

Prepared for the Cleobury Mortimer Footpath Association

Simon Evan's Way

Features of Geological Interest - A 100 Million Year Walk

Gill Wilkinson and Brian Wilkinson, May 2006



Bridge built of Oretton Limestone on the old Cleobury Mortimer and Ditton Priors Light Railway [674 788]

Guidance Note

The route given here follows the Simon Evan's Way with the omission of the northern limb [N of Stottesdon]. The total walking distance is approximately 22 kilometres [14 miles]. In addition to eating places and shops in Cleobury Mortimer there is a pub [The Fighting Cocks] with associated shop at Stottesdon [about half way round] for a meal or provisions if required on the route but the latter is not open every day [check ahead by telephone: 01746 718270].

The walk passes through countryside beautiful at any time of the year but the geological features are most easily seen from October through to early May when the vegetation is low.

All the 'localities' of geological interest can be seen from the Simon Evan's Way and are identified by the letters A,B,C etc in the following text and in Figs 1 & 2. Grid references are given [six numbers locate to the nearest 100m and eight numbers to the nearest 10m]. The Ordnance Survey map Explorer Series 218 will be helpful to find the locations. A hand lens [magnification 8-10X] to look at detail in the rocks would be useful but hammers should not be used - there are generally ample numbers of rock fragments in the vicinity.

Some of the trail is rough/very muddy underfoot and sturdy footwear is essential together with warm/waterproof clothing.

Walkers should follow both the Country Code and the Geologist's Code.

Introduction

These notes do not describe a geological trail. Their purpose is to draw the walker's attention to points of geological interest that can be seen along the Simon Evan's Way. While some walking notes are given here it would be helpful to read these alongside the Simon Evan's Way Footpath Guide.

The geologist, in developing an interpretation of an area, acts as a detective, building up a picture of the geology based on a wide range of, often, fragmentary evidence. This will include rock exposures [type, slope, fossil content etc], fragments of stone used in the construction of old buildings, soil colour, land forms, vegetation types, springs and seepages, cores from boreholes, the nature of similar rocks elsewhere etc. Using such information a geological map of the rocks can be prepared. This will indicate, for any selected point, the type of solid rock to be expected at the surface or immediately below the layer of soil. It may also show the slope [dip] of the rocks at different locations so that any distortion due to folding of the strata is apparent. Major fault lines, where one block of rock is displaced in relation to another due to major movements in the earth's crust, can also be shown. Diagrammatic cross-sections through the layers of rock may also be prepared.

Along the Simon Evan's Way rock exposures can be small and intermittent, usually because they are covered with vegetation, but nevertheless can, together with the land forms, enable the walker to gain a reasonable insight into the geology of the area. Some of the best rock exposures are in the beds or banks of streams and rivers, however access to these may be difficult. The following rock types can be seen occurring naturally: conglomerates, sandstones, shales, marls, cornstones, cornstone-conglomerates, limestones. Others have been imported into the area [usually for building purposes or as gravestones] and these include marble, granite, gabbro, dolerite etc

A simplified geological map and stratigraphic sequence of the area is given in Figs.1 a & b and a sketched geological cross-section along a line from just north of Prescott down to Cleobury Mortimer is shown in Fig. 2. Descriptions of the formation of the different rock types are given in the brief geological history below and this is referred to throughout the following notes at the points in the walk where each type is encountered.

Following the Simon Evan's Way you will be walking over and past rocks ranging from 300 Ma to 400 Ma or more years in age [Ma means 'million years ago'] which belong to the Devonian and Carboniferous Periods.

