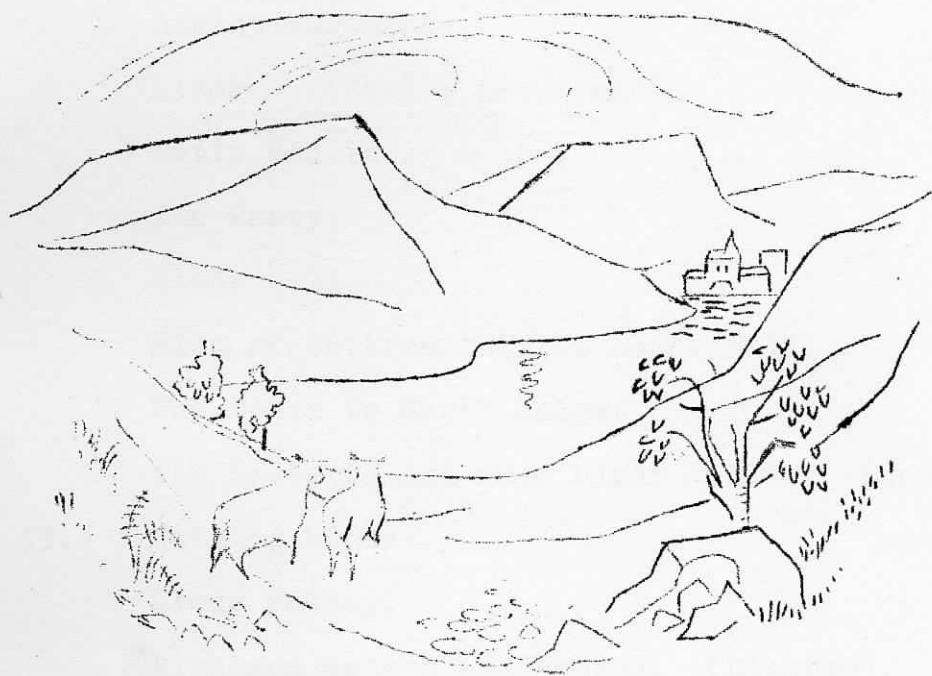


NORTHAMPTON
TECHNICAL
HIGH SCHOOL



— LLEDR VALLEY —
JULY ~ 1955

SCHOOL JOURNEY.

LLEDR VALLEY - JULY 1955.

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FROM THE HEADMASTER.

This will be the sixth educational journey of its kind from the Technical High School and I am confident that it will justify fully the hopes of scholars and the efforts of staff who have given much time and energy in making the necessary arrangements.

For our scholars it will be an opportunity to leave the familiar round of life and work here in Northampton and to visit again the Principality of Wales, a land rich in culture, renowned in song and story for the beauty of its varied scenery and the sterling qualities of its people.

I have no doubt that our boys will use eyes and ears to best advantage and that they will endeavour to extract from their visit to the Lledr Valley a maximum of useful experience.

Our school party on previous similar occasions has made an excellent impression; let it do so again. I know that you will not fail to show appreciation of the many kindnesses you will undoubtedly receive in the hospitable land of Wales.

My best wishes go with you for a happy and a profitable journey and may you return refreshed in every sense.

B. S. Howard,

ACKNOWLEDGEMENTS.

Such an undertaking as the production of this handbook has obviously entailed much labour by a considerable number of people, and the Editor acknowledges very gratefully the assistance of the following :-

Miss M. Wilkinson, Headmaster's Secretary, Northampton Technical High School, for the typing and duplication of the bulk of the material.

The Xpress Printers Limited, for binding.

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The articles, maps and diagrams were contributed by:-

Messrs. E. G. Bennett, A. Clements, P. J. Harris and E. G. Newell, Staff of the Northampton Technical High School,

and

Mr. R. Wilkes, Staff of the Northampton College of Technology.

We also record our indebtedness to the following who have made possible the arrangements for visits during the Journey :-

The Proprietor, Penmachno Woollen Mills.

The Manager, Penrhyn Slate Quarries.

E. G. BENNETT,

EDITOR.

LLEDR.

(JULY 2nd - JULY 9th, 1955).

SATURDAY, July 2nd.	Journey by coach to Lledr Valley. Departure from School at 8.30 a.m.
SUNDAY, July 3rd.	a.m. Service at Pont-y-Pant Church. p.m. Walk to Dolwyddelan.
MONDAY, July 4th.	Nant Ffrancon Pass. Slate Quarry at Penrhyn. Caernarvon Castle.
TUESDAY, July 5th.	a.m. Swallow Falls. p.m. Climb Moel Siabod.
WEDNESDAY, July 6th.	a.m. Capel Curig and Lakes. p.m. Conway Castle.
THURSDAY, July 7th.	Climbing Snowdon from Llanberis Pass.
FRIDAY, July 8th.	a.m. Penmachno Woollen Mill. p.m. Bathing at Borth-y-Gest.
SATURDAY, July 9th.	Journey back to Northampton.

DAILY ROUTINE.

- 7.30 a.m. Rising Bell.
- 8.15 a.m. Roll Call by Senior Boys.
- 8.30 a.m. Breakfast { Sunday 9.0 - Roll Call 8.45.
 { Saturday 8.0 - Roll Call 7.45.
- 9.00 a.m. Morning Prayers.
- Sick Parade.
- 9.15 a.m. Inspection of Dormitories by Duty Masters.
- 9.30 a.m. Issue of pocket money by Group Masters.
- 9.45 a.m. Assembly for Morning Programme.
- - - - -
- 1.00 p.m. Lunch.
- 2.00 p.m. Assembly for Afternoon Programme.
- 4.30 p.m. Tea.
- 7.30 p.m. Dinner.
- 9.15 p.m. Roll Call by Senior Boys.
- 9.30 p.m. Assembly for Prayers.
- Bed.
- 10.30 p.m. Lights out. Silence.

NORTHAMPTON TECHNICAL HIGH SCHOOL.

School Journey to Lledr Valley, July 1955.

The Staff Members accompanying the party :-

Mr. P. J. Harris.
Mr. E. G. Bennett.
Mr. S. Guffogg.

Prefect: R. J. Whiting.

GROUP I.		GROUP II.		GROUP III.	
Mr. P. J. Harris		Mr. E. G. Bennett		Mr. S. Guffogg	
Betts, D.W.	T4	Hobson, D.	T4	Cotter, D.W.	TT3
Dale, T.R.	T4	Hobson, G.	T4	Limbert, D.R.	TT3
Foster, J.	T4	Best, G.J.	T3	Loveland, J.	TT3
Gadsby, I.F.	T4	Cockerill, T.A.	T3	Pardoe, J.W.	TT3
Gooseman, R.W.	T4	Farey, J.A.	T3	Wood, P.G.	TT3
Kingdon, R.J.	T4	King, R.C.	T3	Stoddard, W.	G3
Johnson, P.R.	T4	Lay, A.E.W.	T3	Walden, A.	G3
Montier, P.R.	T4	O'Connor, A.E.	T3	Lawton, R.	G3
Smith, T.	T4	Willmott, T.H.	T3	Radwell, D.T.	G4
Wickes, R.	T4	Johnson, T.H.	T4	Sibley, D.W.	G4
Worrall, A.F.	T4	North, B.R.	C3	Tansley, M.J.	G4

Dormitory accommodation will be allocated on arrival at
Lledr Hall.

✓
LLEDR HALL.

The house in which we are staying is magnificently situated on the banks of the river and was built by some wealthy business person who sought rest and solitude from the hurly-burly of trade - and how well he chose!

You will see from the sketch that a tiny bridge and road lead down to the house - far too small for the coach to traverse. In front of the house is a terrace looking right down-stream and in front of this a small lawn leading to the swimming pool which has been carved out of the river bed.

Running along one side of the river is the railway which is only of local importance, consisting normally of one engine and two coaches.

The cliffs of the valley rise steeply from the grounds of the house and are covered with trees through which you are at liberty to wander.

