

**TIR CYMEN
THE ARCHAEOLOGICAL AND HISTORIC
LANDSCAPE FEATURES OF THE
DINEFWR DISTRICT**

INTERIM REPORT APRIL 1992

Dyfed Archaeological Trust

Preface

This interim report is based on a desk-top analysis using Dyfed Archaeological Trust's sites and monuments record and a number of additional secondary sources. The report falls into six distinct parts. Part 1 considers the concept of the historic landscape. Part 2 examines the landscape on a chronological basis. A region by region study of the typical sites of all dates comprises Part 3. Part 4 looks at the significance of the historic landscape and its components. Part 5 looks at the vulnerability of various types of site. Check lists of the types of archaeological site by period and region, together with analyses of archaeological 'sites' by altitude and soil type are included as appendices. Maps, at 1:200000 scale, are also included, but only for illustrative purposes; distribution maps at the agreed scale of 1:100000 will be supplied with the final report. Whilst data for the Cambrian Mountain ESA has been excluded, scheduled ancient monuments have been included in the plots and analysis. Without reference to these sites description of the archaeological resource would be meaningless and understanding substantially inhibited.

Part 1 - THE NATURE OF THE HISTORIC LANDSCAPE

Intro

The historic landscape and its features and components is a product of many elements: geology, relief and climate are basic underlying factors, but superimposed are facets of economic, cultural and political history. All contribute to the rural landscape as it exists today. Historically, change in this landscape may at some periods have been slow, in others very rapid: the impact may be immediate but short-lived or alternatively gradual but no less dramatic. The activities of the agricultural settlers of the early prehistoric period for example, contributed substantially to the denudation of upland woodland and the degradation of soils that resulted in the characteristic appearance of these areas today. The importance and relevance of surviving monuments is not only to be seen in cultural terms - as legacies of the aspirations of forebears so distant as to have been long forgotten or appreciated; the monuments are themselves essential reservoirs of scientific data on past climates and vegetation, and of man's influence upon these.

Many of our individual archaeological monuments are now 'islands' in the present landscape. In upland regions their presence bears witness to more intensive land usage than is the case today. In the lowlands, their survival rate, at least in terms of visible above ground features and structures, is generally lower since more intensive forms of land use have over a long period obliterated both 'monuments' and much of the detail of their original context.

Nevertheless, the existing landscape of Dinefwr - in the disposition and form of its settlements, enclosures, fields and communication routes - is a historic landscape in its own right, and one with its own distinctive story to tell. Its present form has a pedigree of more than 1000 years. Noticeably absent from the area for example is the rural settlement pattern and the landscape evidence of the economic regime associated with the Anglo-Norman conquest - the open field system of the mediaeval period so evident in many English regions and also in such Norman dominated areas as south Pembrokeshire. Mention is made in this report of patterns of multiple estates, whose origins may lie in the late Iron Age; the physical manifestation of these in terms of landscape arrangement remained essentially unaltered by major military and cultural interventions.

Within early established patterns, changes nevertheless occurred: the detail of the enclosed landscape was subject to changes in the pattern of landholding and land usage at particular times. Thus in the 18th and 19th centuries for example, large estates could carve out of the existing enclosure pattern, areas of 'new' landscape with deliberate artificial enhancements in accordance with contemporary aesthetic and social concepts. Throughout the District evidence of this is still apparent, but following the break up of large estates in the late 19th and early 20th centuries, these distinctive historic landscapes have tended to be returned to the pattern which existed before the rearrangement occurred.

As already noted the historic landscape is the existing landscape, and many very ancient elements of it are still intact. The persistence of generally modest-sized farmholdings itself helps to preserve this historic pattern. The evidence for the age of individual holdings is however difficult to demonstrate in detail, but there are wider areas containing individual holdings where the early historical boundaries are still physically present though their significance forgotten (see the section on the early medieval landscape.)

In the analysis of significant elements of the District's historic landscape two strands should be investigated - first, the identification of those residual individual historic elements which are apparently irrelevant in the landscape in terms of modern farming practices - the 'sites' and 'monuments' of earlier ages, whether they be prehistoric, mediaeval, or eg 19th C industrial features, now in many cases divorced from their original context; and secondly, those elements which are persistent features still performing an economic function - the field boundaries and trackways, and also those earlier structures and buildings which are capable of retention though for a usage which may be a modification of their original purpose.

The identification of 'residual' elements is the easier of the two tasks, and this report gives undue emphasis to the archaeological 'sites' in the region. This is simply because the information on these is more readily available, though this information is invariably very dated and requires extensive verification in the field. Other facets of the District's historic landscape require a substantial amount of research time, especially into map and documentary sources, as well as by field investigation.

Much of this report is therefore reliant on records of individual sites and monuments. In some cases reference is made to 'relict landscapes'. This term embraces situations where there are significant groupings of individual monuments, either of one period or of several periods, and where past and recent land use has ensured their survival as a group. In such situations, the potential for future archaeological research is substantially enhanced: and the significance and value of these areas lies not only in the existence of superficial, visible monuments, but in the sub-surface content of the spaces in between. More often than not, the spaces between the upstanding elements are not at present subject to statutory protection (see part 5 which considers the whole matter of vulnerability.)

In this report such areas of 'relict landscape' are largely selected on the basis of 'sub-surface' archaeological potential in association with upstanding monuments. There are however other forms of 'relict landscapes' which deserve consideration and inclusion. The survival of 'recreational' landscapes (see the discussion of gardens and parks within the post medieval landscape) is an example. By and large it has not been possible to isolate such other forms of 'relict landscape' in the time available for this report, but it is an aspect which should be considered in response to individual Tir Cymen applications.

Part 2 - GENERAL DESCRIPTION ON A PERIOD BASIS

THE NEOLITHIC (c. 4000 BC to c. 2000 BC) Figure 2.

The Neolithic period saw one of the most dramatic changes in human history: the replacement of hunting and gathering as the prime means of sustenance by the cultivation of crops and the management of herds. The principal monuments of this period are megaliths (sometimes called chambered tombs.) It has been argued that these large stone structures in which numbers of bodies were buried communally and which would have taken considerable labour to build demonstrate ownership of land and the ability to defend it with force if necessary. The distribution of megalithic tombs ought therefore to reflect the pattern of the earliest agricultural activity within the district. Four chambered tombs are known from the study area. All lie in areas of moderate relief (between 100 and 250 m. od), all are close to water and three of the sites lie on brown earth soil with the fourth on brown podzolic soil.

THE BRONZE AGE (c. 2000 BC to c. 800 BC) Figure 3.

Two principle types of monument characterise the Bronze Age landscape in the area: standing stones and barrows. burnt mounds may also fall into this period, but most of them are undated. Their distribution is indicated in Figure 3. Both standing stones and barrows originally had a ritual function and this presents problems for archaeological interpretation. The reconstruction of past systems of belief from isolated monuments and sections of landscape is extremely difficult, if not impossible.

Standing stones

The monuments are found both singularly and in groups. Throughout Wales and south western Britain standing stones are usually located on low and level land, often near water. They do not appear to be concentrated on soils of any particular type. Standing stones are to be found in these typical locations in Dinefwr district, for example the stones in the valleys close to Talley and Llansawel, or those in the vicinity of Llangadog. Exceptions to this pattern occur; one stone stands nearly at the head of a saddle close to the summit of Mynydd Ffigyn and others are to be found in similar locations. The distribution pattern may reflect more recent agricultural practice and the clearance of stones from land suitable for arable cultivation. It may also reflect local geology and the availability of stone suitable for the construction of monuments. Standing stones are usually all that is now visible of a complex arrangement of linked features. Excavation has revealed that pits, burials, hearths and larger extents of burning, paved and cobbled areas linked with rectilinear or oval structures can all be found in association with standing stones.