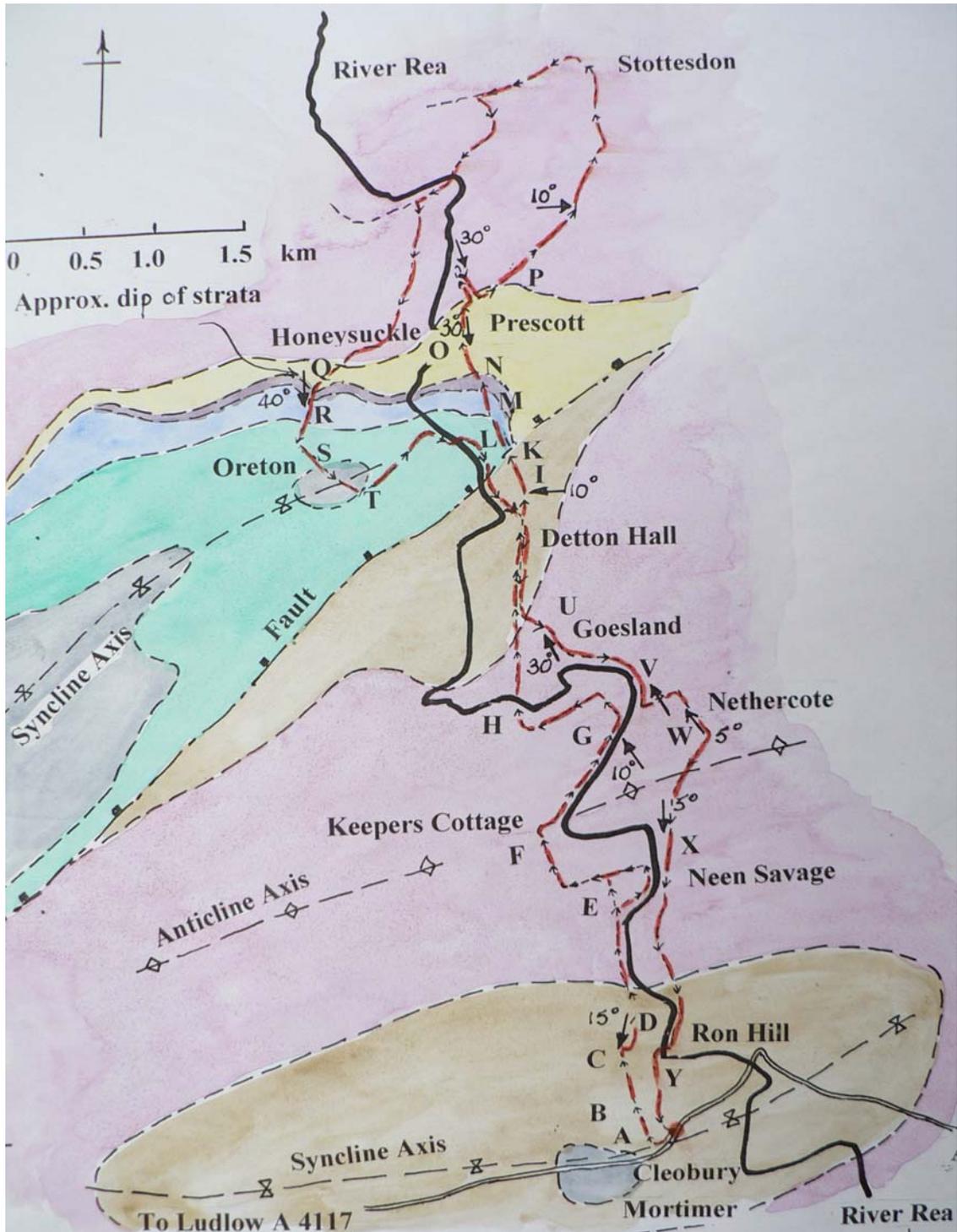


Figure 1a: Simon Evans Way – Simplified Geological Sketch Map showing Locations of Geological Interest as described in the following Text i.e. A to Y. The route is marked in red.