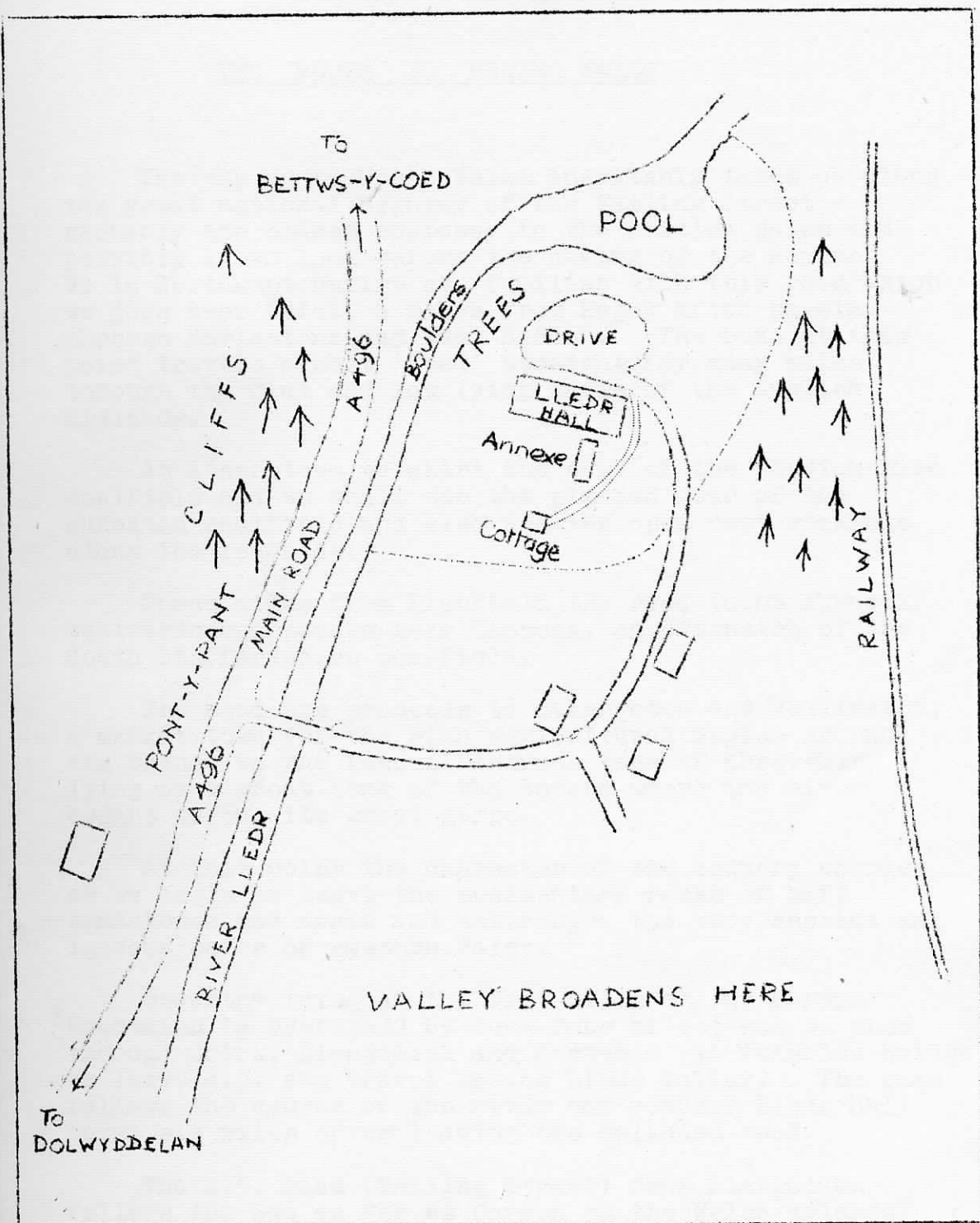
Some of the party will be accommodated in the cottage which almost adjoins the house.

You will find the lounge comfortably appointed and the dining room as good as in many hotels.

We are certain you will find the setting of the house delightful, creating for you a picture that will sometime in the years to come

"flash upon that inward eye which is the
bliss of solitude."

It is of great character, well furnished and beautifully situated in its own grounds. We must therefore at all times conduct ourselves properly in it and any instruction which may be given by the Manager or staff must be promptly and quietly obeyed for by so doing our visit will be made the more fruitful and happy.



PLAN OF ENVIRONMENTS OF LLEDR HALL.

THE ROUTE TO NORTH WALES

The way up to North Wales inevitably takes us along the great national highway of the Watling Street - probably the oldest routeway in the British Isles and possibly known long before the coming of the Romans. We in Northamptonshire are familiar with this road which we join near Crick, 4 miles from Rugby after passing through Harlestone and West Haddon. The road at this point travels almost 'dead' straight for many miles through the flat and low lying marls of the English Midlands.

At Atherstone we skirt the edge of the Warwickshire coalfield and we shall see the pithead gear of the Nuneaton coalfield and also see the open cast workings along the roadside.

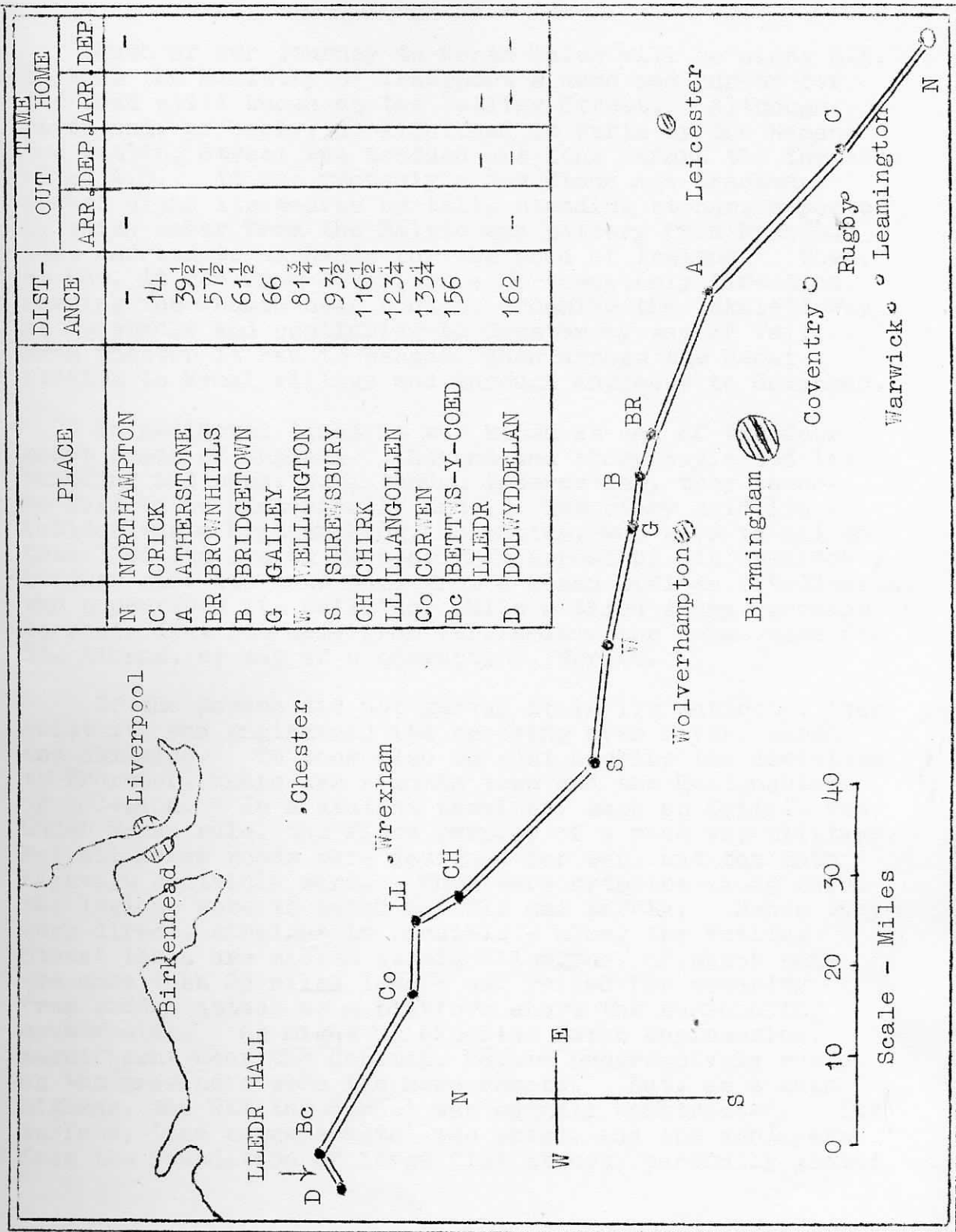
Three miles from Lichfield the road turns abruptly westwards and passes near Cannock, an extension of the South Staffordshire coalfield.

The road now proceeds to Oakengates and Wellington, a market town for the rich agricultural region around and thence to the famous fortress town of Shrewsbury lying on a great bend of the Severn where the river begins to cut its great gorge.

At this point the character of the scenery changes as we begin to leave the sedimentary rocks of soft sandstones and marls and enter upon the very ancient and igneous rocks of eastern Wales.

Oswestry lying at the foot-hills of the Berwyn Mountains is by-passed by some four miles, and we pass through Chirk, Llangollen and Corwen. At Waterloo Bridge we leave A.5. and travel up the Lledr valley. The road follows the course of the river and reaches Lledr Hall about six miles after leaving the Holyhead road.

The A.5. road (Watling Street) from Llangollen follows the Dee as far as Corwen on the Welsh uplands, where it turns westwards to Bettws y Coed, making use of the Nant Ffraneon Pass to reach Bangor on the Menai Straits and terminating at Holyhead, the ferry port for Ireland.