The standing stones are perhaps one element in a ritual system. Each stone might local have been erected by one community as the focus of its own ceremonies and religious activities. Large monuments, for example henges, could have formed another, higher level in this system. Henges, such as the scheduled ancient monument at Ffynnon Newydd, Nantgaredig, might have the focus of "tribal" as opposed to local practices. The positioning of this structure close to the central lowland of the Towy Valley appears to strengthen the argument that it was a focal site of more than local significance. Standing stones appear, it has been suggested, to have been sited in relation to trackways, not to act as markers, but so that the impact of the monument was deliberately enhanced by their landscape setting. Other arguments see the stones as acting as markers between land use zones or between the land utilised by different communities. There may, of course, be

elements of truth in both suggestions and both hypotheses demonstrate that the standing stones cannot be considered in isolation, but only as a part of a wider landscape of a ritual and farming regime.

Round barrows

These are the most common landscape feature of the British landscape of the second and third millennia BC. This is as true of the Dinefwr district as it is of elsewhere. Barrows and cairns are to be found throughout the area; sometimes they occur individually, sometimes in groups some of which include other types of monument, notably standing stones. Most of the barrows are thought to have been burial sites; however an unknown proportion may have been constructed during the clearance of stone from fields. No certain correlation can be found between the position of barrows and relief, drainage and soil type. Although barrows do tend to be found on the higher land of the district, this could be an unnatural distribution caused by selective preservation pressures. Particular concentrations of barrows are to be found on Mynydd y Bettws, between Gorslas and Llandybie and to the west of Horeb.

Burnt mounds

These features are found both singly and in groups, invariably located on low lying, often marshy ground and near streams. They take the form of low mounds often crescent-shaped. In Dinefwr they are about one metre high and can be between three and ten metres in length or circumference. The mounds consist of burnt stones and charcoal generally now grassed over. The burnt stone represents the residue of the process of creating steam or boiling water by plunging stones heated up on a hearth or pyre into a water filled-wooden trough or clay-lined pit. Evidence of the latter features is usually found beneath or peripheral to the mounds.

The majority of dated mounds fall into the Bronze Age, but they are also known from other periods; in other parts of the country as late as medieval or post-medieval times. Function is not clearly established. In some cases there is clearly a cooking purpose, others may represent a primitive form of sauna.

THE IRON AGE (c. 800 BC to AD 75) Figure 4.

The landscape of the Iron Age is characterised by the building of large defended enclosures known as hillforts. Unlike the earlier sites, which were mainly ritual and religious structures, these sites were designed for accommodation, for at least, part of the community. The banks and ditches which surround the hillforts show that they were also designed with easy defence as a consideration, this may also have affected their position within the landscape as a whole. As the name suggests these structures are to be found in areas of higher (but not the highest) relief. Most of the hillforts in the Dinefwr district lie between the 100 m. and 250 m. contours with a tendency for a position which overlooks the Towy valley. Two hillforts lie close to the valley floor: Dynevor and Dryslwyn castles. Both take advantage of exceptional locations. They are located on steep sided spurs some height above the valley floor itself. No sites are known in the Black Mountain or on the slopes of the Cambrian Mountains.

In contrast to the defended sites on the hill sides other less well defended sites may have been sited in the valley floor. Only one example of such an open site is now known from the Dinefwr district: Llygad Llwchwr, this site however occupies a high position on the edge of the Black Mountain.

THE ROMAN PERIOD (AD 75 to AD 410) Figure 6.

The Romans introduced a distinctive "landscape package" into Britain. This comprised the first towns, villas set in the countryside, a host of military installations and a range of sophisticated industrial facilities all of which were previously unknown. It is now fashionable to treat this package as a veneer or layer which was superimposed on the existing Iron Age pattern of highland Britain. This concept is well supported by the evidence from Dyfed as a whole.

The Roman occupation of southern Britain began as a military conquest and there are traces of this in Dinefwr district. Forts were built at Llandovery, Dolaucothi and Waun Ddu. At the first two locations small civilian settlements grew up alongside them. Waun Ddu is surrounded by a small group of temporary earthwork forts, perhaps built whilst the Roman army was training or on manoeuvres in the area. The three forts were linked by a road which descended from Waun Ddu into the valley, crossed the south west to north east road running up it at Llandovery, and ascended to Dolaucothi.

Dolaucothi is particularly noted for the remains of the Roman gold mining complex there. This group of sites lies, in part, within the Cambrian Mountains ESA and is scheduled and therefore lies outside the limits of this study. The presence of these monuments makes the Dyfed landscape particularly distinctive. In few other areas of the country can similar relics of the Roman industrial landscape be found.

In Dinefwr district some of the upland settlement of the Iron Age may well have continued in use into and perhaps even throughout the centuries of Roman occupation. In the lowlands of the Towy valley, notably on the brown earth soils, it seems that several villas existed. These sites would not have been sumptuous, but would have recognisably different to their predecessors. These settlements were linked to the small Roman town of Carmarthen by a road which ran along the northern edge of the Towy valley. Along this road and throughout the valley arable land may have existed; this with pasture on the hills would have contributed to a mixed farming pattern. No traces of the proposed fields now exist. In respect of this settlement pattern of villas and Romanisation the Towy valley differs from the rest of south west Wales, for it is only in this area that the town at Carmarthen seems to have had some influence on its hinterland.

THE EARLY MEDIAEVAL PERIOD (AD 410 to AD 1109) Figure 7.

The centuries between the end of Roman Britain and the arrival of the Norman conquerors is one of exceptional obscurity in Wales. Few sites are known that can be dated to this period with any degree of certainty. A recent review of the archaeology of the settlement of this period includes only one site - Dinefwr itself - from within the Dinefwr district. Even then it is stated that there are "no definite indications of early mediaeval structures."

There is some limited evidence for ecclesiastical activity within the region. A number of large stones inscribed with crosses and dedicatory texts are known and, although fully described, cannot be linked with certainty to particular physical or social landscapes.

The social and economic framework which once existed has been reconstructed from the relatively few manuscript sources covering land tenure within Dinefwr in this period. The landscape comprise groups of hamlets, each of which produced only one type of commodity: settlements in the lowland might have specialised in the production of grain, those in the highland in providing

pasture and care for animals, whilst other settlements at suitable locations would have exploited resources such as salt or woodland. Each community would have been required to exchange some of its own produce with the goods produced by other communities in order to ensure that every group received the fullest possible range of available resources. This system of specialised production and exchange has been termed "the multiple estate." The whole of the Dinefwr district would have been divided into estates, however the boundaries of only two of them are known. Both lie on the periphery of the study area: one focussed on Llandybie, the other on Cynwyl Gaeo and Llanycrwys. Figure 8. Regrettably no archaeological evidence has been found for the early mediaeval settlement pattern within either area. However the boundaries of the farms and parishes of these areas are probably ninth century in date and can be linked to the boundary clauses given in descriptions of the estates in early texts such as the St. Chad gospels.

Continuity of population is a theme which runs from the Iron Age, if not before, up until the Anglo-Norman settlement of Wales in the twelfth and thirteenth centuries. The ancestors of those who lived in the early mediaeval period may well have followed a not too dissimilar lifestyle under the Romans and, before them, under the Celtic chieftains of the Iron Age. It is therefore interesting to note one particular area and to consider briefly the possibility of continuity of use over some centuries there. The supposed Roman villa of Llys Brychan stands in the shadow of the Iron Age hillfort of Carn Goch. Successive generations of one family may have moved from the hillfort to the villa and, in later times of instability, back to the hillfort. Through out the centuries the occupants of these two sites may have been the leaders of local society.

THE LATE MEDIAEVAL PERIOD (AD 1109 to c. AD 1500) Figure 9.

The Norman conquest of the district provides the opportunity for a much more detailed analysis of the settlement pattern. This is because the Normans, like the Romans before them, introduced a distinctive "landscape package." This comprised castles, planted borough towns, Latin-style ecclesiastical structures and monasticism, and perhaps also villages and open field agriculture. Accompanying the archaeological evidence are manuscript sources which further help in a detailed study of the area.

By 1300 the area was divided into several distinctive political units. Iscennen, in the southern part of the district, was a Duchy of Lancaster lordship and a consequence of the merging of the Duchy with the Crown (in 1399) was the preservation of much of the administrative records for the area. The northern part of the district fell in to two divisions: Cantref Mawr and Cantref Bychan. They came under the jurisdiction of the Principality, rather than the March, and hence its records are also preserved. The distinction between Principality and March was a political one. The Principality, ruled by the Prince of Wales, was a part of the English realm; the March was ruled by a number of Marcher lords each of whom held regal powers within his own lordship. Tracts of monastic land also lie within the study area. The largest of these lay around the Premonstratensian house of Talley with smaller estates at Llangadock, Llandeilo, Llanogwad and elsewhere.