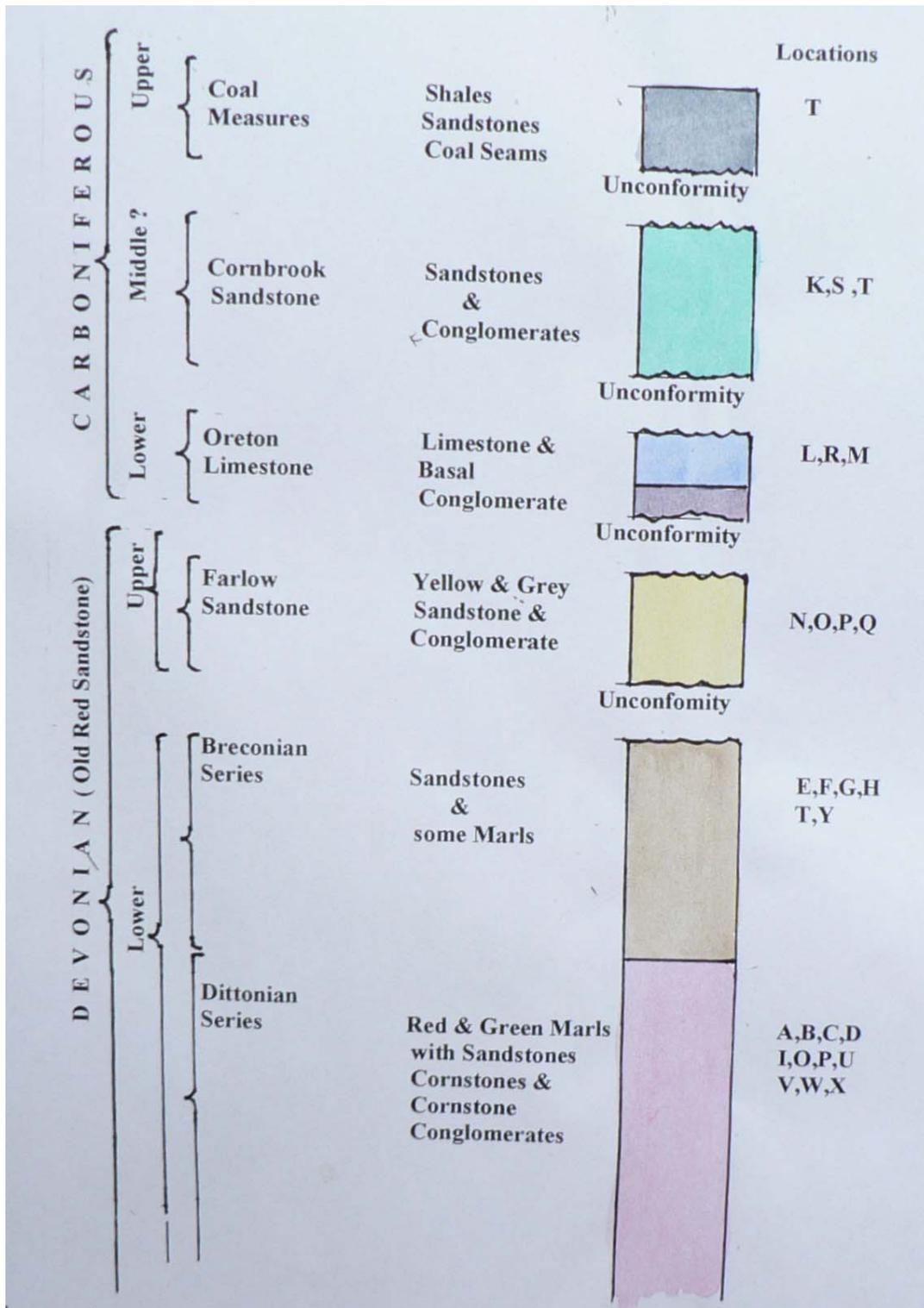


Figure 1b: Stratigraphic column used in Figs. 1a & 2

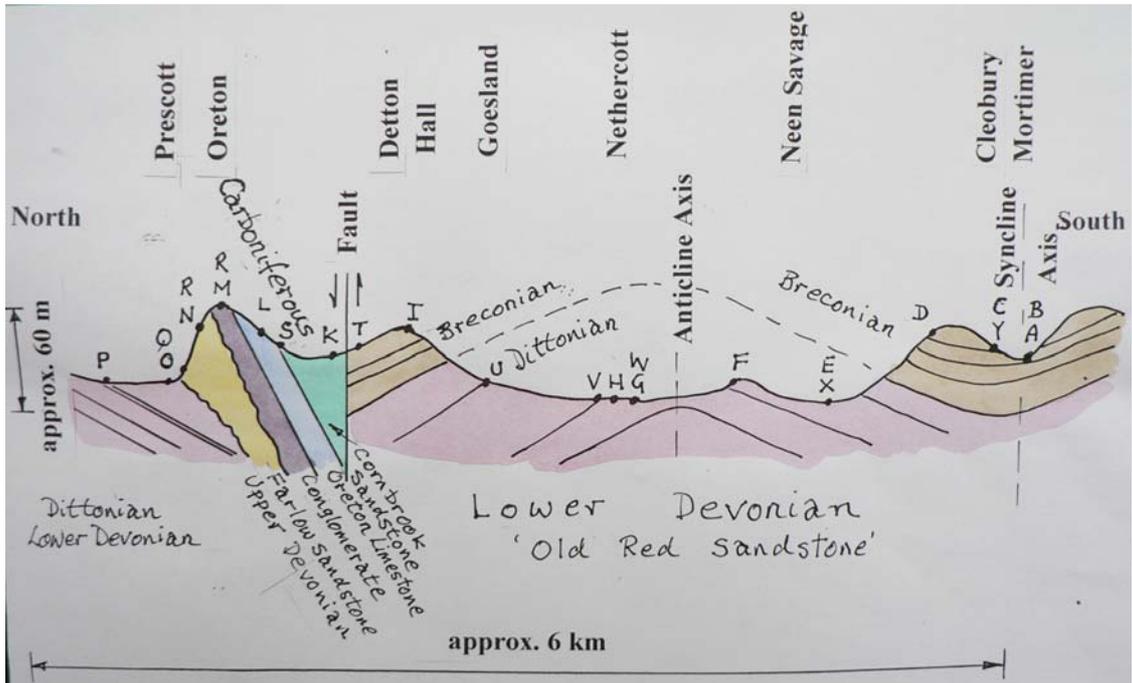


Figure 2: Simplified North-South Geological Section along the Simon Evan's Way from Prescott to Cleobury Mortimer
 Localities of geological interest as described in the text are shown A, B, C etc.
 Note: greatly exaggerated vertical scale



Figure 3: Conditions during the Devonian Period
 Mountains, flood plains, lakes, lagoons and deltas

Brief Geological History

Devonian Rocks - 'Old Red Sandstones'

During the Devonian period [350 - 420 Ma] a large part of northern Europe, including Shropshire, lay to the south of the equator, forming part of a long-vanished large continent. The nature of the rocks in Shropshire suggests that they were deposited by rivers flowing from mountains to the north west of this continent over a semi-arid area [Fig. 3] where periodic heavy rainfall led to flash floods. The rivers carried clay, silt, sand and gravels, depositing these widely in the flood plains, in lagoons and in the river-beds. Up to and sometimes exceeding 650m of these sediments were deposited in this part of Shropshire and in time these were buried under other deposits and became cemented together to form rocks. The clays became marls and mudstones, the sands sandstones [or grits if the sand grains were large] and the gravel formed conglomerates. These rocks can be red, brown, yellow, grey or greenish, the colour coming from an iron-rich cement which binds the individual grains/pebbles together. This predominantly reddish brown colour can be seen locally in ploughed fields and the Devonian rocks here are often referred to as Old Red Sandstones. Some of the sandstone surfaces show ripple marks similar to those that can be seen on sandy beaches today or may show shrinkage cracks where the silts or clays they were formed from dried out under a tropical sun.

In arid or semi-arid areas the surface soils may sometimes become saturated following a heavy rainstorm. During a subsequent dry period evaporation causes mineral salts [carbonates] to be brought to the surface to form a hard crust. This is called a calcrete or caliche deposit. Similar conditions led to the formation of such deposits during the Devonian period. These are called cornstones. They can be 2 to 3m thick. Although they are rarely seen in place along the Simon Evan's Way, large loose blocks can be found and cornstones have been quarried as a source of lime to the south of Cleobury Mortimer near Reaside Farm [675 741]. The formation of these hard, carbonate-rich, surface deposits was quite common during the Lower Devonian period, however many were broken up by flood waters and re-deposited as pebbles which then formed a cornstone-conglomerate.

The geological sequence in Fig. 1b separates the rocks of the Devonian period into Lower and Upper. Most of the rocks in this area belong to the Lower Devonian. The bottom 300m of this [called the Dittonian] is composed of red and brown mudstones with thin bands of sandstones, conglomerates and cornstones; the top 325m has much thicker, more predominant sandstone beds [called the Breconian although some geologists consider that this strata in the Cleobury area is not Breconian but simply an upward continuation of the Dittonian (Allen,1974)].

The Middle Devonian strata are completely absent. They were either not deposited in the region or were laid down and subsequently eroded before the Upper Devonian was formed.

The Upper Devonian is represented by yellow, yellow/green or grey sandstones with occasional conglomerates. These can be seen on the north-facing escarpment near Prescott.

The first very primitive land plants appear to have developed from marine ancestors during the Devonian period. Fossil plant remains occur locally but they are very difficult to find. Fossil fish remains can also be found but are not readily apparent.