The Route to and from LLEDR VALLEY.

WATLING STREET.

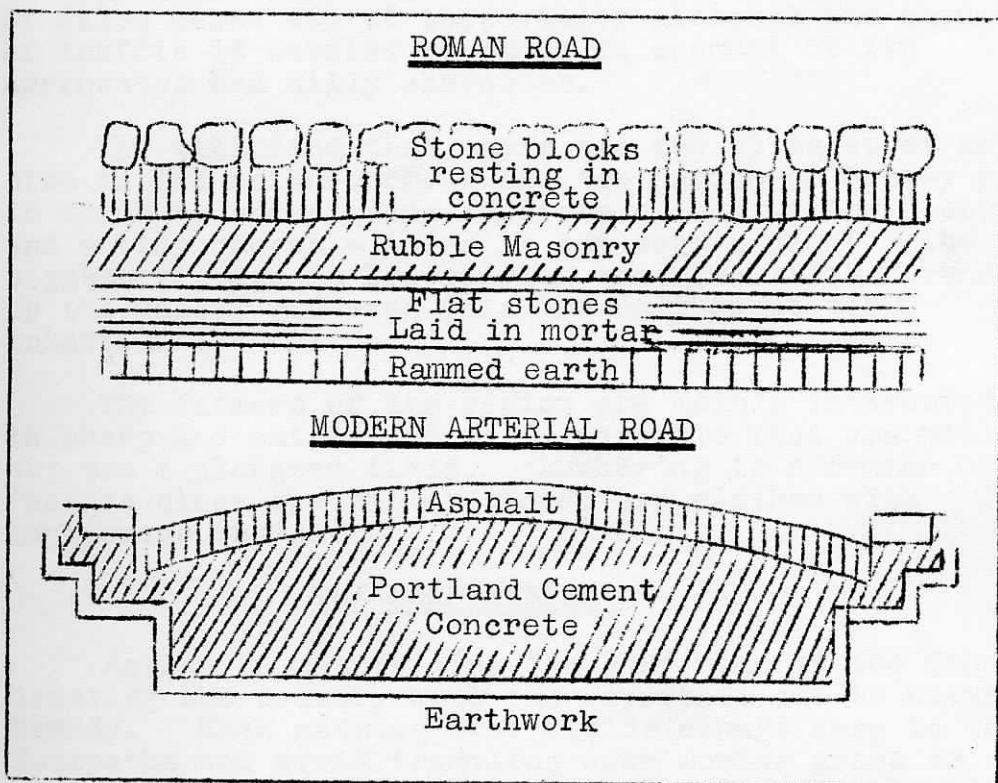
Much of our journey to North Wales will be along A.5. This is the Ministry of Transport's name and number for the road still known as the Watling Street. Although paved and, probably, straightened in parts by the Romans the Watling Street was trodden out long before the invasion of 43 A.D. It was probably a New Stone Age trackway, marked along its course by tall, standing stones, a route by which amber from the Baltic and pottery from France, were carried to exchange for the gold of Ireland. Then, as now, it ran from Dover, in a northwesterly direction, fording the Thames near London, crossing the Icknield Way at Dunstable and continuing to Chester by way of Wall. From Chester it ran to Bangor, then across the Menai Straits to Menai village and through Anglesey to Holyhead.

In mediaeval times it was known as one of the four great roads of England. Legend and story explained its building and name, but, though interesting, they cannot be said to be historically true. One story said its builder was a British king, Mulmutius, who gave to all who travelled its length freedom from arrest by his creditors; another said its name came from a Roman Officer Vitellianus, who supervised its building; while a third story, perhaps correct, drew its name from Verulamium, the Roman name for St. Albans, by way of a corruption, Werlam.

If the Romans did not survey it in its entirety, they built it, and engineered its crossing over river, marsh and hillside. To them also we must ascribe the deviation to Wroxeter, where was a Roman town and the Headquarters of a legion. In a distant province, such as Britain was, under Roman rule, the first purpose of a road was military. Not all Roman roads were designed for war, but the main highways certainly were. They were arteries along which the legions were to march rapidly and safely. Hence they were direct, straight if possible - along the Watling Street there are eleven straight lengths, of which some are more than 25 miles long - and raised for security from sudden attack as a platform above the surrounding countryside. As might be expected Roman engineering, magnificent near the Capital, became progressively worse as the provinces were the more remote. But, as a main highway, the Watling Street was soundly constructed. Its surface, 'the summa crusta' was paved, and the sublayers, from the foundation of large flat stones, carefully graded.

Probably because during the Middle Ages, English Trade was directed to the Continent, particularly France for wines and Flanders for cloth, the Watling Street suffered less deterioration than the Ermine Street, our Great North Road. The paving stones, squared and smooth-faced were removed for building, but a usable surface was left. Towards the end of the Seventeenth Century an increase in internal trade led to a public demand for Highway improvement. The Turnpike was devised when bodies of private gentlemen undertook to repair and resurface lengths of the King's Highway. A toll was charged to recoup their expenses and yield a profit; the users paid to repair the roads.

As road-users, from 1890 onwards, grew in number fresh surfaces were devised and laid to cope with heavier, faster, wheeled vehicles, but the course of the Watling Street remained the same. It is still the straight (street) way to Waeclinga (Saxon for St. Albans), it still



by-passes the cathedral town of Lichfield. Even its length is the same; to the Romans it was 220 millia passuum (thousands of steps); the A.A. gives it as 22 $\frac{1}{2}$ miles. Once wide enough to take two chariots abreast, or four legionaries in line, it can now take four streams of motor-traffic; the tyres of our coach will hum where once chariot wheels rattled and Roman feet tramped.

THE LLEDR VALLEY.

The Valley of the Lledr drains the beautiful mountain of Moel Siobod (2860 feet). It is from the summit of the mountain that can be obtained on a clear day views of all the central mountainous mass of Wales - the Glyders, Snowdon (3560 feet), the Carnedd and, in the distant south, Cader Idris (2927 feet).

The Lledr, a tributary of the River Conway, has all the characteristics of a river in its upper course: the gradient is steep, the water fast-flowing, the bed loaded with boulders, large and small, and salmon abound. Since where we are staying is near to its source the level of the waters rises very quickly after storms, sometimes as much as six feet in six hours.

The main road from Bettws-y-Coed to the west coast of Wales makes use of this valley although the amount of traffic it carries is small on account of its narrowness and hilly character.

You will find that there are few villages of any size in the neighbourhood and the parish of Pont-y-pant in which we are staying consists of only a few houses and a tiny church - there is not even a shop! The biggest village is Dolwyddelan some two miles further up the valley and even this has only about 1,500 inhabitants.

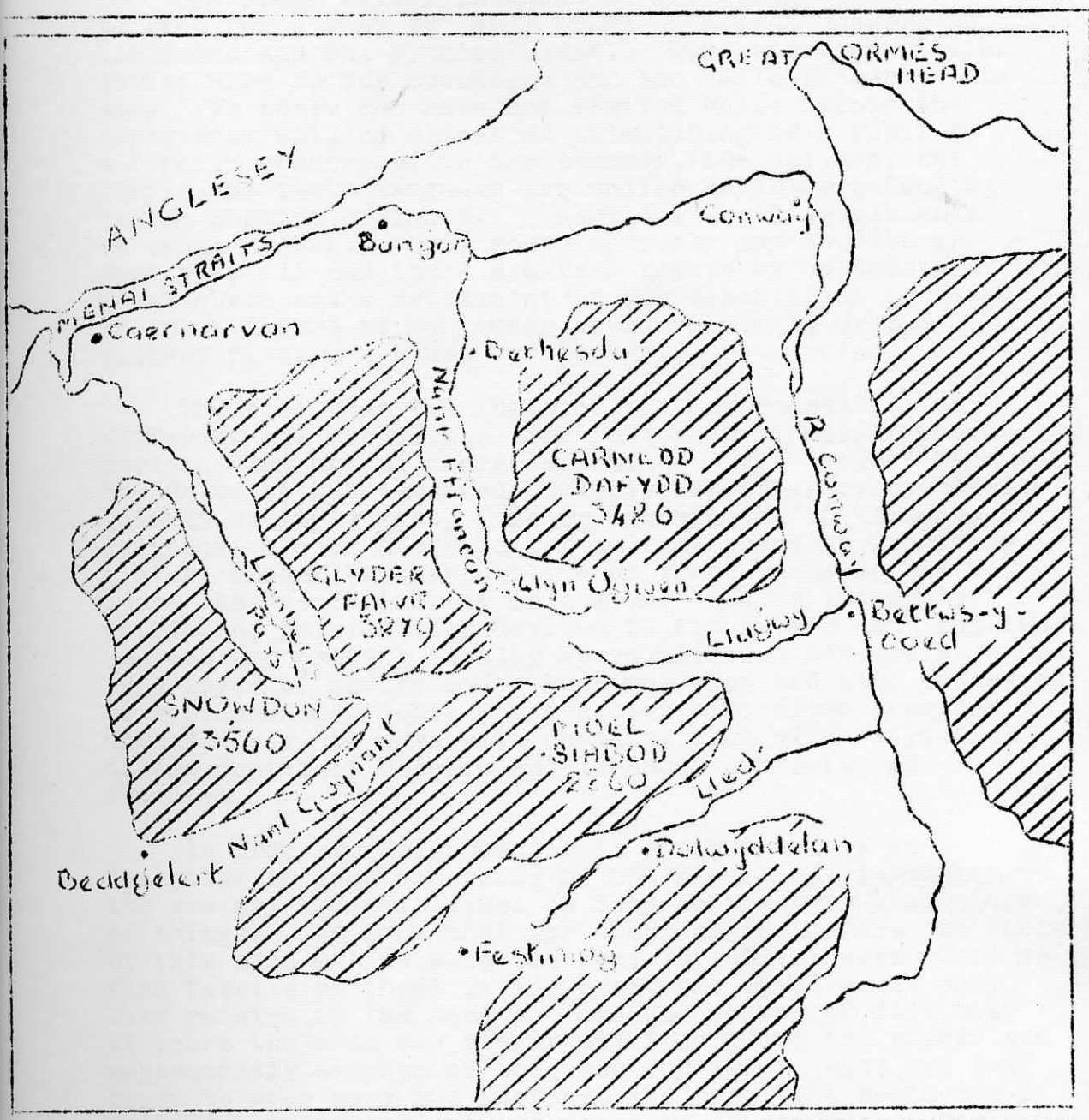
The farmers of the region are mainly interested in sheep and cattle and it is possible that you will not see a ploughed field. Lumbering is a common feature since the valley slopes are clothed with coniferous trees.