Castles (which are usually scheduled ancient monuments) are the most numerous type of occupation site for the period. There is no clear pattern in their distribution which can be related to the physical or political geography of the area. It seems more likely that particular locations, with a good defensive aspect were chosen for the siting of castles. Carreg Cennen is an obvious example of a castle located in a position of this nature. It has been argued that the earthwork motte castles of Glamorgan can only be found on

certain types of soil (usually those derived from glaciated deposits.) This argument cannot be applied elsewhere; there is no evidence of a linkage between soil type and castle structure outside of Glamorgan. Only one urban centre lay within Dinefwr district: Llandovery. Settlements associated with the ecclesiastical estates of the area also exist. Talley Abbey founded a series of granges, or farmsteads, through which its land was managed. As the dates of the establishment of these farms are usually known the surrounding landscapes of fields and boundaries can be dated too. For example, at Cefnblaid, near Talley itself, the modern landscape appears to have preserved within the shape of the field boundaries an earlier infield-outfield system.

The pattern of rural settlement is now becoming more and more clear. A complex pattern of individual dwellings, hamlets and associated rural structures is slowly being revealed as fieldwork progresses. Much of the recent research has been concentrated on the Black Mountain. Here there is evidence for house structures, often preserved as exposed lengths of drystone walling a few courses high sometimes with large boulders preserved within these walls. Internal dividing walls are occasionally visible. Level platforms, usually running parallel to the contours, appear to have been dug to provide a flat surface for construction. Hence the structures often have a length breadth ratio of 2:1 or more. Ancillary structures (presumed to be cattle sheds or store houses) sometimes accompany the house sites. In only one instance does there appear to be a cultivation plot associated with a dwelling. Most of these sites appear to lie between 250 and 500m. above sea level; within this range there is a tendency for sites to lie either below 300m. or above 400m. Most of the structures are close to running water, with location in steep sided locations more common than open ones. These sites may have formed one element in a transhumance system in which sheep were moved up on to the mountain in the summer having overwintered in the valley. Alternatively they may have been permanently occupied at time when the climate was suitable or when population pressure demanded. Many of these sites are linked by small, minor trackways.

Much less is known about the settlement pattern of lowland areas. Traces of house structures are almost certainly preserved here too. It is probable that they lie close to contemporary farms and in similar locations elsewhere. The most likely circumstance for preservation are in pasture land, and platforms and grassed over traces of walling are the most likely indicators of former dwellings. Other features might also exist in mediaeval rural areas: former industrial sites (kilns, mines and quarries for example,) clearance cairns and pillow mounds. Both the latter are stone structures, each with a different purpose. Stones removed from fields (often on the margin of cultivation) would be placed in suitable locations where they would not interfere with cultivation. Pillow mounds were purpose-built stone rabbit warrens; rabbits - introduced to Britain by the Normans as a food supply - did not readily adapt to the climate hence the deliberate construction of warrens. Other features might include corn and fulling mills, stockpens and folds along with dovecots and fishponds.

The typical pattern of mediaeval open fields, in which everyone held a number of strips scattered throughout large fields, did not exist in many areas of south Wales, including the Dinefwr district. Instead there appears to have existed, from an early date, a number of enclosed fields. There is a direct link between relief and field size. Figure 10 shows that on the floors of the Towy valley and some of its tributaries and on the uplands, fields are large; to some extent, notably in the lowlands, the availability of large areas of flat land might be the reason for this. Elsewhere fields are noticeably smaller. The link between soil type and field size was also explored. Some of the large fields lay on the brown earth and brown alluvial soils, but

others lay beyond this on the stagnogley and stagnohumic soils. In another area of brown earth soils, immediately north of the Black Mountain, the fields are small and irregular in size. Both observations strengthen the likelihood of relief rather than soil type being a determining factor on field size and shape. On the sides of the valleys numerous small closes exist. Further study might link field size, shape and location to function. A prerequisite would be information on the date of these fields. This might be obtained from a study of hedgebanks and especially of the numbers and types of species they contain and their method of construction.

THE POST MEDIAEVAL LANDSCAPE (c. AD 1500 onwards) Figure 11.

The post mediaeval landscape developed out of the mediaeval one and in many aspects influenced the modern landscape. This is the period from the sixteenth century onwards when new techniques and new ideas were employed in land use management. The settlement pattern of this period comprised small villages and hamlets built up of farms (the domestic architecture of which is reviewed in the next section.) Some farms may have been deserted relatively recently and the desertion and subsequent dereliction of buildings should be envisaged as having taken place throughout this period. The farms were surrounded by fields (the shape and nature of which has been discussed above) and the landscape is likely to have contained other features related to the further exploitation of agricultural and other resources.

A dominant factor in the local economy would have been the grazing of sheep. Evidence for this is best found along the southern Black Mountain fringe. A mountain ditch separates the rough pasture of the upland from the cultivated areas and routes run northwards to focus on Llandovery before crossing the mountains to the east. Smaller concentrations of routes can be seen on modern maps, for example the numerous footpaths which converge on Neuadd Fach, Llanddeusant. These are probably the tracks along which small flocks passed on route to the major trackways and the market. Some of these tracks survive as double hedgebanked lanes, and are under threat if fields are expanded by removing one bank. These features have more than a historic value: they provide shelter for flocks today. On the higher land traces survive of sheepfolds and other features associated with sheep rearing, for example artificially constructed washing pools. Together with the trackways etc., they provide early evidence for commercial systems of animal management and marketing.

In the mediaeval and later periods wool from the sheep was an important product. Fulling mills were founded to process the wool. Water driven hammers "beat" the cloth in order to clean it and consolidate its texture. Many of the fulling mills in were financed and run by secular lords and private entrepreneurs, furthermore they tended to have been established in the March rather than in the Principality. For the purposes of this study these factors restrict the likely location of fulling mills to the southern part of the district. The availability of water to power the mills and for cleaning the cloth further restricts likely locations.

One of the distinctive features of the post-mediaeval landscape of Dinefwr is the balance between agriculture and industry in (excluding the extreme southern part of the district) what was apparently a rural area. Most of these industries were based upon the exploitation of local resources. Timber, for example, was used for charcoal and the extraction of dyeing compounds from the bark, in addition to building. Minerals were quarried and processed. Notable here was the extraction of lime for burning and adding to soils. Elsewhere stone was quarried and lead mined. Features such as lime kilns and the leat and dams of processing works survive in these areas today. The

geological nature of each area will indicate what resources were available and, therefore, what particular features might survive in the area.

Examples of recreational landscapes are also to be found in the Dinefwr district. Parklands/gardens are a prime example of this. If the parish of Myddfai can be taken as an example, the mansions at Llwynwormwood, Cilgwyn, Dolgarreg, Llwyniar and Lletyifandde estates are surrounded by landscaped vistas. Bridges, ornamental gateways and lodges were built as were ponds and contoured roads. Extensive tree planting, often of exotic species, also took place. In his Topographical Directory of 1833 Samuel Lewis was able to refer to "the beauty of the scenery [of Myddfai], which is further enlivened by the several gentlemen's seats scattered over the parish." The demise of some of these estates has led to the division of their lands and the preservation of parks of former parklands within smaller holdings. Other features exist, often associated with larger, wealthier estates. Shooting hides, duck decoys and similar features can sometimes be found. The duck decoy is a distinctive element in the lowland landscape. In the eighteenth and nineteenth century artificial pools were built with tunnels leading off them, ducks were enticed up these towards traps. Dry, grassy hollows are now all that remains of many of these decoys. Shooting hides are much more variable with respect to location and construction, and the use of natural features or the reuse of other archaeological features as butts cannot be ruled out.

Vernacular building.