Carboniferous Period

Earth movements during and towards the end of the Devonian period tilted and folded the rocks so that there are major breaks [unconformities] in the deposition of rocks between the Upper and Lower Devonian [the Middle Devonian is missing here] and the Carboniferous rocks [350 Ma] laid down afterwards. At the end of the Devonian the area became flooded by a tropical sea. The shallow sea was full of marine life and the shells or skeletal remains of this sank to the sea floor to eventually form limestones. In some parts of the UK [Peak District, Mendips, S Wales etc] these limestones are very thick but here they are relatively thin [about 45m].

Deltaic sediments built up later on top of the limestones as thick deposits of sandstones, grits and conglomerates [about 150 m]. These are present and extensive in the north of the area [see Figs.1a & 2] but are not well exposed along the Simon Evan's Way.

The deltaic sediments were in turn covered by swampy rivers, flood plains and lagoons carrying a rich vegetation. By this time land plants were well developed. During this period the land rose and fell many times leading to the deposition of sands, muds and peats which became, respectively, sandstones, shales and coals. These sequences are known as the Upper Carboniferous Coal Measures [300 - 310 Ma]. Very small patches of Coal Measure strata are present in Cleobury Mortimer and near Oreton but these are now covered either with vegetation or buildings and can't be seen.

Clee Hills and the Dhustone

From the Simon Evan's Way long views to the west are dominated by the Titterstone Clee [533m OD] and Brown Clee [540m OD] hills. Coal Measure strata are present on both of these and coal has been mined extensively in the past. Having Coal Measure strata at height is unusual as the strata are not particularly strong and generally not resistant to weathering. Their preservation is due to the protection offered by the intrusion of a thick [50m] layer of molten rock at the end of the Carboniferous period. This cooled to form a very strong layer [a sill] of igneous rock called dolerite. It is known locally as Dhustone. [Figs 4, 5 & 6]. It is blueish grey when broken but weathers to brown. Although this dolerite sill does not now extend as far as the Simon Evan's Way it is found in buildings, walls and paths along the Way since it has been, and still is, extensively quarried for use as a building material.

Since the end of the Carboniferous period [300 Ma] many other rocks will have been deposited in this area but due to weathering and erosion these have long since disappeared.

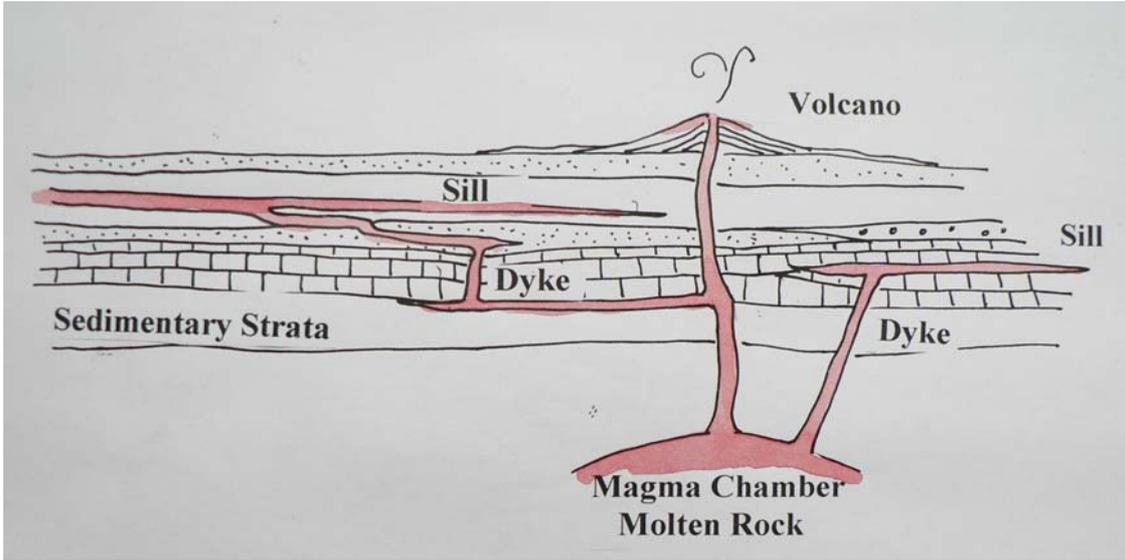


Figure 4: Sketch showing the formation of Igneous Intrusions- Sills and Dykes into Sedimentary Rocks