THE COUNTRYSIDE.

Assist in maintaining the good name of the School by treating the country with the reverence due to natural beauty. When passing over fields always keep to the footpaths and avoid trampling down mowing grass or standing crops. Close and securely fasten all gates. Do not leave litter about, and after an outdoor lunch see that all refuse is gathered up and carefully disposed of.

Be particularly careful with regard to fire, especially in dry weather. Do not burn used lunch paper out of doors. Many townspeople do not realise how easily disastrous heath and forest fires are started.

THE HIGHLAND MASSES AND PASSES.



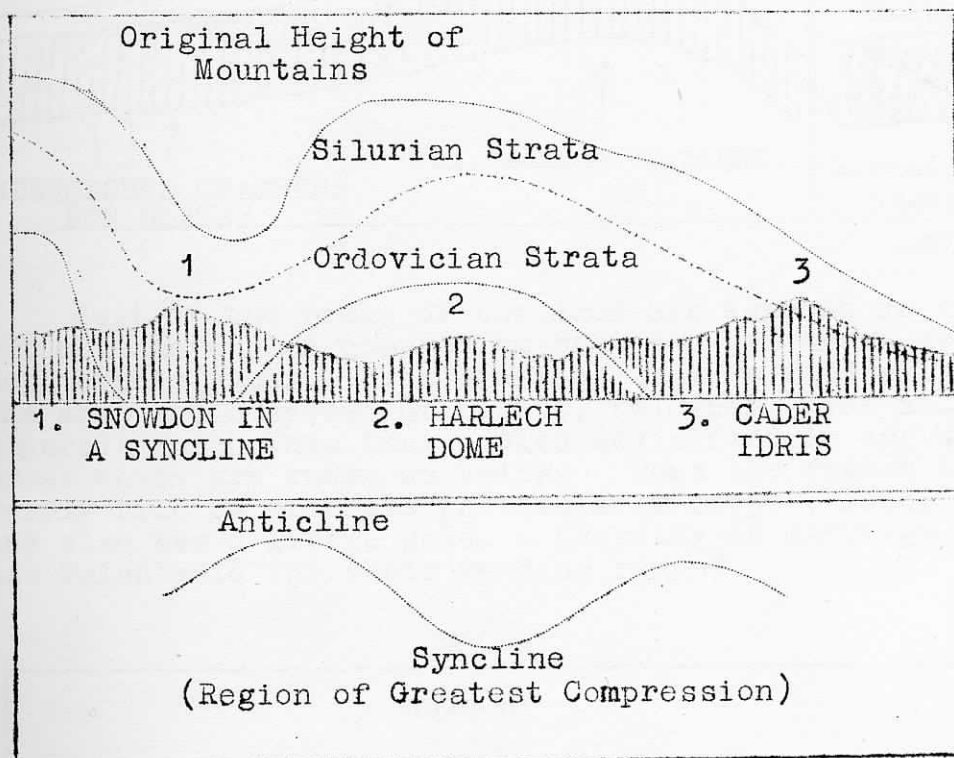
N O R T H W A L E S .

The Lledr Valley in which we are going to stay for a week is well known to holiday makers of Llandudno and the N.Wales coast. Our attention will be turned more to the mountains and the valleys than to the sea. To those who have not visited Wales before the experience will be almost as stimulating as a visit to a foreign country since the scenery, the climate, the people and their language are unlike anything belonging to the English Midlands. There are small settlements we shall probably visit where scarcely any English is spoken at all and there are vast tracts of uplands and moors where not a settlement of any description is found: in the Midlands we can never go above a mile or so without finding a house or village.

The fact that the whole of the environment is so different has produced a different race of people possessing certain very marked characteristics. The typical Welshman "tends to be hot tempered, but his temper is recovered as quickly as it is lost. He is extravagant in thought and language, a born story teller and an expert at improving a story where the bare outline of truth seems to him to leave the result lacking in colour. He is intensely patriotic, passionately devoted to his native land and its customs and prizing loyalty above material advantage. He is a lover of poetry and a keen musician and also possessed of a melancholic habit which causes him, often apparently unreasonably, to pass with rapidity from wild exaltation to the depths of despair and to acquire a sense of fatalism."

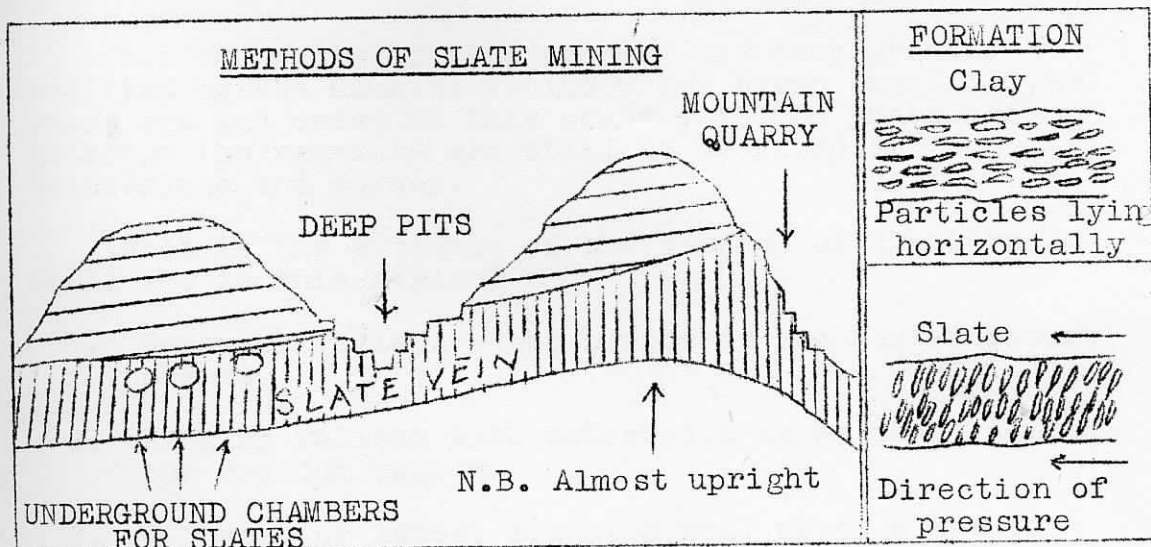
In order to understand this environment it is essential to know something of the geological formation of the scenery and this takes us back to the very beginnings of things. We know that for countless centuries the whole of this area was beneath the sea, for almost everywhere we find fossils of those living creatures which could only have existed in the oceans. In the course of millions of years the area was slowly uplifted above the waters and subsequently erosion by ice, running water, wind and sun began to wear away the surface, the resulting sediments being taken down the rivers and into the oceans, covering their floor with deposits which were compressed by the mass of water from above and the internal pressures from beneath. About 350,000,000 years ago the area was subject to volcanic activity on the ocean floors, the lava spreading out, in some cases piling up and in other cases flowing for miles. (This depended on the chemical nature of the erupted material).