Most of the surviving early domestic, secular buildings of south Wales are sixteenth century or later in date. This lack of surviving early farmhouses is the result of poor construction methods in an area which was seen as remote, politically unstable and which was poor at a time when rural wealth was converted into "good building."

The principal early building type, as deduced from much-altered surviving examples, was the longhouse. This was divided into three units, two of which were for occupation with the third used as a byre. Chimneys were positioned to back on to the entries and so access to the house was through the byre. Hence the feeding walk for the byre and the entry to the house were combined. This pattern was common throughout much of Britain and was linked to social status: the gentry required "stand alone" houses with the byre a little distance away, whilst the poor did not need byres as they had no animals. This pattern of house-and-byre homestead where the fireplace backed on to an entrance passage in the byre was a very common type of farmhouse over much of south Wales until very recent times.

The Elizabethan period saw the adoption of a centralised plan with rooms no longer opening on to one another but reached independently via passages and staircases. These buildings were often two rooms wide, rather than just one. The "great rebuilding" of rural farmhouses in south west Wales was much later than it had been in England. It can be fixed, often by means of dated panels above doorways, to the period 1850 to 1914. Although this was a period of agricultural depression the extension of the railways into the study area led to increased profitability of dairying. Hence any search for houses of this period should focus on the Towy valley. Many of the houses of all periods were stone built with increasing sophistication in the use of dressed stone and bonding material over time. Half-wooden houses are absent from the study area, perhaps due to a lack of suitable timber. This is also suggested by the use of scarfed crucks rather than true crucks to support roofs. Unlike a true cruck which is one length of timber, a scarfed cruck comprised two shorter pieces joined at roof level. This technique is restricted in use to south western Britain and west Wales (notably the Ceredigion area.)

The following examples illustrate some of the general points made above. Llethercadfan, near Llangathen, is a sub-mediaeval storeyed house of high gentry status (hence the absence of an integral byre) with a lateral chimneyed hall between a small service room and larger outer room. The house dates to just before 1600 and some of the original woodwork survives. Llwynceilyn, near Talley, is a typical example of many east Dyfed farmhouses until recently. It is a scarfed cruck longhouse with a central stair and entry behind the main chimney dated to 1739. Entry is through what had once been a dairy, which is adjacent to the byre, on the side furthest from the domestic occupation. In some houses the byre was converted to a stable with the advent of horse-ploughing and, if retained, a new byre built as a separately-entered structure at the far side of the house.

The so-called Golden Grove Books contain the genealogies of many of the minor gentry families of Carmarthenshire; these were compiled between the mid-sixteenth and early nineteenth centuries by local antiquarians. These volumes provide information about the background to the houses; they allow the charting of the successive generations which lived there and which altered the landscape to reflect their tastes and aspirations.

Historic woodlands and grasslands.

Historical sources name several forests within the study area. Most, but not all, forest was woodland; in the strictest sense forests were areas where forest law applied and where hunting was restricted to named individuals. The forests of Dinefwr included Pedol, Glyncothi and Killardun. In each area there might be traces of ancient woodland, in addition to structures - such as park pales or hunting lodges - indicative of earlier use. In the twelfth century Cantref Mawr was considered "on account of its thick woods" a safe refuge for fugitives, whilst Dinefwr castle was described as "strongly situated in the deep recesses of its woods." Much later, c. 1775, Arthur Young noted the quality of the spruce firs of the Towy valley, especially those grown on the estates of Taliaris and Golden Grove. Woodland features of this period might include saw pits or charcoal burning sites.

Preliminary investigation has revealed a small number of areas of potential interest:

- 1) Allt y Wern, near Llangathen, is a small oakwood managed as a coppice with standards. Hence much of the underwood is cut to near ground level very few years (ie coppiced), the rest of the woodland is left to grow to full tree size and then felled for use as timber.
- 2) Tregyb woods, south east of Llandeilo, an area of woodland which, old maps have shown, was once field. This area is not one of historic woodland per se, but rather an area of woodland in which historic features might be found.
- 3) Derwen-Fach meadow, near Llangadog, is a herb-rich, wet pasture which is still managed in the traditional way. It is therefore likely to be representative of much of the pasture in the district until relatively recently. Other areas of unimproved and therefore "historically typical" meadow exist in small quantities at Cae Fadde Fawr, Cae Maes-y-Fynnon and perhaps also elsewhere.

Part 3 - REGIONAL DESCRIPTIONS.

For the purposes of this section the Dinefwr landscape has been broken up into four regions, as defined by drainage and relief. The characteristic pattern of sites, irrespective of date, within each region is the subject of each section. As detailed descriptions of the nature, as opposed to the range, of the sites have already been given the section of this part of the report are shorter than those above. The four regions identified were: the Towy Valley, the south eastern and north western mountain regions and, separating the two the mountain fringe (which can be divided in two sub-regions, one north and one south of the Towy.) A functional arrangement has been adopted for the presentation of the material in this part of the report. The categories used are: domestic and settlement structures, ritual and religious structures, military structures, industrial features and agricultural features. As the field systems were closely related to the pattern of settlement in what was, at least in part an agricultural area, their patterns are described along with the material for domestic and settlement sites.

An attempt has been made to identify areas of relict landscape within Dinefwr district. These areas are described in this part of the report. Areas of "relict" landscape can be defined as areas which contain a relatively high density of archaeological sites, irrespective of particular period. As fieldwork has not been carried out on an equal basis throughout the area it has not been possible to identify areas of relict landscape everywhere. The bias of work towards the south east mountain region and the southern mountain fringe will therefore be noticeable in the following sections.

THE TOWY VALLEY

The Towy valley forms the central core of the study region. It runs from southwest to northeast across virtually the whole extent of the area and most of the watercourses within the region drain into it. The valley forms a band of quality brown earth and brown alluvial soil. For the purpose of this study the upper Amman Valley, which is separated from the Towy by a not particularly distinctive watershed at Llandybie, has been included within this section. The soils are more varied and poorer here.

Domestic sites and settlements.

Little is known about prehistoric settlement within the area prior to the Iron Age. Settlements of this period are to be found throughout the area, although there are particular concentrations: notably at the head of the valley beyond Llandovery. Settlement avoids the valley floor wherever possible in favour of the minor hills and slopes on the valley edges. During the Roman period the valley was the focus of settlement in Dinefwr. Linked by road to the Roman town at Carmarthen and by a transmountain route which ran through or close to Llandovery the valley was incorporated into the wider Roman world. A small settlement grew at Llandovery and individual farms existed elsewhere in the valley. Many of these farms were established on the fertile brown earth soils. In the following early mediaeval period, and perhaps in the Roman period too, an estate existed in the Llandybie area. Here it is possible that some of the boundaries and topographical features visible in the modern landscape preserve elements of the Roman/early mediaeval pattern. Later mediaeval and post-mediaeval settlement is scattered throughout the Towy Valley and exists in a landscape of large irregularly shaped fields, which lie on the valley floor.

Ritual and religious structures.

Prehistoric sites have been identified in the area, although they are more frequently found in the other regions. Megalithic tombs, characteristic of the Neolithic period are absent from the valley floor. The only known henge monument in Dinefwr is to be found at Fynnon Newydd. Bronze Age barrows and standing stones are found but the density of their distribution is much less than it is in the other regions. Furthermore in the Towy Valley, unlike the other regions, it is standing stones, rather than barrows that are the principal form of monument. Standing stones are usually located on low, level land close to water; their distribution pattern may also be governed by the presence of suitable stone for the erection of monuments of this type. Inscribed and sculptured stones are the main form of early mediaeval religious monument. Their number is small and it is difficult to fit them into any coherent context. The faint presence on an air photograph of a partial ditch around the church at Llangathen may be indicative of the ephemeral nature of early mediaeval settlements.

Military sites.

A Roman fort, which existed at Llandovery, and a mediaeval castle at Dinefwr are the only two sites in this category.

Agricultural sites.

Associated with the farms are large numbers of other types of monument, their nature is varied and, again, discerning a meaningful context which seeks to place specific types of monument in specific types of locality appears to be impossible.

Industrial sites.

