

II.

THE ROMANNO TERRACES: THEIR ORIGIN AND PURPOSE. BEING THE CHALMERS-JERVISE PRIZE ESSAY FOR 1930. BY W. W. T. HANNAH, THE WHIM, LAMANCHA.

Scattered throughout the Lowlands of Scotland are several groups of ancient terraces, which make prominent features of the landscapes in which they are found. Even the most casual observer cannot fail to be impressed by them; and the purpose that they served has from early times called forth discussion. There are some who, judging from the clear-cut appearance of the terraced groups, consider them but a few centuries old, and there are others who think that they date from the first centuries of our era, or even earlier. Peeblesshire is particularly rich in these formations, and the terraces at Romanno are one of the best examples in the county.

Situated on the east bank of the Lyne Water, about half a mile south of the hamlet of Romanno, in the parish of Newlands, these terraces have a westerly aspect and slope up to the Pendreich hill-fort at the summit, which, however, is not immediately over them: this group is nearly enclosed by trees of recent planting, there also being traces of earlier on the same site. The slope is steeper than that of any other series of terraces in Peeblesshire and the adjoining counties, and as the hill bends outwards their lines follow its natural course.

Concerning the number of the terraces, however, there is considerable variance of opinion. Dr Pennicuik,¹ one of the earlier historians of the county, states that there are eleven or twelve, while William Chambers² discovers fourteen, and even now this latter number is certainly not an over-estimate. The upper thirteen terraces remain in an almost perfect state of preservation; the fourteenth, however, has been partially removed by the excavating of a small quarry; for the cup-shaped declivity must without doubt have been a quarry, as there is

¹ *A Geographical and Historical Description of the Shire of Tweeddale*, 1715, p. 16.

² *A History of Peeblesshire*, 1864, p. 41.

a convenient gate leading from it into the road, which otherwise would be useless.

Further terraces, if any existed, have been irrevocably destroyed by the construction of the road from Romanno to Peebles, but between the fourteenth terrace and this road there is distinct evidence of what was very probably the southern end of another. Below this, all traces of further terracing become very indefinite; however, in the belt of trees below the thoroughfare there are the remains of what would undoubtedly be the last terrace, unless it was merely formed by the inevitable banking up for the road foundations.

The terraces rise from the 700-foot level to a little over the 800-foot contour, and the total slant height is about 250 feet, the lengths of the terraces varying from 315 feet at the foot to 420 feet at the top. The longest terrace is roughly 490 feet, though the upper ones may have extended for a score or more feet at either end, of which any trace would have been obliterated by the growth of two or three generations of trees. This, however, would have been made difficult on the south by the presence of living rock, and also does not apply to the lower terraces, as they end in two well-formed furrows, which widen out as they grow higher. William Chambers stated a possibility when he said that a portion of the terraces has been unfortunately destroyed by ploughing, but the large slope stretching to the south and the triangular-shaped area at the north-west corner, bounded by the road, the plantation, and the furrow, appear never to have been terraced; the latter possibly was sufficiently level for ordinary cultivation.

Despite William Chambers' statement to the contrary, only two of the terraces converge, and this is probably due to one of these ridges having been gradually worn down at the southern end and made to coincide with another immediately below it, consequent on its later use as a cart-track which can easily be followed along the hillside towards Newlands. The presence of the latter may have given rise to the impression gained by Gordon when he says that the terraces "extend for a whole mile, not unlike a large amphitheatre."¹ However, it is impossible to trace any connection between this group and the two smaller groups—one in the Moat Wood, a mile or so to the north of Newlands Church, the other about a mile further down the Lyne Water. The width of the individual ridges varies from 6 feet to 12 feet, the former being the breadth of the fifth, and the latter that of the sixth, terrace. The maximum vertical height is that between the thirteenth and the fourteenth terraces, and is roughly 26 feet, but the average is about 8 feet.

¹ *Itinerarium Septentrionale*, p. 114.

At Romanno, an excavation was made into one of the terraces to a depth of 5 feet, and into the slope to a width of 4 feet. The soil was free and loamy and easily dug. Contained in it were a fair number of angular stones apparently of local origin; when loose blocks of rock were occasionally encountered they were small, and none showed ice markings. After a depth of 2 feet the soil became more sandy, and showed a distinct similarity to the material at the surface of the unterraced ground further to the south. However, there was no trace of the tough, tenacious boulder clay, and the terraces appear to have been made of the material known as surface-wash.