The whole structure was subject to folding and compression, was subsequently uplifted above the ocean surface and the usual denudation followed. But the really curious point is that the high peaks and mountains which we see today are in effect the valley bottoms of the original landscape!

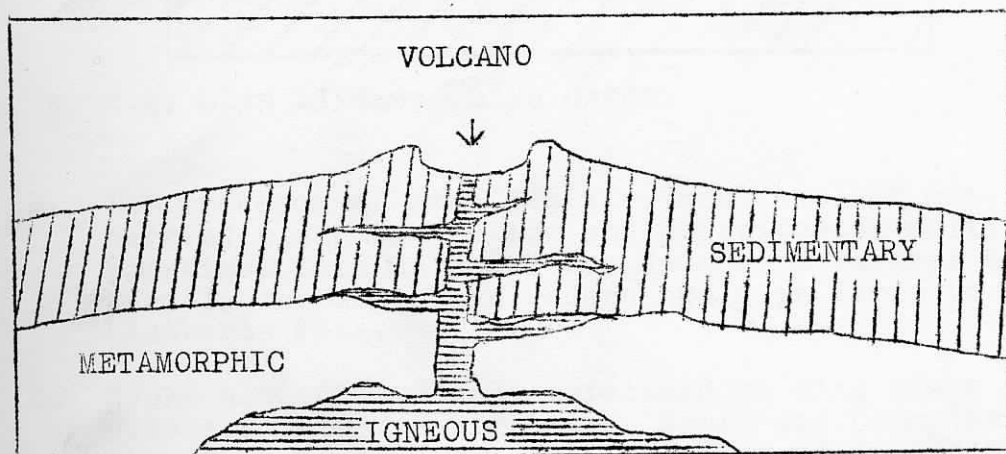


The reason is that when rocks are folded those at the crests of the folds tend to be stretched and to find relief from the strain by cracking, so that they are weakened and more easily worn away. The rocks in the trough, on the other hand, are squeezed and rendered harder and more compact; they are, in consequence, better able to resist erosion and so tend to remain as high ground when the rocks of the crests (anticlines) have been worn to lower levels. The diagram helps us to understand this. Thus Snowdon for instance, is an original valley bottom.

Some of the soft muds and sediments in the former ocean were subject to great pressure and heating and have become what we call slates, but it will be obvious from the diagram that pressure was applied from the side which explains the property of splitting easily, "cleavage".



Most of the rocks of the area are igneous or volcanic but some have been changed by heat and are known as metamorphic rocks. The granites that we find all over the area are composed of quartz, feldspar, mica and other minerals which when they cooled solidified in certain areas which are known as veins. Thus the region is fairly rich in minerals particularly copper, iron, lead and also has a little gold. (Royalty on marriage always use Welsh gold for their wedding rings).



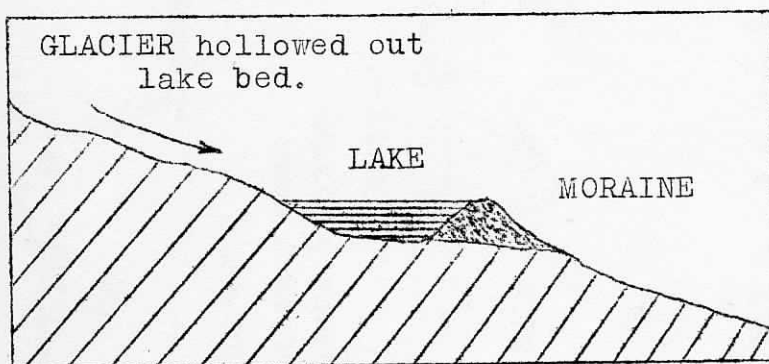
This is the rock formation we have mostly in West Wales.

We can summarise by saying that the whole area is made up of very ancient rocks which in places have been broken through by volcanic rocks but that as we go eastwards towards Llangollen and the Cheshire plain the rocks become younger and softer.

But the whole of this scenery has been greatly modified by the Glacial Period which began about 100,000 years ago and ended in this country 15,000 years ago, although the remnants are still to be found in Switzerland and Norway.

What is the evidence of the passage of glaciers we shall see in this region?

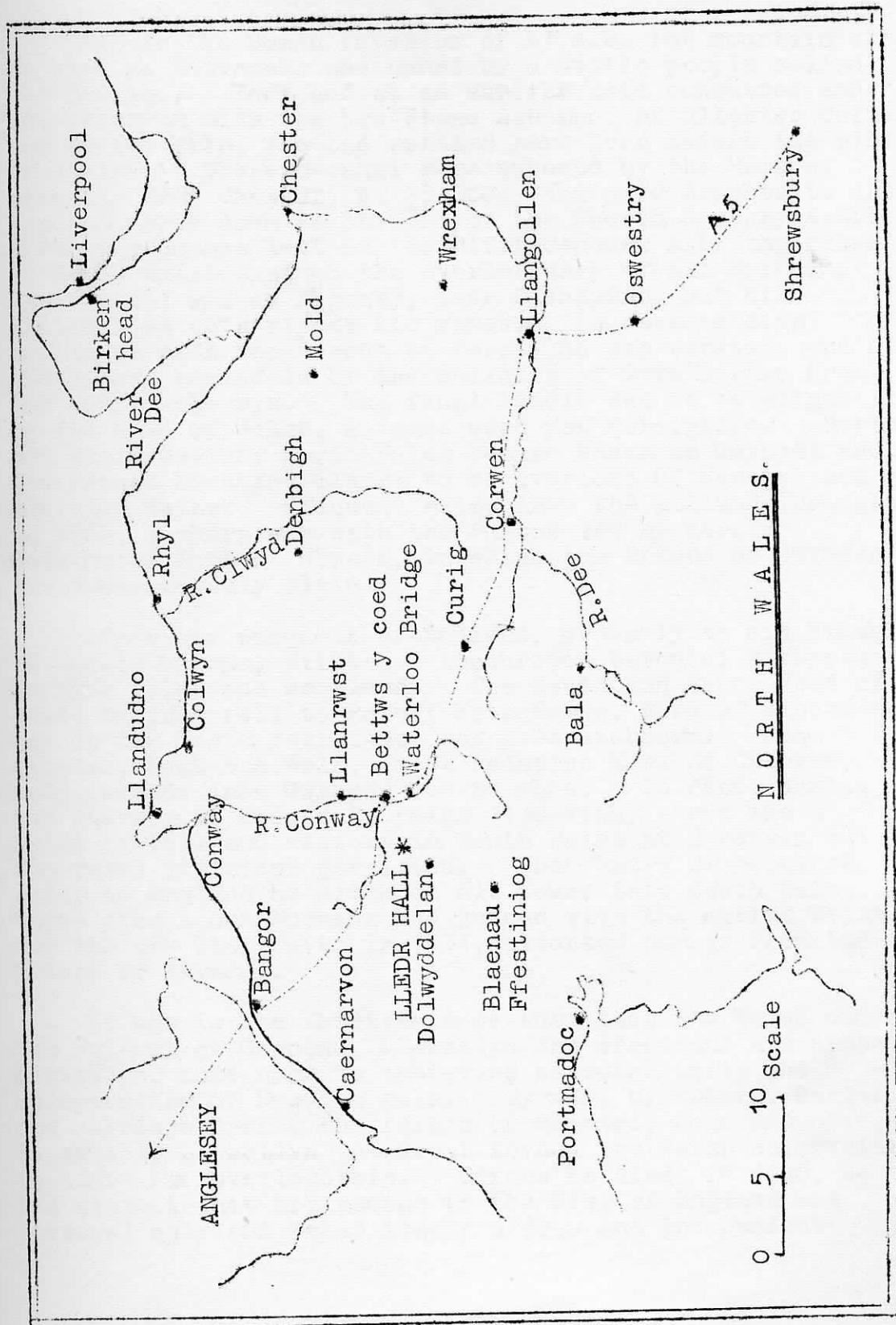
1. U-shaped valleys - the Llanberis and Nant-ffrancon passes.
2. Hanging valleys with waterfalls as we shall see in the Snowdon region.
3. Cirques, or lakes, situated well up on a mountain side and probably formed by the grinding action of a glacier :-



e.g. Llyn Llydaw; Llyn Ogwen.

4. The presence of moraines i.e. boulders and material carried along by the ice and deposited on melting. Sometimes this material has dammed up valleys to form lakes, e.g. Llyn Padarn and Llyn Peris in the Llanberis Pass.
5. Rocks are often deeply scratched showing where the glaciers passed over them. There are examples of the above to be found from the Berwyns in the east to the Snowdon range in the west.

As we wander through this beautiful scenery, let us think from time to time of the effect of the isolation upon the people. If we had been brought up in a remote region, in an area of loneliness, in a district of barren landscape and unrewarding soil we could not possibly be the type of people we are now. Thus environment plays a decisive part in the formation of character.



AN OUTLINE OF THE HISTORY OF NORTH WALES.