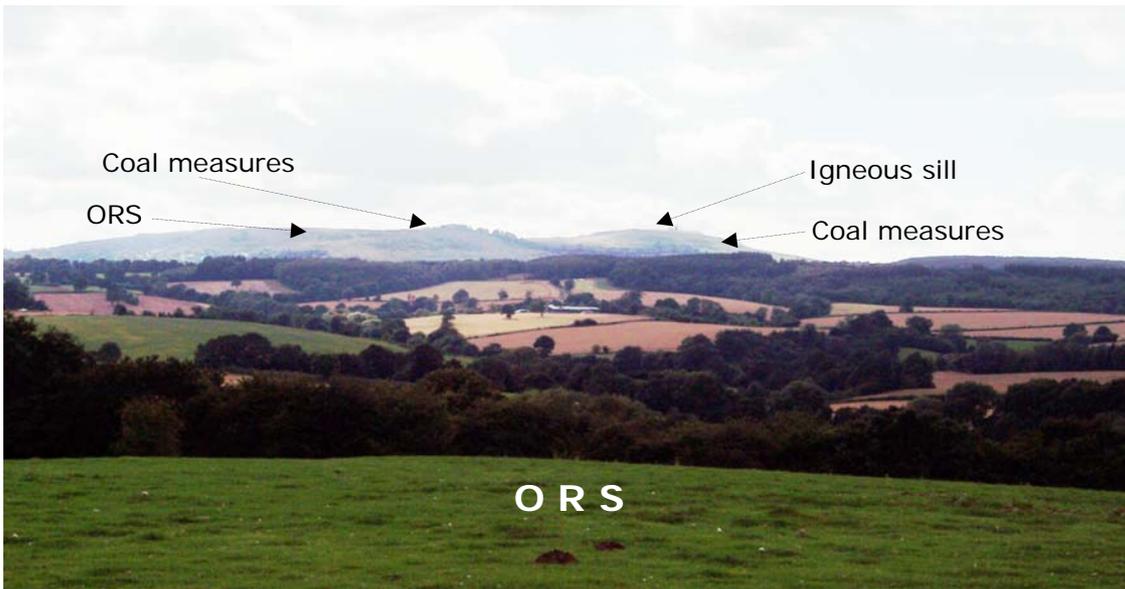


Figure 5: Brown Clee This is capped by a layer of hard igneous rock (a sill). This was intruded into Coal Measures strata which lie on Devonian (Old Red Sandstone) rocks.

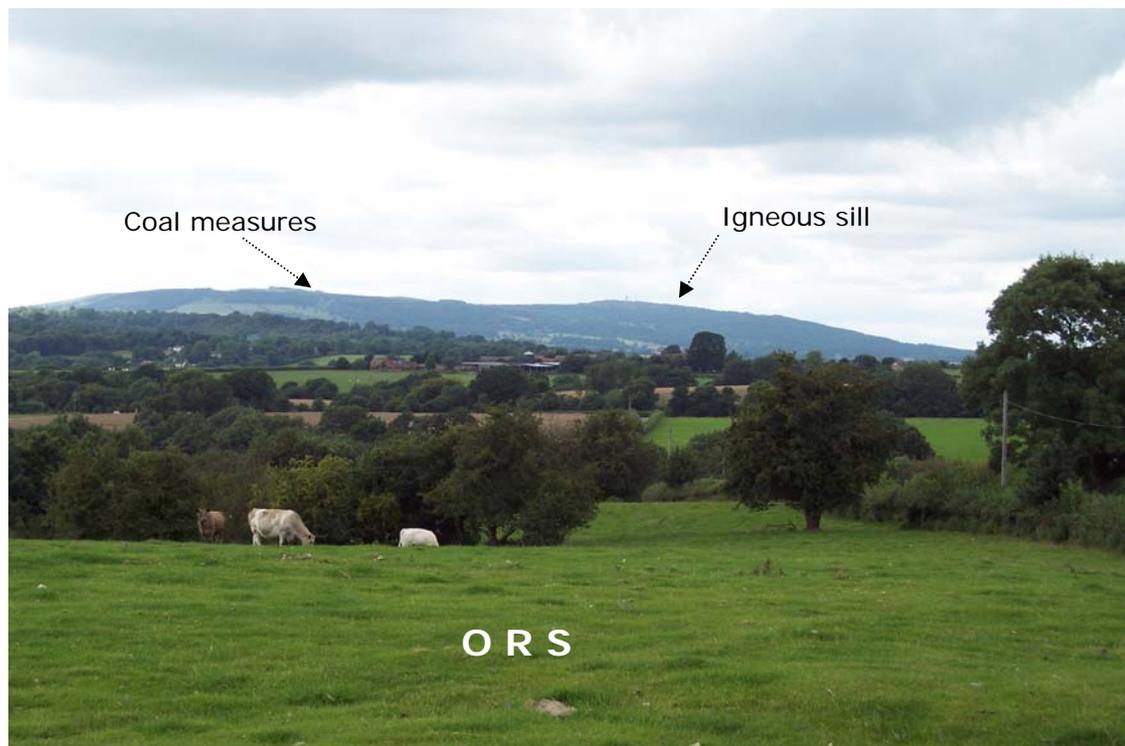


Figure 6: Titterstone Clee and Clee Hill Like Brown Clee these are capped by a hard layer of igneous rock (a sill) intruded into Coal Measures strata. The Clee area was extensively mined for coal up to the 1920s. The foreground in the photo. is formed of Devonian Old Red Sandstone.

The Ice Ages and Land Form

The upland areas of the Clee Hills survived the most recent glaciation. Major glaciations have taken place over the last 2 to 2.5 million years - the last from 120 000 to 11 000 years ago. During this time the Clee Hills and the surrounding area were not engulfed by the great ice sheets that covered Wales and western Shropshire, extending as far south as Bridgnorth. The permafrost and conditions during the melting of the glaciers led to extensive weathering and erosion of the rocks. Nevertheless the Clee Hills survived this and their Carboniferous rocks are preserved as an isolated block [outlier] 4km wide by 10km long running from the south west to the north east. The older rocks of the Devonian underly and surround the outlier. The northern part of the Simon Evan's Way crosses the end of this Titterstone Clee Carboniferous outlier [Fig. 1a].

All of the geological features and the rock types described above can be seen along or from the Simon Evan's Way.

Route from Locations A to B

From the **Old Post Office** walk west along the **High St.** At **The Wells** on the left cross the road to the **Kissing Gate** and up the path to the right of the **churchyard**. Continue up **Castle Ditch** and cross over **Childe Rd** continuing past the **Old Primary School**.

A Cleobury Mortimer - Wells and Church

The start of the Simon Evan's Way is on the Old Red Sandstone rocks which are Devonian in age [Breconian] [Figs 1a & 1b & 2]. Here they form a sequence of relatively thick sandstones interspersed with marls. Bed rock cannot be seen here but locally it has been worked extensively for building stone. There are several disused quarries nearby e.g. to the east beside the A4117 [6825 7630]; Ron Hill 500m to the north [locality Y]; Rowney Brook to the south [672 725]. Almost all the old stone walls and buildings that are passed on this section of the walk are of the Lower Devonian red, brown, yellow or grey sandstones eg the walls to the right of the kissing gate and of St Mary the Virgin.