The theories regarding the formation of these terraces may be classified as either the work of natural agencies or the work of man. The former is divided for convenience into two main headings, embracing the information gained by general observation and that proved by excavations. Professor J. W. Gregory is the chief exponent of the proposition of their being of natural origin. Both Professor Cosmo Innes¹ and Robert Chambers² (the latter being a native of Peebles and the first to make a scientific study of these hillside terraces) have changed their mind on the subject; the former having originally compared them to the parallel roads of Glen Roy, which are proved to be the work of nature, and the latter having stated that they represented ancient lake margins. Professor Gregory in a recent publication³ maintains that these terraces are due to a form of slipping or creep in a soil of a particular type and of a particular depth, which was caused during the closing period of the Great Ice Age.

R. Eckford⁴ says that in consulting various works, chiefly American, which deal with the effect of solifluxion (the process of soil movement on a slope when it becomes saturated with water), nothing is recorded to suggest any comparison to these terrace groups in the south of Scotland. Water in the form of rivers and lakes can produce splendid examples of terracing; that nature can produce a group of terraces similar to those under discussion by soil-slipping is very doubtful. There is not the parallelism, the orientation, the exact spacing in soil-slipping, the work of which appears in the form of irregular hummocky masses. If the terraces had originated by soil-creep, it seems a remarkable coincidence that there should only have been sufficient depth of soil at a few widely separated localities. It is, however, possible that man got his idea of terracing from river and lake terraces, but that ancient tribes used terraces of natural origin for agriculture or other

¹ *Origines Parochiales*, vol. i. p. 196.

² *Proc. Soc. Ant. Scot.*, vol. i. pp. 127-38.

³ Letter from Professor J. W. Gregory to Professor T. H. Bryce (*History of Peebleshire*, ed. Walter Buchan, vol. i. Appendix).

⁴ *Proc. Soc. Ant. Scot.*, vol. lxii. pp. 107-20.

purposes is unlikely. All the terrace groups in the Lowlands face either west or south, a point that favours their having been used for raising crops. So far as the writer knows, no two sets of terraces have been found on opposite sides of any valley in the Lowlands; hence the improbability of their being ancient lake margins is greatly increased.

Professor Gregory raises a number of arguments against their artificial origin. He says (i.) that they are short and irregular, and occur at various levels; (ii.) that they are dependent on the slope of the ground; (iii.) that they are not horizontal, and that their slope may be in opposite directions in one group of terraces; (iv.) that stones found in the ridges lie at all angles. These arguments are by no means convincing, and they can be replied to in every case.

The striking feature of the terraces when seen from a distance is their regularity. Most of them can be traced from end to end of their boundary lines, a fair average in length for the groups measuring roughly 250 yards, and only in a very few cases have small slips taken place. In all the groups of nearby terracing the width, height, and number of the individual ridges depend upon the angle of slope. In the same slant height three times as many terraces are found at Romanno as at Purves Hill, where the widest terrace is 100 feet in breadth, being eight times as great as the widest at Romanno; while at Dunsyre a large part of the terrace slope is intermediate in gradient between these two. But at Dunsyre, Mr Phemister says in his notes, the shelf is fairly constant in width even though the height of the step varies, and it appears as if actual horizontal measurements had been made, so that the vertical step must vary with the position on the hillside. Sometimes the width of the shelf is 36 feet, then it is always found that there is a very low step in the centre, which may rise at the hill end to 3 or 4 feet. Surely these are examples of great regularity and uniformity of design carried into practice. Further, of all the terrace groups in the general neighbourhood of Romanno, those at Arthur's Seat, which occur between the 150-foot and the 500-foot levels, are the only ones that cannot roughly be said to be on a common level. As to his second objection, this surely cannot hold if one examines carefully the terrace groups at Dunsyre or Romanno, the former sweeping from steep ground into a gentle slope despite the fact that one would have expected them roughly at least to follow and not to cut across the contour lines. The slope on which the latter occur continues to the south for a good way with an apparently similar gradient, and, as revealed by digging, shows a similar depth and type of soil, yet there is no trace of a terrace. Here, as already mentioned, the terraces end against a furrow or butt which runs up the slope.

As to Professor Gregory's third point concerning the variance in direction of the terraces, all that can be said is that, on the whole, there is remarkably little irregularity, for the terraces are roughly parallel. That the terraces are not exactly horizontal and that the stones in the terraces lie at all angles is granted, but this does not negative the idea that they were used for purposes of cultivation, but indeed rather supports it. These early people must have known something about the methods of cultivation; experience would teach them that perfectly level terraces would hold up water with the accompanying souring of the soil. Regarding the positions of the stones, this if anything is surely an argument against the terraces being due to the agency of water, but not against their human origin.