A notable concentration of industrial activity is found within the upper Amman valley. This part of the study area lies on the edge of the south Wales coalfield and hence has a quite distinctive pattern of historic settlement, unlike anything found elsewhere in the Towy Valley. Further work on this region might enable the identification of a relict landscape comprised of a large number of industrial sites, for example quarries and mines with associated transport and processing facilities.

THE SOUTH EASTERN MOUNTAIN REGION.

The south eastern mountain region comprises Mynydd y Betws, Mynydd Myddfai and the Black Mountain massif. The area is in general around 200-250 m. above sea level, descending slightly below this in places and reaching up to 500 m. on the Black Mountain. Soils are generally cambic stagnohumic gleys and humic ferro-podzols. With the exception of three periods - the Bronze Age and the latter mediaeval and post mediaeval periods - there is limited archaeological material in the area. Neolithic, Iron Age, Roman and early mediaeval material is virtually absent from the region.

Domestic sites and settlements.

There is no evidence for settlement prior to the late mediaeval period. It is possible that the prehistoric Celtic settlement pattern - whatever its nature - continued with no significant changes throughout these periods. If this is so then factors such as the stability of boundaries (especially where minor boundaries, such as hedgebanks, and major ones, for example parish boundaries, coincide) ought to be considered. The survival of field systems and other

relict agricultural landscapes associated with these early estates is also a possibility; though none have yet been recognised. The evidence for lesser domestic structures in this area is good. This is the result of intensive fieldwork in the area in recent years. Buildings, enclosures and walls have all been identified. They are usually to be found in narrow, steep-sided, sheltered river valleys. Much of the land in this region is unenclosed, at certain places it is possible to recognise areas of encroachment into the unenclosed land. For example, in Llandeusan parish on the edge of the Black Mountain the curved field boundaries indicate the land taken into properties and probably a subsequent change in the nature and intensity of use. One of these farms is called Ty-newydd, further indicating its origin as an encroachment.

Religious and ritual sites.

The earliest evidence for human activity in the area comes from the Neolithic period. There are just two sites from this era; both are stone circles located high on the Black Mountain (at well over 250 m.) Evidence for the intensity of use of the area increases considerably in the Bronze Age. There are numerous cairns, barrows and other structures of this date. These are distributed widely throughout the area, occurring in no one specific type of land (bearing in mind, of course, that the region was defined on the basis of homogeneity.) The sites are to be found both individually and in groups, for example at Henrhyd or Cwm Menwen. In certain locations barrows are grouped with the other principal type of monument from this period: the standing stone. Unlike barrows standing stones do occur in particular locations. They are often to be found on low and level land, close to water. The distribution of both types of site may reflect recent agricultural activity, notably the clearance of land for agriculture and hence the removal of "heaps of stone" from some areas.

Military sites.

Evidence for military activity for the is somewhat limited. Two marching camps constructed by the Roman army on manoeuvres lie in the north of this area. Castles (usually scheduled ancient monuments) are found in this area, including Carreg Cennen and, at least, two more minor sites, the evidence for which is poor. Much of this area is now unenclosed and it may be presumed to have relatively poor pasture land throughout the mediaeval period.

Agricultural sites.

There is slight evidence for former cultivated land in the area; possible cultivation ridges are thought to exist close to Fedw Fawr. Traces of hollow ways, tracks and abandoned boundaries have also been found. A selection of the diverse features which characterise the landscape of the post mediaeval period are to be found throughout the area. Both the nature and location is varied and no general pattern of specific types in specific locations can be determined.

Relict landscapes.

Areas of 'relict landscape' can be identified here. Although these include scheduled sites some notice must be taken for the purposes of this study. The first area - Y Pigwn, Myddfai - lies close to the border between the mountain and mountain fringe areas, it also lies on the Dyfed-Powys boundary and part of the relict landscape therefore lies outside the study area. Here there are two clearly discernible Roman camps, the site of a presumed camp and another minor Roman military site. Near one of the forts there was once a Roman

milestone, although now lost, it would have marked one of the two Roman routes through Dinefwr. A prehistoric stone circle and a linear depression, interpreted as a post-mediaeval tile quarry, lie to the south. The landscape is completed by a group of Bronze Age structures (two barrows and a stone circle) all of which are in Powys.

The ^{third} ~~second~~ relict landscape lies some two miles south west of the first at Pen Cae-newydd, Myddfai. Here there are a linear group of six Bronze Age barrows, possibly associated with two standing stones which lie further east. Close by are a mediaeval longhouse and a post mediaeval tile quarry, apparently similar in nature to that described above. The ~~third~~ ^{fourth} area lies immediately south of Tyle-pengam in Llandeusan. Here there are four Bronze Age barrows in close association with a standing stone. Other barrows lie a little further away to the east and south. A nearby feature has been interpreted as a prehistoric hut circle. This group of structures, unlike the previous two groups, lies on enclosed land.

THE NORTH WESTERN MOUNTAIN REGION

The north western mountain region comprises Mynydd Figyn and Mynydd Mallaen along with the eastern edges of Mynydd Llanybydder and Mynydd Pencareg. It is an area of broken highland with, in the main, brown podzolic and cambic stagnogley soils. Much of the surface drainage of the area runs into the River Cothi which flows south from the area. As one would expect, the archaeology of the area is similar to that of the south western mountain range; unfortunately less fieldwork has been done in the region and so its history is, at the moment, less well understood.

Domestic sites and settlements.

Evidence for settlement prior to the historic period is sparse. There is only one known example Roman activity: a hoard of coins was secreted near Llathige in the late third or early fourth centuries. Remains from the early mediaeval period are as limited in Dinefwr as they are elsewhere in Wales. One of the early mediaeval multiple estates lies on the edge of this area, it was focussed on Cynwyl Gaeo and on Llanycrwys (which lies outside the study area.) It is possible therefore that some of the boundaries and, perhaps also the later agricultural patterns, of the area are of considerable antiquity. Examples exist of later mediaeval domestic dwellings in the region; their number is far fewer here than it is in the south eastern mountain region. Fieldwork in selected locations, especially in narrow, steep-sided, sheltered river valleys, would undoubtedly reveal further sites. Once the settlements have been identified it ought to be possible to identify routes linking them (some of which might be preserved as footpaths and rights of way in the modern landscape,) and associated farming structures. The pattern of large fields of the area ought also to relate to this.

Religious and ritual sites.

There are two megalithic tombs (at Carreg Castell y Gwynt and Pant Howell.) The presence of this group of structures suggests relatively intense use of the area in the Neolithic period. The megalithic tombs may have acted as the focus for the ritual activity of a small community of farmers and the tombs are in areas suited to early farming activities: moderate relief, close to water and on reasonable soils. Once again there is extensive evidence for the Bronze Age ritual landscape. Barrows and standing stones are numerous and virtually ubiquitous, although with a slight tendency to concentrate in the southern part of this area. Early Christian monuments survive in Llandeilo and Cynwyl Gaeo.

Industrial sites.

Apart from the (scheduled) complex of Roman structures on the edge of the ESA at Dolaucothi all the evidence for industrial activity is post mediaeval. Sites of diverse types lie throughout the area, with a tendency to cluster in the south of this region.

THE MOUNTAIN FRINGE REGION

The mountain fringes lie between the Towy valley and the true mountain region. The two areas of mountain fringe display many similarities but also important differences. The southern fringe is generally better soil with an extensive band of brown earth, nevertheless it lies in the shadow of the Black Mountain whereas the northern fringe is south facing. The southern fringe is clearly an area of upland especially at Rhiwiau Hill and Trichrug. On the northern fringe the relief is much more varied with some relatively large areas of broken high ground and lowland, for example between Llanwrda, Llansawel and Llandeilo. The range of sites to be found in this area displays, as might be expected, characteristics of both the mountain and valley regions.

Domestic sites and settlements.

