few traces of mines and levels exist in that district.

At Chagford there are a series of parish accounts, which extend, with unfortunately very many large blanks, from 1480 (20th Edward IV.) to 1597 (39th Elizabeth); from these the parochial arrangements, and many highly interesting matters connected with both the general and social history of the time can be gleaned, and amongst these are the names of various tin works that belong either to the parish, or the guilds that then existed there, and also the costs of work, and profit and loss. Most of these works were on the granite in the higher part of the valley of the Teign.

The North and South Teign both rise on Dartmoor; the North Teign, which is the chief stream, rises in a morass, (about 1600 feet above sea level,) the western side of which reaches to the river Dart; from this point the land falls rapidly; at Teignhead bridge the height is 1449 feet, and at the eastern side of a broad level, where, after receiving the Walla brook by the Tolmen, the North Teign enters a gorge in the granite hills, the height is 1192 feet. Above this level the course of the river is in a deep valley, over broken granite, or ledges of that rock. The broad level, however, appears to have formed a swamp or shallow lake; and the courses of both the Teign and Walla brook have there been excavated, as is clearly shown by the sides of both of them, which are formed of perpendicular walls of granite: if these cuttings were closed the Teign would flow into the level, which would again become a morass. These cuttings are probably the work of the tin streamer, of whose labours traces there exist. The North Teign, after leaving this level, enters a narrow gorge which extends to Gidleigh park, the hills on each side occasionally rising to about 200 feet above the level of the river. Near Gidleigh bridge (670 feet above sea level) the Blackatton water falls into the Teign, which, after passing a level, probably the site of an ancient lake, joins the South Teign at Leigh bridge, and the combined stream thence flows by Holy street, Chagford, Rushford, Easterbrook, and under Dogamarsh bridge to Hunts Tor, where the Teign enters a narrow gorge, and leaving the granite flows over the carbona-

aceous rocks. To this point the course of the Teign has been over granite, the upper part of the Blackatton water runs on the carbonaceous beds above Throwleigh. The Easterbrook also rises on the carbonaceous beds, and the high ground to the left along its course is mostly composed of that rock.

By the side of the Teign between Fingle bridge and Hunt's Tor there are traces of Tin streaming, but with the particulars I am not acquainted. The works at Dogamarsh are mentioned in the will of John Westcote, of 20 November, 1522. (14 Henry VIII.) At Parford, on the hill side to the north of the Teign, are the remains of very extensive works, which extend over both the granite and carbonaceous rocks; in 1553 (7 Edward VI.) works at Parford, and "the deep works at Parford" were conveyed to William Knapman. To John Knapman in 1559, (1 Elizabeth) the works at Bradford were conveyed. Bradford Pool, to the left of Easterbrook, lays on the edge of the granite and carbonaceous rocks, and is formed by water which is dammed up in the excavations, in consequence of the stoppage of the adit which passes under Shilstone Farm, and near the well known Cromlech. The accumulation of water known as Bradford Pool has taken place within the last 70 years. A trial shaft was sunk about 20 years ago to the north west of Bradford Pool, on the carbonaceous beds, but ore was not found. The ground below Bradford Pool and Shelstone Farm, and nearly adjoining Fentown, has been streamed, and is probably the work mentioned in the old accounts as Shelston Venn. One half of these works belonged to Chagford parish, and in 1539 (31 Henry VIII.) the wardens of St. Michael received 3s. "*pro stanno Shylestone Venne at Rodemas.*" (3rd May.) This work was carried on up to 1580 (23 Elizabeth); the average annual receipts were 7s. 8d., the payment 4s. 1d.; the greatest receipts were in 1580, when they amounted to 15s. 8d.

On the right bank of the Easterbrook, a little lower down the stream, there are many traces of workings, being probably those "In Rushford and Chagford," conveyed in 1540 (31 Henry VIII.) to William Haule. Returning to the Teign, on "Coney Ball," part of the Rushford estate, we find works, which are doubtless those mentined as "Coney Park," in the account of St. Michael's wardens of 1539; these are only mentioned five times, and at the last entry in 1567, the receipts were 1s. 7d., the payments 5s. On a cross valley which joins that of the Teign on the right bank, there were works at Lagland and Slankam Moor belonging to St. Katherine's wardens; of the first there is no mention in the accounts,

from the last one shilling was received in 1531. At Week, in this valley, trials have been made for tin: and the remains of some old levels exist. At Westcote, near Chagford, there are deep and wide excavations on the hill side, known as "The Higher Liners beam." Between this place and Chagford the fields are seamed by the workings, "Bowre Haycombe," belonging to St. Katherine's wardens, "Bowre Haydown," belonging to St. George's wardens, and "Broomhill," belonging to the parish, were probably here situate: of the two first there is no mention in the accounts; for the expenses of the last, the parish paid in 1531 8d., and in 1532 1s., and received nothing. In 1525 (16 Henry VIII.) 1s. 4d. was received from a work, "*subter pontem de Chagford*," and in 1532 7d. from "Bowland" by Chagford bridge; the greatest amount received from the works at Chagford bridge was 7s. 2d., and the payments were 5s. 8d.

Chagford common has been streamed, and tin is occasionally found when drains are cut in the fields along the side of the brook that flows from it to the Teign.

At Leigh bridge the North and South Teigns join. Near Yadworthy (about A.D. 1580) there were workings at Ledyet Lyny, but there is no entry of either receipts or payments.