Rather spasmodic excavation has produced some interesting information bearing on the origin and purpose of these terraces. From 2 to 3½ feet of free loamy soil was found to compose the surface material at Venlaw, Purves Hill, Romanno, Dunsyre Hill, and Arthur's Seat. Underlying this loamy soil at Venlaw and Purves Hill the original stiff boulder clay was found, and at Romanno the soil became more sandy and more like the unturned surface soil found to the south, where no terraces exist; at the former site there being a distinct difference in colour between the upper 3 feet of earth and the underlying material. At Dunsyre Hill, on the steeper part of the hillside below the loamy soil, was rubble material apparently on the solid rock. On the gentler slope the loamy soil rested on the typical boulder clay of the district. Immediately above where the terraces ended on the steeper face of Dunsyre Hill, natural exposure only revealed rubble lying on the solid rock. One or two of the terraces here seem to end where they reach the steepest part of the hill, suggesting the lack of soil to carry them further up the slope. The absence of soil on the steeper face of the hill suggests that the terraces occurring here may have been made up from the lower parts, where there was a good depth of boulder clay.

Large boulders were sometimes found in the lower material of these terrace-groups, but only small stones were ever discovered in the loamy soil; and although at Romanno rock was found *in situ* to the south, no stones showing ice marks were dug up. Charcoal fragments were found in quantity in the 3 feet of surface material at Venlaw, there being none in the similar ground where the terraces end; and at Purves Hill small fragments sparsely interspersed were discovered. Some of the terraces at Arthur's Seat and at Purves Hill were found to have their scarps reinforced with large stones.

Additional arguments against the theory of the terraces being of

natural origin can be based on these excavations as follows. It is very unlikely that at the terraces examined nature should have provided a layer of earth markedly suitable for cultivation lying upon barren clay, rubble, or sandy soil, the two latter being of a nature similar to that occurring at the surface of the uncultivated land adjacent to the terraces, and in one case the colour of the loam and the sub-soil should be distinctly different. Surely it is significant that all the stones in the surface material were of a size not too large to interfere with the process of cultivation; that, especially at Venlaw, there should have been large boulders which would have seriously impeded agricultural operations; and that at Purves Hill a terrace should have been excavated, not built up. The faced scarp at Arthur's Seat and Purves Hill cannot be the work of nature. The charcoal found on the two terraced sites may have been manufactured by human hands, either having been derived from the burning of the brushwood when the site was being cleared, and incorporated into the soil when the terraces were made, or subsequently added for its value as a fertiliser. However, it is equally probable that mere decay was the cause of the blackened condition of the wood fragments discovered; for *eramacausis*, the "slow combustion" of decay, often reduces wood to a substance that is indistinguishable from charcoal, even with the aid of a microscope. No human implements, it is true, have ever been found in any of these terraces, but no attempt at systematic excavations has been made. If there had been, it is extremely unlikely that any implements would have been discovered even though the hillside had been cultivated for a long period in prehistoric times.

Whether the terraces were used for cultivation or not opens up a large field for discussion. Both Professor Innes¹ and Robert Chambers (the latter after further inspection of the groups at Arthur's Seat, Romanno, and Dunsyre) eventually thought that most of these terraces had been designed for raising crops, in contrast to their first theories, which were that they were the work of nature. Armstrong says of these terraces: "They are called Pictish by the country people."² Hadrian Allcroft,³ in associating the Romanno terraces with lynchets, embraces nearly all the principal theories associated with them when he says that he believes that many were used for cultivation purposes, and suggests that some of them may have been used for defensive purposes, while others may have been constructed to get level ground for the encampments of the dwellers of these regions; he also thinks that

¹ Williamson, *Glimpses of Peeblesshire*, part iii. (Newlands).

² *Companion to the Map of Tweeddale*, p. 74.

³ *Earthworks of England*, p. 38.

many of them may be of no great age—a view also expressed by Gomme.¹

Lynchets are generally believed to have been formed in the following manner. When the turf is removed by ploughing from an area of ground and the soil is disturbed, there is a tendency for the latter to travel downhill and to form an accumulation at the lower edge of the plot at the expense of the upper edge. It will thus be readily seen that, when there is a series of fields one above the other, which was originally separated by a narrow strip of unploughed turf to prevent the soil from travelling down from one field to another, the earth at the lower side of one lynchet will come immediately above the excavated part of the lynchet below. This is made evident whenever sections of such lynchets are exposed by excavation, says Mr Cecil Curwen,² and, if this is so, the presence of lynchets in connection with a plot of ground amounts to proof positive that the surface of such a plot has been cultivated.