Before the Roman Invasion of 43 A.D. the mountain area we know as Snowdonia was owned by a Celtic people called the Decangi. They had at an earlier date conquered and intermarried with the New Stone Age men, of slighter build and darker skin, who had settled here long before the birth of Christ. These Decangi were subdued by the Romans, probably from Chester, by 78 B.C., and paid tribute to the Roman Emperor down to the end of the Fourth Century A.D. After the Romans left in the Fifth Century A.D. the ruler of North Wales claimed the overlordship of all Britain. His capital was at Deganwy, near Llandudno, but his pretensions outstripped his power. In never-ending conflicts with the Saxons of Mercia he was worsted, and his successors hemmed in by the building of Offa's Dyke from the Dee to the Wye. The final insult was to be stigmatized by the name of Welsh, a Saxon word for foreigners. During the Ninth Century North Wales became known as Gwynedd and its Prince asserted claims to be overlord of Central and Southern Wales. Frequent raids into the Midlands brought, in 1062, a sharp war with the Saxons led by Harold Godwinsson Earl of Wessex, in which the Prince of Gwynedd was treacherously slain.

After the conquest of England, probably to rid himself of unruly barons, William I encouraged baronial attempts to conquer Wales and Scotland. The South and South West of Wales rapidly fell to Robert Fitz-Hamon, Earl of Gloucester but in the North resistance was more stubborn. From Chester, Hugh the Wolf, first Palatine Earl of Chester, made inroads into Gwynedd but no more. In fact, during the anarchy of Stephen's reign 1136-1154, there was a Welsh revival and victory in South Wales at Cardigan but the fatal divisions persisted. When Henry II restored order to England he extended his power into South Wales, where rebellious Normans had joined with the native Welsh, and the new King, even in 1171, extorted homage from the Prince of Gwynedd.

It was in the Thirteenth Century that the Welsh under two Princes of Gwynedd, Llewellyn the Great and his nephew Llewellyn, came near to achieving national unity and independence of English rule. By war, by treaty, barter and marriage during the reigns of Richard, John and Henry III, Llewellyn the Great forced the Welsh chieftains to admit his overlordship. Before he died, in 1240, he had claimed that his homage to the King of England was personal only and Wales itself a free and independent

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Principality. The candle flared up before flickering out. Seeking helpers against the English King, Llewellyn, nephew of Llewellyn the Great, allied himself with the Baronial Party under Simon de Montfort against Henry III and his son Prince Edward. De Montfort's defeat in 1265 sounded the end of Welsh independence. Already South and much of Central Wales were under English rule; Gwynedd alone resisted, and kept an uneasy peace from 1264 to 1281, when Llewellyn's brother, Prince David, rose against the English.

When Hawarden Castle in Flintshire was captured in 1282 Edward I determined on the Conquest of Gwynedd. His first attack was against Anglesey, "the granary of Gwynedd"; his second was to encircle Snowdonia with a chain of strong points. Llewellyn, last Prince of Gwynedd, was slain in a skirmish near Builth-on-Wye, but Prince David was captured. To hold his new conquest Edward turned his strong-points into such castles as he had seen in the East while on Crusade in the Holy Land. It was during the rebuilding in concentric form of Caernarvon Castle that, in the Welsh House, still to be seen, was born Edward I's second son. He came to be known as Edward of Caernarvon and, for a jest, Edward I presented him to a gathering of Welsh chiefs as, "a Prince of Wales who could speak no word of English". This frivolity became reality in 1301 when Edward of Caernarvon was proclaimed the first English Prince of Wales.

In Edward I's legal and administrative reforms, Gwynedd was divided on the English model into six counties, dominated by concentric castles, and the King used Welsh mercenaries in his armies; this example was followed by Edward III during the Hundred Years War, which brought a hundred years of peace to Wales. But the disturbances in England following the deposition of Richard II in 1399, had their counterpart in Wales. Here a gentleman of Richard's Court, Owen Glendower, slighted by Richard's supplanter Henry IV raised a flame of rebellion in Wales. Until 1408 he had much success but, following earlier patterns, disunity in his ranks weakened and ruined his cause. Wales paid a high price for her rebellion and, during the Wars of the Roses, 1461 to 1485, no Welsh chieftain took advantage of England's trouble to assert his country's independence.

By 1483 the claims of the House of Lancaster were vested in a young Welshman, Henry Tudor, Earl of Richmond, whose mother was descended from Edward III of England.

From Brittany, with French help, Henry Tudor crossed to Wales. Landing at Milford Haven he marched through Wales to the Midlands of England. Here, on high ground, near to the village of Bosworth, his treason prospered, and so ceased to be treason. The last Plantaganet King, Richard III, was slain in battle. More prudent in exposing his body to danger, Henry Tudor survived, to become Henry VII. So, at last, Wales had a native Prince of Wales, who was also King of England.

In 1536 an Act of Union formally amalgamated the two countries. In the same year began the systematic spoliation of both Welsh and English Monasteries. From then onwards the Tudor rulers through their Council of Wales sought to anglicize their Welsh subjects. English was made the sole language of the law-courts. Commercial and industrial activities centred on the towns sharpened differences between English speaking towns and Welsh countryside. Only in the last 50 years has Welsh Nationalism revived and taken some steps to secure its aims.

THE CASTLES AND WALLED TOWNS OF CAERNARVON AND CONWAY.

From Prestatyn to Marfa Nevin the coast of North Wales is today one of Britain's holiday areas. Six hundred years ago it was newly conquered territory in which lived English officials, merchants and soldiers among a conquered, sullen and rebellious Welsh peasantry. The need for protection felt by these English men partly explains the building of the castles we shall see and visit during our School Journey in North Wales.

These castles, and the walled towns to which they were joined, were an essential part of the system by which Edward I and his successors held down the Welsh and tried to anglicize them. From Chester to Harlech they were carefully sited to guard rivers, roads and natural harbours. As his forces, in the campaigns fought from 1274 to 1284 first thrust into Snowdonia and, later, encircled the Principality of North Wales, Edward chose the sites of his castles. Follow his road from Chester to Harlech and you will pass the following Edwardian castles: Flint, Rhuddlan, Conway, Caernarvon, Beaumaris and Harlech.

Of these CAERNARVON was regarded by Edward I as specially important for the following reasons. In the first place, it was here that the Castle protected the natural harbour, formed where the River Seiont enters the Menai Straits. Secondly, it guarded the point at which the coast road from Harlech to Conway breaks, one arm going into Snowdonia and the other on to Bangor and Anglesey. In the third place it guarded the weakest point of the peninsula on which the new English borough, the intended administrative centre of North Wales had been built and, lastly, it enclosed a Royal Palace, comparable with Windsor or the Tower of London, from which the Principality might be ruled by a Prince of the Blood Royal.

Just as, in the twelfth century Northampton Castle and the walled town of Northampton formed a defensive unit, so did both Caernarvon and Conway Castles link with their walled towns to form fortresses capable of prolonged defence against heavy attacks.

It is probable that Edward himself instructed his Master Builder (the Architect), a Frenchman, James of St. George in the broad outline of his needs, for Edward has fought in the Holy Land where the science of castle-building was far more advanced than in the West. The Edwardian castles imposing, magnificent, depend for their strength on no natural advantages of position: Caerphilly was actually

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built on a swamp, while the strength of Harlech is apart from its situation on a craggy headland. Their strength was derived firstly, from the skilful placing of towers and turrets from whose shot-windows the defenders could pour a concentrated fire upon any point of the castle's circuit; secondly, from the elaborate defensive arrangements of the gatehouse; and, thirdly, from the system of inner wards, which enabled any part of the castle taken by the enemy, to be sealed off from the remainder of the castle, while at the same time being open to raking fire from the adjacent parts of the castle.

These castles, the concentric castles, were in fact so strong, that, until the arrival of gunpowder, they were impregnable. They have, therefore, practically no military history. Since they could not be captured there was no use in attacking them.

There is no intention in this article of giving a detailed description of Conway and Caernarvon Castles, at each of which can be bought excellent guide books that will serve as a permanent memento of your visit. But let us try to answer some of the questions most often asked by visitors to these Castles.

(i) What did they cost? Caernarvon Castle and the Town Walls cost, from 1282 to 1323 when accounts cease, as building was complete, approximately £20,000. The equivalent, in modern money of £2,000,000.

(ii) How long did Caernarvon Castle take to build? Roughly forty years, though building was not continuous throughout this period. All speed was made to complete the castle wall on the East and overlooking the River Seiont and this was done in five years, 1283-88. That part of the wall overlooking the town was completed in more leisurely fashion.

(iii) Who worked on its building? Mostly Englishmen from every county in England, directed till 1296 by a French Master Mason. Materials were drawn from the neighbourhood: stone, for example, from Anglesey; wood from the slopes of the Welsh and Pennine Hills having been transported by sea from Liverpool. And no doubt Welshmen were employed as labourers.