As blocks of quartz, micaceous iron, and hematite, occur in that vicinity, it is probable that a lode there exists. On the neighbouring farm of Corndon there are two fields, known as "the Higher Lode Hill," and "Greater Lode Hill," but no information can be gathered respecting any works on those spots. Near Metherell, at Heystone, and Windlace, and higher up on the South Teign, there are traces of workings, and trials have been made at a recent period; and on the summit of the ridge, at Waterdown Tor, are the traces of what were probably the workings at "Waterdown Ruggie," mentioned in the will of John Westcote (of 1522).

This ridge divides the watersheds of the Teign and Dart, and on its southern side are the trials at Caroline, and the tin mines of Vitifer and the adjoining district.

The North Teign, above Leigh bridge, is mostly in the parish of Gidleigh, and I have not been able to collect particulars as to the old workings, the traces of them exist along the river's side, and the extensive works that have been carried on at the broad level above the Tolmen have been already noticed.

The parish owned works at Bushdown, near Vitifer, Cherebrook, in the valley of the Dart, and other places, which were unprofitable; it had works at Bubhill, of which the situation is not known, but was probably either in Gidleigh or Throw-

leigh parish: these works appear in the accounts from 1481 to 1572. In 1555 the parish paid £1 13s. 7d. for the sixth part of a half a dole of Bubhill, and this appears to have been the most profitable work belonging to it, although occasionally the outlay exceeded the receipts. The works at Tawmarsh, below Steeperton and Cawson, were the most distant, and from thence the receipts appear to have covered the expenses. The names of many other workings could be added, but the above will show the character of those carried on in the days of "The Old Men;" and it has been considered proper to notice the above rather fully, to show that fair examples have been given.

A memorandum of about the date 1593, written in the old accounts, amongst other tythes which had been paid from time immemorial at Chagford, mentions—"For every spallier a shovell penny." A spallier was a man who was employed in getting tin.

The accounts, as before mentioned, commence in 1480, and terminate in 1597, but of the 117 years those of 69 only remain; as, however, the missing accounts occur in various places, those that remain may be considered as affording a very fair average. The total amount of receipts during the 69 years was £194 13s. 1¼d.; the payments, £116 19s. 7¾d.; leaving a balance in favour of the parish of £77 13s. 5½d., showing an average annual profit of £1 2s. 6d.

In these accounts, in almost every case, only the total amounts of sums received and paid are entered; but from the exceptions we can derive a little statistical information. Thus as to the amount of wages.

1526. Thomas Segur received for seven days' labour, at Bubhill works, 3s. 4d. John French received for his labour, at the same, 6d.; the last amount being for one day's labour.

1534. Carriage of the tin from Bubhill, two days, 8d.

1535. To two men for carrying tin from Bubhill, 8d.

1541. Paid for the carriage of tin from Bubhill, by one man and two horses, 1s. at Roodmas, and the same amount at Michaelmas.

1558. Paid to Brocke, for one day's work at Bubhill, 4d. The amount, therefore, paid for labour varied from 4d. to 6d. a day, the general amount being 4d.

Bishop Fleetwood, in his *Chronicon Preciosum*, states the amounts of wages of various artificers and labourers; the more skilled, as master carpenters, plumbers, &c., received, without diet, 6d. and 7d.; other labourers, from Easter to Michaelmas, 4d.; from Michaelmas to Easter, 3d. These

were the wages in 1514; therefore the amount paid at Chagford appears to have been at the general rate.

In Carew's Survey, as quoted in Delabecche's Geological Report (page 530), the measures used for black tin were "the gill," or pint, "the toplife," or pottel (which is probably the "tope," which will be shortly mentioned), "the dish," or gallon, and "the foot," or two gallons. "A foot" of black moor, or stream tin, was considered good if it weighed about 80 lbs., the same measure of mine tin about 52 lbs. The weight of, or measure contained in a "hull," I have not been able to discover. Neither am I certain as to that being the correct word, and am inclined to consider that it is an abbreviation. It appears to have contained about a gallon.

With respect to the value of tin; in 1520, (12 Henry VIII.) £3 16s. 8d. was received for two hulls and one toppe, and a tenth and half a tenth of a toppe of black tin. In 1542 St. Michael's wardens paid 2s. for six pounds and a quarter of tin (about 4d. per lb.), and 10d. for two pounds and a half of tin. (4d. a lb.) In 1568 a tope of tin, or half a gallon, was sold for 12s. 6d. (7½d. per lb.)

In 1580 (23 Elizabeth) £1 14s. 2d. was received for two gallons two pounds and a half (about 5d. per lb.), 14s. 8d. for a gallon and a quarter of a pound (nearly 3d. a pound), and 2s. 8d. for half a gallon, being nearly a penny three farthings a pound.

Thus the highest price was 7½d. a pound, and the lowest a penny three farthings; but the average appears to have been about 4d. a pound.

In this memoir no notice will be taken of the theories as to the age and manner of deposit of the beds on which the tin streamer works; the traces of his labour cover a wide field, and but little is known either as to the time when, or by whom the streaming was carried on. The object of this paper has been to give a contribution towards supplying that want.

These small and superficial workings, in their arrangements, present in some degrees a type of the mode of carrying on the more extensive mining speculations of the present day; the ownership was divided into transferable shares, the working was carried on from year to year with more or less success, the outlay not unfrequently exceeding the receipts. Probably Alice Balans (in 1530) had as great hopes of realizing a fortune from her 1-16th share in the apparently unprofitable works at Lagland, as those now have whose names appear in the "cost book" of many a Wheal St. *Blank* of the present day.