The sandstones are more permeable than the marls and downward passage of rainwater which has seeped into the sandstones is prevented by the marls so that spring lines may be formed. Figure 7 shows a possible cause for the development of the spring at The Wells. Water from this spring used to provide a water supply for Cleobury Mortimer - the old water works can be seen just downstream of The Wells. However about 70 years ago it was considered that putrescence from graves in the churchyard could pollute the spring water and a new supply was found for the town.

The path through the churchyard passes the two or three gravestones

that are still standing. The base of one of these is made of local sandstone but others are of marble, almost certainly imported from overseas during the nineteenth century.

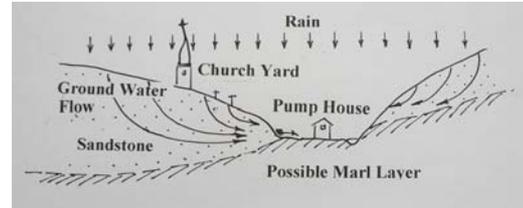


Figure 7: Possible reason for development of a spring at The Wells

B Cleobury Mortimer - Childe Rd

It is worth pausing at the top of Castle Ditch to look at the rocks in the old wall across Childe Rd and to the left [Fig.8]. There are good examples of a range of coloured Lower Devonian sandstones. These probably came from different quarries. On the top of the wall to the right there are a few pieces of cornstone-conglomerate. There is a block of dark-coloured stone in the middle of the wall. This is most probably dolerite from the Clee Hill quarries [see Brief Geological History]. The sandstones also form the wall of the old junior school.



Figure 8: Sandstones and a "stranger" in the wall on Childe Rd

Route from Locations C to E

*Continue past the new **Primary School** on your left where the road leads to a stile into the fields of **Workhouse Bank**. At the bottom of the field cross a wooden footbridge, then go right and just past **Cleanly Seat Farm** cross a stile, turn left and follow the hedge on the left to a stile at the bottom of **Green Lane**. Continue up **Green Lane** to **Musbatch Farm**. The bridleway to the north of **Musbatch** is often very muddy. An alternative route is to cross a stile to the right near the start of the **Lane** and proceed down to the bank of the **River Rea** and continue left along the river bank to **Neen Savage Ford**. Don't cross the river but turn left up the road to **Bank Top Farm**.*

C Workhouse Bank

The first exposure [i.e. bed rock in place] of the Lower Devonian can be seen in the stream bed at the wooden footbridge [6722 7642]. This is a reddish, flaggy sandstone dipping at about 15 degrees SSE. [see Brief Geological History for a description of its formation]. The geological sketch map [Fig.1] and accompanying cross section [Fig.2] show that these rocks form part of the northern limb of a large downward fold [syncline] lying beneath Cleobury Mortimer.

D Green Lane

In the small triangular patch of grass at the bottom of Green Lane [6732 7669] is a large block of stone which was probably used in the past as a stand for milk churns awaiting collection. This is a block of cornstone. Occasional beds of these cornstones and [where they have been eroded and re-deposited] cornstone-conglomerates are interspersed with the sandstones and marls of the Devonian sequence. There are also a few blocks of sandstone lying within the grassy triangle so it is possible to compare the two types of rock which

were formed at about the same time and in similar environments. The farm walls at Musbatch Farm about 400m to the N [6720 7710] contain a variety of coloured Lower Devonian sandstones.

E Musbatch to Neen Savage - River Rea

If the farm track to the N of Musbatch Farm is very muddy an alternative footpath over a stile to the right leads to the River Rea [6740 7745] in which the occasional band of reddish sandstone can be seen dipping to the south. In this part of the Lower Devonian sequence red and green marls predominate but because they are very soft they readily develop a soil cover which is then colonised by plants hiding the underlying rocks.

Route from Locations F to H

*At **Bank Top Farm** continue along the road for 200m to the first farm road on the right leading to **Keepers Cottage**. Turn right past the cottage, through a field down to the bank of the **River Rea**. Turn left and follow the river bank for about 600m to an **iron footbridge**. Turn left and follow the hedge on the right to a **large farm gate**. Go through this gate keeping the hedge boundary to the left until reaching another **farm gate**. **Reaside Farm** is to the right. Pass through this gate and follow an unpaved road. At the junction of this road turn left and down the field towards the finger post in the hedge boundary to the right. Go through the right hand gate keeping the field hedge to the left to another gate at the bottom of the field. Turn right through the gate and follow the track to and over **Titford Bridge**.*

F Keeper's Cottage

At Keeper's Cottage [6680 7790] there is an apparently old stone barn wall next to the path. The stones in the wall contain many fossil shells including fragments of *Tentaculites*

and trilobites [Figs 9a, b & c]. These are from marine creatures and the rocks in which they are found are not of Devonian age. Why are they here? The mystery is partly solved by noting that the side-wall of the barn is made from breeze blocks. During the 1990s a former owner of Keeper's Cottage rebuilt the barn. It is understood that he was a builder from Ludlow and brought in stone from the Ludlow area to complete the work. These stones are from a marine stage of the Silurian Period [443 - 417 Ma] which preceded the Devonian.



Figure 9a: The "Ludlow" Wall at Keeper's Cottage



Figure 9b: Tentaculites Fossils from the Silurian



Figure 9c: Trilobite Fossil from the Silurian

G River Rea – Keeper's Cottage to Reaside Farm

In following the track along the R. Rea occasional outcrops of sandstone can be seen in the easterly bank. There is a good exposure of flaggy sandstone in the river bed where it forms a small ridge [6722 7841]. The sandstone is no longer dipping towards the south but now dips 10 degrees towards the northwest. The track has passed over an upward fold [anticline] in these Devonian rocks [see Figs. 1 & 2].