(iv) Who lived in it? Naturally a small garrison was permanently stationed in the Castle and this was occasionally reinforced. But, as it was intended to be the seat of Government in North Wales, here lived the Justiciar and Lord Chamberlain, their clerks, lawyers, and keepers of accounts. To the Castle's Court-rooms came the King's Justices attended by their train of lawyers and servants.

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Frequently the County Sheriffs came here for shelter or to meet with the King's Ministers. In the town were lodgings for the overflow from the Castle - skilled craftsmen, clerks - and Schools of Latinity. All were English who dwelt within the Borough: no Welsh were allowed to live there though they were encouraged to use its Courts and Markets.

(v) Was the Castle ever attacked? Yes, in 1294, when half built the Town and Castle of Caernarvon were seized in a Welsh uprising and damaged by fire. Again, in 1404 the Castle was attacked, unsuccessfully, by Owen Glendower; while during the Civil Wars between Charles I and his Parliament it was thrice besieged.

(vi) How long did Caernarvon Castle serve a useful purpose? Some parts of the Castle, and certain of the Towers on the Town Wall are still occupied; but for all practical purposes the Castle ceased to have purpose or meaning when a Welshman, Henry Tudor, born in Wales, became King of England. During the 16th century its walls lay in ruins; it had, then, a useful life of 300 years.

(vii) How thick are its walls? The thickness varies, but at certain points, foundations particularly, the walls reach a thickness of twenty feet, say seven long strides.

At CONWAY the town wall has a circuit of about one mile and twenty-one towers are spaced around it. There are three gateways each flanked by two towers and the Castle, which was built by Edward I and begun in 1284, stands in the south east corner. It was originally cut off from the town, not only by a wall but also by a deep, water-filled moat. This castle, too, has no military history until after the discovery of gunpowder and in 1646 it was besieged and taken by General Mytton commanding Parliamentary troops. As at Caernarvon, outside the present town are to be found the ruins of a Roman camp with Roman Baths a little distance from the enclosure, for at both sites Romans, Welsh and English alike have had fortified settlements.

HINTS ON PHOTOGRAPHY.

As this is an expensive hobby the amateur photographer should know the basic rules and follow them in the interests of economy.

THE CAMERA.

The Camera is not important - some of the finest photographs in the world have been taken with cameras which most people would regard as out-of-date and worthless.

The most essential and difficult art to learn is to hold the camera still. If you have a tripod, use it; if not, rest your camera on something solid. Don't jerk the trigger - squeeze it. If you cannot rest the camera on anything, stand with your feet apart, hold the camera firmly but not fiercely and hold your breath whilst you make the exposure.

Next, hold the camera level, particularly when photographing buildings. If you tilt the camera down the vertical walls in your subject will lean outwards; if you tilt it up, the opposite will happen.

LIGHT.

Light coming from the side or from slightly behind produces the most consistent results. Light from behind the camera produces flat, uninteresting photographs with no depth or life. Light almost opposite the camera produces the most striking results, but you must be careful not to let the sun shine directly into the lens.

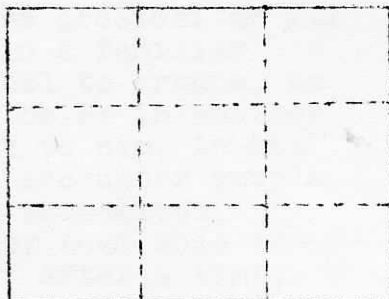
All the previous hints apply to any camera. If your camera is better than a simple box or folding type i.e. if you can control your lens opening, shutter speed or focussing, you have other things to worry about. The lens and shutter speed control the exposure i.e. the amount of light which enters the camera when you take the picture. This can be easily calculated from a set of exposure tables costing about 2s. 0d. You will save the money you expend on it in a year by spoiling fewer films.

Always check the distance to your subject and see that the camera is set to this distance. A good tip is to carry a ball of twine about 24 feet long with knots every 3 feet. This gives a quick and accurate method of measuring short distances. Anything over 24 feet you can assume as infinity - the mark like this ∞ on your focussing scale.

COMPOSITION.

This is the arrangement of your picture. Some people compose instinctively; others acquire it through years of practice. There are, however, a few simple rules that will speed proficiency.

- (1) Have one point of interest in your picture and arrange it so that if your picture were divided up like this, the point of interest would be at one of the intersections of the lines.
- (2) Do not have any line (particularly a flat horizon) which will divide your picture into two equal parts.



- (3) If you are taking a photograph of a person place him slightly to one side looking into the picture and watch your background.

A photograph of a person with a tree apparently growing out of his head is ludicrous.

Remember, the camera does not make a picture, but only sees what is in front of it: the imagination of the person behind the camera makes a picture.

C Y M R A E G.

(THE WELSH LANGUAGE)

"To the Englishman, perhaps the greatest of all strangeness is a strange language in a familiar country. After crossing the Channel to France, he expects to hear French spoken, for he is in another country. But it is always a shock to him, in his own island as he would call it, to encounter people who speak a strange language among themselves, apparently from choice, because they seem able to speak English without difficulty. After a time, however, he realises that, although he is on his own island, he is in another country. Somewhere on his journey he has crossed an unnoticed frontier."

(WYN GRIFFITH).

"How the ancient speech of the Britons, after battling for nineteen centuries against three such powerful languages as Latin, French and English has survived at all is a mystery; the fact that it is today more studied, more written and more read than ever before is a miracle."

(LLEWELYN WILLIAMS).

"There was a time when any schoolboy who let fall a single word of his native tongue was incontinently beaten by an irate teacher, empowered by law to use every means to eradicate Welsh from Wales."

(WILSON MACARTHUR).

"Welsh has survived because it represents something - a spirit, a culture, a national character, an atmosphere unlike its compeers in Scotland, Ireland, Cornwall and the Isle of Man, that cannot survive the transformation into English."

(Prof. E. W. ZIMMERMAN).

At the present time in many parts of Wales, Welsh is as much the language of the schools as English and if there are still many of the older folk who have little English, bi-lingualism is almost the rule today. In many of the places you will visit Welsh is still the speech of every-day and the home.

ON PRONOUNCING WELSH NAMES.

"Have a go" at pronouncing the Welsh place-names properly. After all, you would blush to pronounce the word "BOULONGNE" as if it were English.

Welsh place names merely look formidable. In general they are fairly easy to pronounce. Try this one:-

Llanfairpwllgwyngyllgogerychwyrndrobwlllllantysiliogogoch.

(An Anglesey place-name meaning "The church of St. Mary in a wood of white hazel near a rapid whirlpool sand near St. Tysilio's church close to a red cave").

The Welsh Alphabet.

(As in English unless mentioned).

A = Long as in FAR : short as in MAN.

B =

C = as K. Never as S.

Ch= As in Scottish LOCH. Never as in CHURCH.

D =

Dd= As TH in THE, THIS. Not as in THING.

E = Long cf. HAIR. Short cf. THEN.

F = As V in VINE.

Ff= As F in FINE.

G = As in GO. Never as J.

Ng= As in SING.

H =

I = Long as EE in FEED. Short as I in FIG.

L =

Ll= No English equivalent. Cf. TL in ANTLER.

M =

N =

O = Long cf. SORE. Short cf. HOP.

P =

Ph= As in PHONE.

R = As in HORRID. Well trilled.

Rh= Not heard in English.

S = As in SAT. Never as Z.

T =

Th= As in THING. Not as in THIS.

U = Cf. French TU.

W = Long as OO in COOL. Short as OO in TOOK.

Y = Has two sounds as heard in HONEY. ("uh" and "ee").
(cf. Welsh HYNNY).

N.B.

PONT - Y - PANT is pronounced PONT - UH - PANT
(Not Pont - ee - Pant).

BETTWS - Y - COED is pronounced BETOOS-UH-COYD
(Not Betoos - ee - Coyd).

Ll seems to be a difficult sound to make, but the following hints should get you very near to it.

- (a) prefix the liquid "l" with "t" as in "antler"
Thus LLANDUDNO = TLANDIDNO. LLYN (lake) = TLIN.
- (b) prefix the liquid "l" with "ch" sound in the Scots word "loch". Thus LLANDUDNO = CHLANDIDNO.
LLYN = CHLIN.

N.B. You can forget (a) and (b) if you put the tip of your tongue above your teeth and breathe you can't help pronouncing "ll").

Most Welsh place-names are descriptive of the physical characters or setting of the feature or spot concerned. For example :-

PONT-Y-PANT	= the bridge in the hollow.
BETTWS-Y-COED	= the chapel in the woods.
CRIB-GOCH	= the red ridge.
MYNYDD MAWR	= the big mountain.

Other names refer to historic or legendary persons, such as :-

CARNEDD LLYWELYN	= the cairn of Llewelyn.
LLYN IDWAL	= Idwal's lake.
BEDD-GELERT	= Gelert's grave.