One wonders why this conclusive test has not been applied in connection with the terraces of the Lowlands of Scotland, thus for ever deciding the fervent discussion. Perhaps it is because these terraces are not real lynchets in the true sense of the word, in that they have not been purely formed out of an even slope by the process of ploughing, but have been in the first place, to some extent, artificially constructed. The terraces at Tor Hill, two miles south-east of Peebles, are more likely to have been the result of ploughing across the slope, as they are poorly developed. Certainly the terraces at Arthur's Seat and Purves Hill have been partially banked up, as some of the terraces have, as previously mentioned, a carefully formed stone scarp.

A writer to the *Scotsman*³ in the year 1900 says that these terraces are a fine example of the Run-rig system of cultivation throughout the slopes or steps of the terraces, while the flats served as pathways and marked the boundary lines; this system being practised in olden days in various parts of the country. The writer, however, seems to be labouring under a delusion as regards the interpretation of the Run-rig system of cultivation. Seebohm⁴ correlates this system of cultivation with that of the lynchets, or lynchets, already discussed, which is the generally accepted explanation.

Professor Gregory argues that these terrace formations occur at too high an altitude, and are too much exposed for crop-growing. This remark can only be applied, if anywhere, at Dunsyre, where the terraces

¹ *Origin of Village Communities*, chap. iv.

² *Antiquity*, vol. i., No. 3, p. 273.

³ J. Watson, *Peeblesshire and its Outlying Borders*, p. 81.

⁴ *English Village Community*, pp. 3-6.

extend from the 900-foot level to the 1150-foot contour; however, even at a height of from 950 to 1000 feet, one can see large areas that have been cultivated until recently. At my home, near Leadburn, the farmers on our estate practise cultivation at a height of at least 1000 feet, and areas have been under cultivation until a few years ago at a height of over 1100 feet. And it is only within recent times that the cultivation of plots at high altitudes has shown a marked decrease in Scotland. It may be said that a large factor in the development of agriculture has been the movement from the hills to the valleys. This movement has been going on by very slow degrees since the earliest settlers practised agriculture in these islands, and it is very interesting to trace this development through the ages.

Mr G. Trevelyan¹ gives an excellent picture of these early times when he says: "Agriculture had first been introduced in prehistoric times, when it could only be practised in certain carefully chosen localities that were neither marshy nor encumbered by trees, nor were yet mere barren heath." It is important to notice that dense brushwood and scrub would cover the lower and less steep slopes, whereas those higher up would either be bare or require less clearance. Owing to the swampy nature of the valleys and the dense undergrowth surrounding them, the atmosphere would tend to become more humid, and the climate therefore more amenable for cultivation at higher levels. Probably the loose nature of the soil on certain sites would determine these areas for terracing, in preference to others which, apart from this, were equally suitable. Terracing the hillsides would in addition ensure the retention of sufficient rain-water for the needs of the crops, and would afford an economy of the scanty sub-soil by concentrating it on the shelves.

A point of great interest is that all these terrace groups are in close proximity to old forts or fortalices. At most forts in Peeblesshire no trace of terracing is found; yet there are no terraces without a fort or ancient tower, or suggestion of such in their proximity. These terraces would then, as well as serving their agricultural purposes, offer an easily defensible situation for early settlers. Many of the ancient forts, believed to be of the Iron Age, probably 1500 to 2000 years ago, stand approximately around the 800- to 900-foot contour. These forts or camps represent some of the townships of that time, indicating a common level or plain of occupation, and these terraces were probably communal holdings of these ancient settlements.

Mr Trevelyan further states that "the high-placed camps, roads, and dew-ponds of the primitive people, often found where only the sheep or plovers now congregate, remind us of the greater part that the bare

¹ *History of England*, pp. 4-5.

uplands played in the life of Man before the forests were felled and the valleys drained." If the settlers had cleared and drained the valleys and the lower slopes, which might have been done with less expenditure of labour than that which was used in the construction of the terraces, the probability is that, as the latter would be surrounded by woodland, the maturing and drying of the produce cultivated there would be retarded. It is not maintained that these sites were ideal for agriculture, but they were probably the most suitable at that time.