H Titford Bridge

At Titford Bridge [6664 7867] the abutments of the old bridge can be seen beside the track. These are made of limestone with the occasional sandstone block. This limestone, from the Lower Carboniferous, is called Oreton Limestone and was quarried about 1.5 km to the north of here. The Simon Evan's Way crosses over this limestone and through one of the old quarries [see locations **L** & **R**].

Route from Locations I to N

*Once over **Titford Bridge** follow the track uphill for about 500m to join the road. Turn left and continue along the road passing **Detton Hall** on the right. Follow the road for about 100m then take the bridleway to the left around the corner. Follow this well-defined*

*track for about 1.5 km to **Prescott**. Turn right onto the road passing **Prescott Farm** on the left.*

I Detton Hall to Prescott - 1

A fine-grained, brown, Lower Devonian sandstone is exposed in the bridle path at about 300m north of the road [6670 8000]. This appears to dip at about 20 degrees to the W. However these sandstones are often current-bedded [see Figs.15, 21& 24 for examples of current bedding] so this may not be the true dip of the sandstone here.

There are lots of grey-blue and white stones in the path. This is imported material: the dark stones are dolerite from Clee Hill and the light, Oreton Limestone.

J Views of Titterstone and Brown Clee Hills

At many vantage points along the Simon Evan's Way there are exceptional views to the west of the Titterstone and Brown Clee Hills [Figs 5 & 6]. The shape of these hills reflects their underlying geology. Titterstone Clee is formed from an isolated outlier of Carboniferous rocks [4 km wide by 10 km long] which rests on older Silurian and Devonian strata. In the Oreton and Prescott areas the Simon Evan's Way crosses the eastern end of this outlier.

Towards the end of the Carboniferous period molten rock from deep in the earth's crust forced its way towards the surface splitting open the Carboniferous Coal Measure rocks to spread laterally as a 50m thick layer [Fig. 4]. This cooled to form a sill of hard dolerite rock. It is blueish grey in colour and has been quarried since the 1850s. The earth's surface has been subject to deposition, erosion, weathering and glaciation since the sill was formed about 300Ma. These processes have led to major re-

shaping of the landscape and, although most of the original dolerite sill will have been removed that at the Titterstone and Brown Clees remains as a capping to the hills. This hard layer has protected the Carboniferous Coal Measure strata lying below it and these form the upper flanks of both Brown and Titterstone Clee Hills.

Looking towards Titterstone Clee, Coal Measure strata can also be seen in the middle ground. There are four principal coal seams here of which the 'Great Coal' is approximately 1.5m thick. Coal mining in the Clee Hill area dates from the 13th century and continued into the 1920s. It is possible with good eyesight [or binoculars] to see the old spoil heaps on Clee Hill from the Simon Evan's Way.

The Coal Measures of Brown Clee rest directly on the Devonian strata but at Titterstone Clee they rest on Middle and Lower Carboniferous rocks - the Cornbrook Sandstone [locations **K**, **S**, **T**] which in turn overlie the Oreton Limestone [Fig.2].

K Detton Hall to Prescott - 2

The path crosses a small stream and steepens upwards [6656 8030] forming a noticeable east-west feature. Among the vegetation at the side of the path are a few boulders of a coarse grit stone and pieces of conglomerate. Both are from a geological formation known as the Cornbrook Sandstone which is best exposed near Cornbrook Corner on the A4117 between Cleobury Mortimer and Ludlow, where it consists of a 210 m thickness of fine and coarse-grained sandstones, conglomerates with quartz pebbles and reddish-brown and grey mudstones. This is Carboniferous in age. Unfortunately the bedrock is not exposed along the Simon Evan's Way and only loose blocks can be seen beside the path or in walls. The Cornbrook Sandstone is faulted

against the Lower Devonian rocks [see Figs 1 & 2]. The Devonian rocks to the south have moved upwards in relation to the Carboniferous rocks to the north. This fault persists along a north east-south west line. To the south west it can be traced as far as Clee Hill. The path between locations **I** and **K** passes over the fault boundary with the rocks to the north about 70m years younger than the rocks to the south.

L Detton Hall to Prescott - 3

There is a further upward steepening of the track [6650 8049] and many large limestone boulders can be seen. The path now runs over the Lower Carboniferous Oreton Limestone [well exposed at location **R**].

This limestone dips very steeply at about 30 degrees S, is about 45m thick and lies below the Cornbrook Sandstone. Fossil fragments of shells, corals and crinoids [Figs 10 & 11] may be found in the limestone blocks. Examination by hand lens shows some of the limestone is oolitic i.e. it appears to be composed of very small, spherical grains. These result from small pieces of shell being washed backwards and forwards in the sea bed currents and slowly building up layers of calcium carbonate, the principal mineral component of these rocks. At the time of its formation the Oreton Limestone was located close to the equator but has moved progressively north over the last 300 million years due to the movement of the earth's crust [plate tectonics].

The Oreton Limestone has features more in common with the thicker limestones to the south in Wales, the Bristol area and the Mendips than those to the north in Shropshire, Derbyshire and the Pennines. It appears to have been formed on the southern margins of an area called by geologists St George's Land which extended east-west across the

Midlands and over which no Lower Carboniferous Limestone was deposited.