Some names, especially those connected with historical events, with persons, or with legends, may be very old and the original associations difficult to determine, whilst, with the passage of time, names of all kinds may have been so altered that, in spite of the ingenuity and scholarship expended in efforts to explain them, the meaning of some of them is still obscure. In addition to this, many place-names have suffered severely at the hands of those who have tried to spell them phonetically without regard to their meaning. Fortunately, the majority of names we shall meet with present little or no difficulty.

The chief difficulty about Welsh is not its pronounciation but its MUTATIONS. In certain circumstances the initial letters of some Welsh words are changed or MUTATED. This means that you cannot find them, as such, in a dictionary or a vocabulary. The mutations of most frequent occurrence in the place-names of North Wales are:-

C becoming G, P becoming B, T becoming D, M becoming F, D becoming Dd, and G disappearing altogether. For example:-

CRAIG has the same meaning as GRAIG. PONT as BONT, TAN as DAN, MOEL as FOEL, BACH and FACH, DU as DDU, GLAN as LAN.

WORDS WHICH, WITH THEIR MUTATIONS, ARE OF COMMON OCCURRENCE IN THE PLACE-NAMES OF NORTH WALES :-

ABER	=	where one river joins another or a river falls into the sea : a stream.
AFON	=	river.
ALLT	=	a wooded cliff, hill.
BACH	=	little, small.
BEDD	=	grave.
BETWS	=	bede house, Chapel (old spelling BETTWS).
BLAEN	=	head, extremity (plural BLAENAU).
BRAICH	=	arm.
BWLCH	=	pass, defile.
BRYN	=	mount, hill.
CADAIR	=	chair, seat. (Also spelt CADER).
CAE	=	field.
CAER	=	foot.
CAPEL	=	Chapel.
CARN	=	cairn, heap of stones (plural CARNEDDAU).
CARREG	=	stone. (Plural CERRIG).
CEFN	=	ridge.
CELLI	=	grove, bower.
CEUNANT	=	ravine.
CLOGWYN	=	cliff, precipice.
COCH	=	red.
COED	=	trees, a wood.
CRAIG	=	rock. (Plural CREIGIAU).
CRIB	=	crest, ridge. (Plural CRIBAU).
CROES	=	cross.
CWM	=	valley. (Snowdonian CWM - amphitheatre-like hollow at the head of a valley).
DINAS	=	fortification, city.
DOL	=	meadow.
DRWS	=	door.
DU	=	black.
DWFR	=	water (also DWR)
FFYNNON	=	well, spring.
GALLT	=	wooded cliff.

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GLAN	=	a bank or shore.	
GLAS	=	green, also blue.	(Plural GLEISION).
GLO	=	coal.	
GWASTAD	=	level, smooth.	
GWYN	=	white.	
HAFOR	=	summer residence.	
LLAN	=	a church, a village near a church.	
LLECH	=	slate.	
LLECHOG	=	slaty.	
LLYN	=	lake.	(Plural LLYNNOEDD, LLYNNAU).
MAEN	=	stone.	(Plural MEINI).
MAES	=	field.	
MAWR	=	great, big.	
MELYN	=	yellow.	
MOEL	=	bare rounded hill.	
MYNYDD	=	mountain.	
NANT	=	brook, valley, glen.	
OGOF	=	cave.	(Old form GOGOF).
PANT	=	hollow ground.	
PEN	=	head, top.	
PENMAEN	=	rocky headland.	
PENNANT	=	upper reaches of a glen.	
PLAS	=	mansion, hall.	
PONT	=	bridge.	
RHAEADR	=	waterfall.	
RHOS	=	moor.	
RHYD	=	ford.	
SARN	=	causeway.	
SYCH	=	dry.	
TAN	=	under, beneath.	
TRAETH	=	strand, shore, beach.	
TWLL	=	hole, hollow.	
YSBYTY	=	hospice.	(Hospital).

NATURAL HISTORY.

The natural vegetation of a region depends on a number of factors, the chief of which are the climate, altitude, nature of the soil (which depends largely on the rocks underneath the soil), and physiographic factors such as slope, aspect and drainage.

On the character of the vegetation will depend the types of animals to be found in the given locality. The plants and animals together constitute a very complex living community, continually changing, and with its own distinctive character, determined by the interaction of all the influences acting in the locality. The study of such a living community is called "Ecology".

One of the distinctive features of our region is its altitude. This, of itself, gives rise to an example of an ecological unit difficult to find in this country, because we have only a comparatively small area of really high mountainous land. This is the so-called "alpine - arctic" community, taking its name from the fact that it resembles both the arctic regions and the Alps. The Arctic conditions are due to the high altitude. We find the same types of plants and animals in all "alpine-arctic" regions, although of course, the actual species found will be different in the various parts of the world where this type of community occurs. This last remark applies equally to the other types of ecological units, too.

In sharp contrast with the alpine-arctic region of Snowdonia and the higher, bleaker slopes of the Berwyns, North Wales possesses river valleys, contracted partly because of the difference in altitude and partly because of the difference in drainage. Between these two extremes, the gentler, lower slopes of the mountains provide a gradual transition. The area is also well studded with mountain lakes which, in themselves, provide unique ecological associations.

North Wales shares with the rest of Great Britain, a wide variety of our common plants and animals, but like most distinctive geographical regions, it possesses its own characteristic types, some of them very rare, and found only in this part of our country, others still rare, but found more widely scattered over the country or even over Europe. It is these rarities which have made the Snowdon district so popular with the field naturalist. In this short description, and on our short visit, it is these "show-pieces" which we must describe and look for, and if we are lucky enough to find them, treat with the respect due to objects of great value.

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The alpine-arctic type of community is to be found on Snowdon itself, but probably the best examples are on the mountains to the north-east - The Carneddau. This is the land above the 2,000 ft. contour, although on the bleaker slopes. The community may be found down to about 1600 ft. The typical ground covering is moor grass and mat-grass, with saxifrages, stonecrops and similar plants in less accessible places. In the higher parts, flowering plants tend to be replaced by mosses and lichens. Birds of this zone include the raven, carrion crow, meadow pipit, wheatear and ring ousel, while legend has it that the golden eagle once lived here. The wren, usually a bird of the districts where the winters are usually mild, is quite common here, for no obvious reason. Several species of insect are to be found only in this part of Wales. The most common mammal of the area is the mountain hare, but it is not a native. It was introduced here by man. On the Glyders, north-east of Snowdon, mountain saxifrage, mountain sorrel, spring sandwort and asplenium (a fern) are to be found on the basic soils (those containing lime), while the hard fern, beech fern, and butterwort are typical of the acid soils. The butterwort is interesting in that it is an insectivorous plant.

Descending the mountain slopes, we reach the regions which have been considerably affected by man's activities. It is reasonably certain that the natural vegetation of the hills below 1500 ft. was originally deciduous forest mainly alder and birch. Agricultural pursuits, particularly the grazing of animals, has resulted in the almost complete destruction of the forests. In their place, where drainage is faulty, peat bogs have developed, while grassland occupies the better drained slopes. Where the grassland has been neglected, it has been over-run by heather, bracken and gorse. Several types of grassland can be found, each having its typical dominant grass, such as fesque, moor grass and cotton grass. The most familiar animal of this region is the domestic sheep. The birds of the region are those typical of grassland in most of this country, and as is usual in this type of community, butterflies are plentiful.

The mountainous region of North Wales is dissected by numerous river valleys; the nature of the river and consequently the nature of its inhabitants depend on the slope of the valley. Most of the rivers are short, and for the main part, swift-flowing, the chief exceptions being the Conway and the Dee. The lower reaches of the rivers are usually lined by a strip of woodland. At one time oak was a familiar tree of the valleys, but it has largely been replaced by conifers, the oak having been

used for timber. The mountain ash has been extensively planted, particularly in association with man's dwellings, and even when he has deserted them and they have become derelict the mountain ash he planted remains to mark the site. The animal life of this region is even more varied than that of any of the previously mentioned; the most interesting animal is the pine marten, a rare mammal related to the weasel and polecat which are much more common. There is a wide variety of birds and insects.

The lakes and rivers provide good examples of the aquatic habitat. Although their flora contains no plants of great rarity, it is often spectacular. Water lilies, water buttercups, spearwort, musk and yellow iris provide a splash of colour in their appropriate seasons. Reeds and sedges occur in the shallow water, and grow above the surface, but the rare quillwort remains completely submerged. The trout is the common fish of all the rivers, although other "coarse" fish also occur. The Llanberis lakes contain the Welsh char, which is unique in being the only sub-species of vertibrate animal confined entirely to North Wales. The char is an alpine fish, and is thought to show a link between the alpine zone of Wales with the apline regions of Europe. How it has become isolated in this region is not understood. Of the mammals of the rivers, the otter is noteworthy.

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have out*

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