Speaking of a much later date, Hume Brown mentions that the slopes of the hills were generally cultivated by the Scots, and that the Southern visitor regarded this custom as one of the peculiarities of our remarkable country. Long after Mary's time an Englishman says: "Tis almost incredible how much of the mountains they plough, where the declensions—I had almost said precipices—are such that to our thinking it puts them to greater difficulty and charge to carry out their work than they need be at draining the valleys."¹ It is probable that the previously swampy valley below the Romano terraces, when it had become, by draining, a large expanse of country available for agriculture, was called the "new lands," for that is the modern name of the parish.

That these terraces were the work of the Romans is supported by Dr Pennicuik and Dr Gordon; the former stated that they were defensive works constructed probably to ward off the attacks of the Pictish cavalry, and the latter that the terraces were thrown up "as Itinerary Encampments." For Gordon advanced the now refuted theory that the Roman Camp of Lyne in Peeblesshire was "a work of Severus in his northerly expedition, because no less extent of ground than the whole space from the Fort along the water-side to the other square intrenchment beyond Romana was capable of containing so great an army as he brought along with him, part of which in all probability lay encamped on the side of the hill where the huge terraces of Romana appear." The old native fort on Whiteside Hill, overlooking the terraces, may in Dr Pennicuik's day have been classified as Roman, hence his curious suggestion.

Under the heading that "some of them are of no great age" (like those at Neidpath Castle of the sixteenth century), the most probable theory suggested is that a few of these terrace groups were used as terrace gardens. Robert Chambers is an exponent of this theory in regard to some of the smaller terrace groups, and William Chambers, although stating that they probably existed from an early British period, says "that it is not less likely that they were kept in use till much later times and became appendages of feudal keeps."

¹ *Scotland in the Time of Queen Mary*, p. 13.

If the idea is entertained that some of these terraces be terrace gardens, the ones at Romanno, Purves Hill, and Venlaw are the likeliest, because they occur near buildings of mediæval or later date; it is, however, strange that no confirmation of this theory is to be found in old estate records. At Romanno there were ruins of an old building overlooking the terraces when Dr Pennicuik wrote his *History of Tweeddale*. Above the Purves Hill group at Walkerburn ruins of an old fortalice can still be seen. Mr Eckford mentions an old tradition relating to this group of terraces, that the owner of the castle had a large number of daughters, who quarrelled continually among themselves, with the result that he had a number of terraces made to serve as garden-walks, one for each daughter. Overlooking the Venlaw terraces at Peebles in olden times stood Smithfield Tower, which, however, had disappeared by the end of the eighteenth century.

As the canons of Holyrood owned the lands of Romanno in ancient times,¹ Professor W. J. Watson suggests that the cultivated terraces at Arthur's Seat and Romanno may have been made by them; this, however, is an unlikely possibility. George Chalmers attempts an explanation of the latter terraces by saying that they "were undoubtedly intended for various sports,"² and it seems that he has the practice of archery in mind. It does not, however, seem clear as to whether it is meant that the archers shot along the terraces, or at them from a distance, the targets being placed up the hillside, thus getting the various ranges; the latter suggestion seems the more fatuous of the two. The theory of these terrace groups being of recent construction does not in all probability apply to many of the examples in the Lowlands of Scotland.

The terracing of slopes has been practised from time immemorial. There are excellent examples in Italy, Greece, Japan, China, Korea, Rhodesia, and the Canary Islands. Nearer home there are large areas under terrace cultivation on the slopes of the Rhine Valley, which are used to a large extent for vine-growing. However, in Scotland it is almost certain that such terraces as those at Romanno were not used for this latter purpose, as Tacitus in his *Life of Agricola* definitely states that "with the exception of the olive and vine, and plants which usually grow in warmer climates, the soil will yield, and even abundantly, all ordinary produce."³

The conclusion that is arrived at by the writer with regard to the origin and purpose of these terraces is that they were constructed in

¹ Innes, *Origines Parochiales*, vol. i. p. 193.

² *Caledonia*, vol. i. p. 468.

³ *The Life of Cnaeus Julius Agricola*, Tacitus, first published between October 97 and January 98. Translation, Church and Brodrick.

prehistoric times by the natives for the purpose of cultivation; any further statement on the subject being based on conjecture would not therefore be strictly reliable.

It only remains gratefully to acknowledge the invaluable collaboration of Mr J. D. Lyford-Pike in writing this paper, and also my indebtedness to an article of Mr Eckford's in the *Proceedings*, vol. lxii. p. 107, especially for facts regarding the excavation of the terraces, and for information concerning other terrace groups in the vicinity to which those at Romanno were compared, but which we personally were not able to investigate.