The presence of considerable Iron Age settlement in this region (on both northern and southern fringes and at the head of the Towy Valley) is one important difference between this area and the mountains. This is undoubtedly associated with the relief of the area; as described in Part 2 Iron Age settlement of the area is restricted to hilltop locations (but is not found in mountainous terrain.) A multiple estate existed focused on Conwyl Gaeo and Llanycrwys. All these estates included a variety of types of land, hence the southern boundary of the estate falls within the northern mountain fringe. The statement made on boundaries and agricultural patterns made above applies here too. Another multiple estate might lie in the southern mountain fringe centred on Llys Brychan. When compared with the other regions the mountain fringes seem to have been less fully settled in the mediaeval period. Hence one of the main sources for an understanding of the use and evolution of the landscape here at this time is provided, not by sites, but by the pattern of field boundaries. Small irregular fields line the fringe areas both north and south of the river valley, in the area north of Llandovery field sizes increase with a change in the relief as one approaches the uplands. Patches of more regular field do occur within this framework. This might be field enclosed at a later date or it could indicate improved and "modernised" land. Further research might help to resolve this problem. It is possible that the settlement pattern associated with this field system is preserved within the contemporary framework and the absence of settlement possibly explained by it having been incorporated within or built over by more recent structures. Hence the possibility of archaeological traces of earlier buildings in the vicinity of the modern farmhouse ought to be considered and searched for.

Religious and ritual sites.

Most of the Neolithic megalithic tombs are found in the fringe region, they lie in regions suitable for early agricultural practices notably on brown earth soils in areas of level land. Bronze Age barrows and standing stones are found throughout the area. In the northern fringe barrows usually occur singularly, in direct contrast to the southern fringe where several dense concentrations occur. These concentrations are found in the Myddfai area close to the mountain/mountain fringe boundary; they are described below. Evidence for early mediaeval activity is again limited. There is an inscribed stone at Llanegwad and an early mediaeval burial at Maes Llanwrthwl.

Military sites.

Roman practice and marching camps are also found to this area, and are confined to a very specific part of the area. They are found in the vicinity of Myddfai and are included in the analysis of relict landscapes below.

Agricultural and industrial features.

As has already become apparent from the discussion of post mediaeval features in the other regions they are of so diverse a nature and occur in so many localities that to make any general statement of guidance impossible.

Relict landscapes.

Areas of relict landscape have been identified here too. Around Beddau'r Derwyddon and Llygad Lluchwr are numerous cairns, pillow mounds and other features. There are at least three pillow mounds and four cairns (some of which may have been burial mounds rather than clearance cairns.) There is also a group of four burnt mounds, presumed to be cooking hearths of a Bronze Age date along with a prehistoric hut circle and an enclosure perhaps of Iron Age date. A lime kiln and a mill race leading to a post mediaeval mill have also been identified here. Much of this land is enclosed and, ~~probably~~ ~~therefore, farmed.~~ On Carn Goch there are two excellent examples of hillforts (Y Gaer Fach and Y Gaer Fawr.) A burnt mound and a cairn lie within the larger hillfort; there is also another cairn nearby and to the north west and south there are numerous wall foundations, some enclosures, of uncertain date. A further enclosure can be found further west and the most interesting Roman site of Llys Brychan is to the north. It is possible that this area with its hillforts, possible Roman villa and the placename element Llys (often used for the palace or hall of an early mediaeval chieftain) was the focus of lordly power in the area from the late prehistoric period through to the early mediaeval era.

Part 4 - THE SIGNIFICANCE OF THE HISTORIC LANDSCAPE AND ITS COMPONENTS

There are several ways in which the significance of the historic landscape and its components may be considered - intrinsic value; contribution to the existing landscape of the District; and potential in terms of contributing to the area's rural economy and prosperity.

Intrinsic Significance

The primary significance of the archaeological and historic resource lies in its intrinsic value as a finite reservoir of information on cultural and environmental change. It is easiest to comment first on those elements generally identifiable as 'archaeological sites and monuments'.

Not all sites in the District can be considered as of equal importance. Remains of a megalithic tomb for example are more important than the remains of a charcoal burner's hut. Some sites may be of national importance, others of regional or local importance. Classification is not straightforward however; some types of sites may be nationally important because of a particular regional distribution, whilst some types of local sites might similarly acquire a regional significance.

No attempt has been made to rank such sites in these terms in Dinefwr, nor in any other part of Wales, though some sites, by nature of their statutory status clearly fall into the nationally important category (see below). Well-established non-statutory criteria exist for assessing the national importance of individual sites and monuments and these could be equally well adapted to assessments within a region. The criteria include period, rarity, documentation, group value, survival/condition, fragility/vulnerability, diversity and archaeological potential. To assess the significance of elements in Dinefwr using these criteria would however require very extensive and expensive field survey and research.

Scheduled monuments and listed buildings

Scheduled monuments are by definition of national importance. Historically, inclusion in the schedule has tended to reflect rarity value and condition - it is generally accepted that certain types of, for example prehistoric, sites are so scarce that all known examples retaining some archaeological potential should be preserved. In other cases, condition assumes a greater influence, though even very eroded earthwork sites may still retain a substantial sub-surface archaeological potential.

Whilst it is true that by and large scheduled sites are the most significant of the known sites in the District, two reservations must be made. The first is that scheduling is incomplete, and the existing schedule is not linked to any up-to-date assessments of the known archaeology of the region nor any systematic programme of survey to discover new sites. Second, in the case of existing scheduled monuments, the boundary of the scheduled area itself rarely reflects the area of archaeological importance and potential. This is especially true of upstanding monuments.

Unlike scheduled monuments, listed buildings and structures are graded in importance, affording some measure of significance. But the cautions noted above about the absence of up-to-date survey, apply even more so to buildings in the District than to archaeological monuments. In the whole of the rural area there are regrettably an insignificant number of listed structures in comparison to those which clearly warrant such a status.

Group significance and areas of special archaeological importance.

In instances where groups of monuments occur, the value of individual monuments is enhanced by association with others whether contemporary or of different periods. It should be noted that the interspace between individual monuments is often unscheduled, but as indicated at the beginning of this report, these interspaces, though often superficially featureless are of considerable potential and should be regarded as of great significance.

Such groups may contribute to areas of archaeological importance and a number of such areas, generally referred to as 'relict landscapes' are noted in this report. Invariably they are likely to contain both scheduled and unscheduled elements. These areas have no statutory basis but are of the greatest significance in terms of intrinsic value. Other such areas, in addition to those identified no doubt exist in the District, but in the absence of any systematic survey programme it is likely that these areas will be more easily identifiable in response to individual Tir Cymen applications.

In the absence of systematic survey mention should be made of the potential archaeological significance of any areas of unimproved upland pasture, together with those areas in the border zone of unenclosed/enclosed land. These may include areas formerly enclosed, often as a result of agricultural expansion in the 19th Century, and subsequently abandoned. Some of this land may have been subject to improvement in recent times, but where this has not occurred, such areas should be regarded as highly significant. They often contain evidence of former homesteads, now valuable as historic settlement sites in their own right. In some cases these 19thC settlements reoccupied much earlier sites whose archaeological potential is still high. This high potential is the result of the less intensive and destructive methods (compared to modern practices) employed in the reoccupation period.

The Historic Landscape at Large

Definition and methods of evaluation of significance are, throughout the country, at an experimental stage. Much of Dinefwr is an enclosed landscape with the dominant pattern of enclosure being one of relatively small fields associated with a largely dispersed settlement pattern. As noted earlier in the report, for historical reasons, there are no apparent examples of enclosure of former open fields, whose original existence in other regions often stand out as significant because of an obvious contrast with generally earlier field enclosure shapes. Instead, whilst there are detectable variations in field size and shape within the District which may prove to have some significant historic basis, it is the overall uniformity in enclosure type, indicative of an early origin, that gives the historical landscape its characteristic form.

The criteria which could be employed for assessing the intrinsic significance of individual archaeological sites and structures, especially rarity value, cannot be applied to evaluation of the broader historic landscape. In contrast, it is the very frequency with which components of the enclosed landscape recur which enhances its value and significance. A method of evaluation could be devised based on assigning values to particular elements, such as well-preserved sections of enclosure bank or walling, stiles and gateways and totalling these for particular holdings, or by kilometre square, in order to identify areas of particular importance within the District as a whole. But as for individual 'residual' monuments, this would require very extensive and expensive fieldwork, and probably would not reveal historically significant patterns. Once again assessment is best reserved in response to individual Tir Cymen applications.

Contribution to Landscape Quality

Whilst the landscape at large is a historic one, of the individual archaeological sites and monuments only the more conspicuous may be considered to make a significant contribution. Examples include prominently sited cairns and burial mounds, standing stones, the more substantial hillforts and defensive sites, and well worn earlier trackways and routeways. Isolated buildings or derelict structures with substantial standing elements, for example barns, mills, limekilns, also make an important contribution. On a broader scale, the historic field and enclosure pattern is of the utmost significance in characterising the landscape. The constructional details of the enclosure boundaries are a major factor determining for example the extent of shrub and tree growth and the appearance of the enclosures themselves. Historic broadleaved woodland makes a significant contribution and so too do those areas of deliberate clearing, and planting of trees to create landscaped vistas around estate mansions.

Economic potential

The physical historic resource is of considerable potential significance in Tir Cymen's market-based approach to conservation of the Welsh Countryside. There is extensive opportunity to promote conservation of historic elements by raising levels of awareness and appreciation whilst at the same time providing extra levels of interest for both residents and visitors, through provision of low key interpretation employing leaflets and in some cases interpretative panels. In this way many minor archaeological features and standing structures hitherto often unnoticed can be 'brought alive' and their conservation is thereby likely to be enhanced. Care must be taken to avoid pressure on the better known and vulnerable monuments, and this is achievable by concentrating on elements and features to which attention is rarely drawn, so that the whole area of interest is spread more widely. This strategy has been successfully employed in for example the Taf and Cleddau Rural Initiative in West Wales, although this is not specifically targeted at farm holdings. Nevertheless, in the Dinefwr District, as elsewhere, there are many holdings which contain potential for interpretation of historic physical elements, linked to both archaeological and historical evidence. The origin and development of the holding may be placed in a general historical context; the extent of the holding, its individual enclosures and changes can generally be determined at specific periods by reference to maps and schedules; field names can give a clue to former land use or features of historic interest, whilst place-names can contain clues to the origin of particular farms; trackways may lead to sites of former homesteads, or be through-routes of historical significance; low humps and bumps, or traces of stone foundations may become of interest if their original context can be explained. Some holdings or features may have associations with well-known legends, historical personalities, or events.

Part 5 - VULNERABILITY

The historic landscape and its components represent a finite and relatively fragile resource. It is under acute pressure from a variety of activities including land improvement, quarrying, afforestation, development of new roads and accesses, and a variety of forms of other development subject to the Town and County Planning Acts, including most recently, windfarm proposals and applications for golf courses. Following changes in the EC Common Agricultural Policy some of the former pressures upon the historic resource have receded. Also, aims and proposals within the Tir Cymen scheme will help to further reduce existing pressures, though there are some areas of concern, as for example the impact of increased afforestation, and also the impact of 'natural regeneration' in some areas.

This section does not attempt to cover in any detail the effects of different types of threat or activities: rather, vulnerability to loss or change is discussed in relation to the form in which the historic landscape and its components are most readily identifiable.

Earthworks

This covers a wide variety of field monuments - defended enclosures, burial mounds, traces of ancient cultivation, some forms of settlement site (eg house platforms, hut circles), boundaries and trackways, former leats, 'burnt mounds' and so on. Earthworks may include former structures of earth and timber; some also have a stone component. More often than not, the original construction is a reflection of local geology; where a ready supply of stone was available, identical types of monument are represented by ruined stone structures rather than earthworks.

The size of the earthwork may vary considerably reflecting original function and, generally of more significance, the history of subsequent land use. Some earthwork features are so slight as to be detectable only in the most optimum conditions eg low oblique light, or when there is a partial or melting snow cover, and through experienced eyes. Vulnerability is related to a number of factors, not least ignorance; unless features are recognised, or their existence is otherwise known or suspected, they will inevitably be vulnerable.

The slighter the superficial evidence, the more vulnerable features will be to a whole range of agricultural and related activities. Even the more obvious earthworks will gradually disappear under an arable regime, and these include those statutorily protected sites where 'class consents', permitting certain forms of continuing agricultural regimes, are in force. Occasional ploughing, especially for reseedling (or in other circumstances, such as removal of bracken cover), can in the Trust's experience be extremely damaging, often obliterating the last superficial but still recognisable traces of an earthwork in a single operation. Even on permanent pasture, though localised in its effect, the use of heavy farm machinery can have the same result over a longer period of time.

Special mention should be made of woodland clearance and replanting programmes. At the time when the original planting occurred, there was invariably no previous archaeological inspection. Moreover the ground preparation for planting involved much less disturbance than nowadays. Consequently historic earthworks may still survive and this also applies to some of the other forms dealt with below. Monitoring following some of the later thinning cycles is therefore desirable and there may be some circumstances where as a result of discoveries, replanting should not take place.

Larger earthworks such as earthen ramparts of hillforts, field banks, enclosure or substantial barrows are subject to erosion by stock, and in some cases, by visitor wear. Once the surface cover is broken, the damage is exacerbated by natural erosion to the point where substantial repair measures may be required.

Reversion to vegetational succession may be equally damaging. The development of scrub, encouraging burrowing animals, and ultimately of tree cover with damaging roots, is to be discouraged. Virtually all historic earthworks require some form of active management.

Cropmarks and sub-surface features

These may cover a wide variety of site types, generally completely degraded as superficial monuments, but still important as an archaeological resource. In some cases these may combine an earthwork element - not all earthworks will necessarily be complete; parts may have been removed in the past or have been subject to differential erosion. Where combined with earthwork or other structural elements, the area of archaeological significance can be based on firm evidence; this also applies to situations where cropmarks are recorded on air photographs, or where specialised survey, such as geophysical has been carried out. But in other cases the importance may be based on archaeological potential (as in the interspace between monuments in a group) rather than on readily available firm evidence. In such situations, vulnerability is likely to be linked to major changes in land use rather than forms of continuing land use.

Other Structures

The term covers a variety of elements, other than original buildings, whether intact or partially ruined. The category includes standing stones, a variety of stone structures, and minor features. Standing stone sites and those of other forms of free standing 'megalithic' structures are particularly vulnerable to erosion by stock in a pastoral regime. This does not apply so much to the structures themselves, but to the immediate area around the upstanding elements, where the surface tends to become worn and hollowed. Since in the majority of cases it has been well-established that the upstanding elements are but a part of sites consisting of complex sub-surface deposits, such wear and tear can be very detrimental; but there is no easy solution to this particular problem.

Other types of monument in this category may be stone-walled enclosures of various date, size and function; cairns, whether originating from agricultural clearance or for funerary or ritual purposes; and minor structures such as stone or wooden bridges or stiles. Early enclosures and cairns may in some cases be reduced to low foundations concealed by vegetational growth on unimproved or unenclosed land or on former enclosed land on which vegetational regeneration has occurred. Such features are particularly vulnerable to mechanical clearance of scrub or bracken. In situations where stone elements are plainly visible some become subject to accretion by stone dumping, thereby tending to obscure the original form and nature; or worse still, as in the case in some of the more prominent sites in the mountain regions, to interference by visitors creating local small cairns out of the stone of the ramparts of prehistoric hillforts, or cooking or sheltering places in the core of Bronze Age burial cairns.

Other features, such as former ponds and leats, or specialised forms of boundary, such as 'ha ha's', trenches for mineral exploration, and even

ditches around substantial earthworks may be vulnerable to deposition of rubbish and total infilling.

Buildings

The term is used for those structures readily recognisable and appreciated as buildings, whether still roofed or if unroofed still retaining substantial standing elements. Here, vulnerability may be in terms of loss through decay, or alteration or demolition of significant features of historic/architectural importance. Mostly at risk are buildings and especially agricultural outbuildings whose original social or economic purpose is no longer relevant to modern requirements but whose siting, plan and architectural detail are witness to important historic functions and vernacular styles. Whilst adaption to other uses is more often than not essential if the buildings are to survive, there is plainly a need for prior recording, and where possible, preservation of significant architectural and functional detail. These observations apply not only to buildings with originally, an ancillary domestic or agricultural function, but also to buildings of an 'industrial' origin such as mills.

Landforms

Under this category are included those 'natural' areas of archaeological and historic significance such as peat bogs and deposits, areas of historic woodland, and hay meadows. Peat deposits are especially significant archaeologically because of the information they contain about past environmental change. Deposits in lowland areas may be vulnerable to infilling to create more stable surfaces, or to reclamation; upland deposits, if extensive may be still vulnerable to commercial peat cutting. Historic woodlands include not only those managed deciduous woodlands, but also planted coverts and isolated trees may be the remaining vestiges of deliberate planning and layout of former parklands. Age may be a problem here and a case could be made out for replacements, especially where evidence of the original landscaping plan survives.

Place-names/Documents/Finds only

These are sites where place-name evidence, or documentary sources or casual finds suggest the possibility of historic features. The vast majority have not been subject to any searches in modern times. As a form, such sites have been excluded from the maps accompanying this report. But they represent areas of archaeological potential and would need to be considered and assessed in response to individual applications.

The need for Assessments

Assessments of the impact of land use changes upon the historic resource is now an established feature of existing arrangements with a large number of statutory and non-statutory bodies and organisations - for example Dwr Cymri, the Forestry Commission, WOAD, etc. Proposals which are subject to the Town and County Planning Acts are now extensively assessed in accordance with the Government's Planning Policy Guidance on Archaeology and Planning (PPG16(Wales)Nov 1992). Such arrangements cannot cover every eventuality and in view of the lack of systematic search and survey work, it is considered essential that individual Tir Cymen applications and schemes be the subject of similar assessment and evaluation procedures in terms of impact upon the historic environment. At the same time, there would also be value in assessing applications with a view to exploring opportunities for positive promotion and interpretation of particular features.

Appendix 1 - Check list of the principal historic landscape components, by period and nature:

Neolithic: megalithic (chambered) tombs and henges.

Bronze Age: barrows, barrow cemeteries, standing stones, stone circles and burials.

Iron Age: hillforts and other settlement sites.

Prehistoric (date unknown): burnt mounds, cairns, fields systems and settlement sites.

Roman: military camps, roads, burials, coin hoards, industrial features and civilian settlement.

Early mediaeval: early Christian monuments and burials.

Later mediaeval: castles, religious sites, settlements (including granges, farmsteads and house platforms), agricultural features (cultivation plot, pillow mounds, stockpens, dovecots and fishponds) and industrial sites (mines, quarries and mills.)

Post mediaeval: settlement, agricultural features (hedgebanked lanes, a mountain ditch together with sheep pens and washing facilities) and industrial sites (locations for charcoal burning, saw pits, lime kilns, lead mines and stone quarries, mills with leats and dams), gardens and parklands together with a range of ornamental and miscellaneous features (duck decoys, shooting hides and butts.)

Check list of the principal historic landscape components, by region:

As the features of the later mediaeval and post mediaeval periods are diverse in nature and scattered throughout the regions, regardless of their defining characteristics, they have not been listed again here. Reference should be made to the above lists for this information.

Towy Valley: stone circles, barrows, standing stones, burnt mounds, hillforts, Roman military and civilian sites, coin hoards, roads, early Christian monuments (inscribed and sculptured stones), church enclosures.

South east and north west mountain regions: stone circles, megalithic tombs, barrows, barrow cemeteries, standing stones, burnt mounds, clearance cairns, hillforts, Roman military, industrial and civilian sites, coin hoards, roads, early Christian monuments.

Mountain fringe region: megalithic tombs, henges, barrows, barrow cemeteries, standing stones, burnt mounds, clearance cairns, Roman military sites, roads, early Christian monuments.

Appendix 2 - Archaeological sites: their distribution by relief.

The records of sites within the Dinefwr district contain data on altitude for well over three quarters of the sites. The proportions of sites of various ages which lay within 50 m. bands of altitude were calculated. The results are given in Table 1. Two clear patterns emerge when the altitude of sites of various periods are considered: many of the prehistoric sites lie between 200 and 350 m. above sea level, whereas many of the Roman and later sites lie below 100 m.

Table 1: Distribution of sites with respect to altitude.
(All figures are in percentages; each column equals 100%)

m. od.	N	BA	IA	?P	R	EM	LM	PM	?	T
<=50	18	4	5	-	6	46	16	7	6	7
51-100	18	6	21	23	28	8	27	27	16	20
101-150	9	3	18	9	21	31	14	23	18	15
151-200	-	6	16	4	9	15	9	15	16	11
201-250	18	7	24	26	3	-	10	12	12	12
251-300	27	24	11	13	13	-	10	4	11	12
301-350	9	27	3	17	3	-	5	5	15	12
351-400	0	7	3	9	6	-	8	4	1	5
401-450	9	7	-	-	6	-	-	-	2	2
>450	-	10	-	-	-	-	2	3	4	4

Abbreviations:

m. od.	metres above sea level.
N	Neolithic.
BA	Bronze Age.
IA	Iron Age.
?P	Prehistoric, period not known.
R	Roman
EM	Early mediaeval.
LM	Late mediaeval.
PM	Post mediaeval.
?	Date unknown.
T	Total.

When all the sites of the prehistoric period (Neolithic, Bronze Age, Iron Age and those of uncertain date) were examined together it became apparent that over two-fifths of them lay at altitudes between 250 and 350 m. Within individual periods more complex patterns emerged. Over a quarter of Neolithic sites lay between 250 and 300 m., with the majority of sites lying below this level. Over half the Bronze Age sites lay between 250 and 350 m. above sea level with almost equal proportions above and below this. The highest sites in the region were Bronze Age, with 10% of Bronze Age sites lying above 450 m. Nearly a quarter of Iron Age sites lay between 200 and 250 m. with most of the remainder below this level.

Low lying sites were more common in the historic period. Virtually half of the early mediaeval sites lay under 50 m. with more than a quarter of Roman, later mediaeval and post mediaeval sites at altitudes of between 50 and 100 m. In virtually all of the historic periods the number of sites decreased with increasing altitude. There was one minor exception to this: a increase in Roman sites (26% of the total) was noted between 250 and 400 m.; these sites are either industrial workings or the remains of military campaign/practice camps.

In total virtually a fifth of the sites within the study area lie between 50 and 100 m. above level, a further three fifths lie between 100 and 350 m. Small numbers lie both above and below these figures. When the general pattern of relief through the Dinefwr area is noted it can be argued that there is, as might be expected, a general tendency towards the lower areas. Any argument as to the reasons for this must balance several patterns: past land use at various altitudes, the concentration of contemporary archaeological research and recent land use practices.

Appendix 3 - Archaeological sites: their distribution by soil type.

In addition to the correlations noted between specific types of sites and particular soil types in the period descriptions a wider study was conducted. Unfortunately data on soil type was available for only approximately one third of the sites in the district. Nevertheless sufficient data was available for the Bronze and Iron Ages and the mediaeval/post mediaeval periods for the study results to have a general measure of validity.

Bronze Age sites are found on virtually all types of soil; although with a tendency to be concentrated on brown podzolic soils (15% of the total) and ferric stagnopodzols (18%). Iron Age sites are found on a smaller range of soil types, with 34% of them on brown podzolic soils. In the prehistoric period as a whole (including the above two periods, the Neolithic and sites which cannot be assigned a more specific date) the brown earth and the brown podzolic soils underlay the greatest number of sites; 16% of the total lay within each region. Other soil types with more than the mean proportion of the number of sites were the stagnopodzols, the stagnogleys and the stagnohumic gley soils.

The mediaeval/post mediaeval and the mediaeval distribution patterns are much clearer. The vast majority of the first category of sites (78%) are found on the cambic stagnohumic gleys, with a slight preference for brown soils (11%) amongst the remainder. This general pattern is also found in the second category; with the figures of 50% and 25% respectively.

When the analysis is reversed and the concentration of sites (of whatever period) on individual soil types is considered it can be seen that the brown earth and brown podzolic soils underlie the majority of sites, with slightly lower frequencies on the ferric stagnopodzols, the cambic stagnogley and cambic stagnohumic soils. The presence of many of the sites, irrespective of period, on the stagnogley soils must, to some extent, be balanced against widespread prevalence of this type of soil within the district.