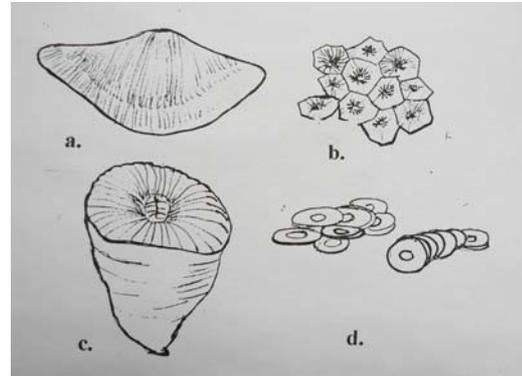


Figure 10: Lower Carboniferous fossils
a) Shells, b) Multiple Stalks Coral, c) Single Coral, d) Crinoid "Stalks"



Figure 11: Multiple Coral in the path at location R

The Oreton Limestone was very important locally and has been extensively quarried [location **R**] for use as a building stone, as lime for mortar or in agriculture and as a flux in the smelting of iron. [Coal and iron ore are found in the Clee Hill coalfield to the west]. The Oreton Limestone extends under Clee Hill and outcrops just to the south of Clee Hill village where it has also been worked. However it was much more accessible in the Oreton area and substantial quantities were transported from Oreton to the Clee area.

M Detton Hall to Prescott - 4

Continuing along the track the loose blocks of limestones are replaced by large boulders of conglomerate containing rounded and angular pebbles of quartz, quartzite and occasional jasper [6643 8065; 6640 8077] [Fig.12a]. An exposure of carboniferous conglomerate can be seen in the field to the left of the track.



Figure 12a Basal Carboniferous Conglomerate

A small detour on the left through a gateway [6641 8072] into the field leads to a good exposure of the conglomerate. However this is private land. The conglomerate dips to the south [6636 8075] [see Figs 12b & 2] and lies below the Oreton limestone. It is a shore line deposit formed as the Carboniferous sea spread over the Devonian land mass about 350 Ma.



Figure 12b Basal Carboniferous Conglomerate dipping south and forming a pronounced east-west ridge feature

Over the brow of the hill [6639 8078] the track crosses an area of very wet ground. This is probably a spring line indicating the junction between the base of the Carboniferous conglomerate and the underlying Devonian rocks.

N Detton Hall to Prescott - 5

The track then leads downhill back into Devonian strata but here the rocks are from the Upper Devonian rather than the Lower Devonian encountered so far [locations **A** to **I**].

The Upper Devonian comprises a series of grey to green flaggy sandstones, bright yellow sandstones and, at their base, yellowish to green conglomerates. The series is about 150m thick and collectively known as the Farlow Sandstone. It contains remnants of fossil fish and plants but these are difficult to find. Its classification as Upper Devonian is based on its fossil content.

Large pieces of yellow Farlow Sandstone can be found beside a field gate [6636 8085] at the bottom of a steep slope and the grey-green sandstone is in place on the east bank of the track at 6632 8094. It dips at 30 degrees south. Approaching

Prescott [6642 8116] the yellow Farlow Sandstone is very well exposed [Fig.13]. It shows current bedding [Fig. 15] and layers of rounded pebbles. It dips at about 20 degrees south. The old barn wall on the road [6639 8111] is built in yellow and grey Farlow Sandstone and conglomerate [Fig.14].



Figure 13: Farlow Sandstone



Figure 14: Farlow Sandstone – Sandstones and conglomerates in the wall at Prescott Farm



Figure 15: Farlow Sandstone – Current bedding

Route past Location O

*A short detour from the Simon Evan's Way may be made by taking the track to the left immediately past **Prescott Farm**. Continue down this track for about 200m to view an exposure of Lower Devonian Cornstone. Return up the track, turning left onto the road. On a sharp right hand bend take the left track, marked by a **Simon Evan's fingerpost**.*

O Prescott

Excavation along the track leading off to the north of the road at 6636 8137 has thrown up blocks of bright yellow Farlow Sandstone and conglomerate. Occasional fossil fish remains have been found here. Following the path down to the bottom of the hill the Upper Devonian rocks are left behind and the track passes onto the sandstones, marls and cornstones of the Lower Devonian [Dittonian]. About 1.5m of rubbly cornstone, dipping at 30 degrees south-south east, can be seen to the east of the track [6628 8141] [Fig.16]. Middle Devonian rocks are absent here so there is a time gap in deposition of about 20 million years [an unconformity].



Figure 16: Lower Devonian Cornstone conglomerate at Prescott

Returning up the track and following along the road a good example of Farlow Sandstone showing current bedding can be seen in the bank at the

side of the road opposite a finger post [6636 8116] [Fig. 15].

Route passing Location P

*Follow a well-marked path to the north east for about 1.5km, turning left where the track meets the road and continue into **Stottesdon**. At a T-junction in **Stottesdon** turn left following the road to the west for about 1 km, then fork left towards **Day House**. After a further 1 km fork left towards **Honeysuckle**. This is a deviation from the Simon Evan's Way which, beyond **Stottesdon**, continues along the former route of the **Cleobury Mortimer & Ditton Priors Light Railway** and returns over **Duddlewick Bridge, Hinton Bridge, Winterdyne, Hardwick Forge** through to **Honeysuckle** passing over Lower Devonian strata. However there are no obvious exposures of rock. For those with a particular interest in the geology this northern part of the route can therefore be omitted.*

P Prescott to Stottesdon

Leaving the road at Prescott and following the track to the north west a strong east west feature, with a marked change in slope can be seen to the south of the path [6665 8131]. This is the base of the Farlow Sandstone. It rests on the Lower Devonian rocks which the track has already crossed to the south [locations **A** to **I**]. As at location **O** the Middle Devonian rocks are missing.

The soil in the fields now shows the characteristic red colour of these Lower Devonian rocks. There are no solid rock exposures along the track until a small stream crossing at 6707 8183 where a flaggy red-grey sandstone, dipping 10 degrees east, can be seen in the stream bed.

Entering Stottesdon several old walls containing flaggy sandstones, conglomerate, cornstones and

cornstone- conglomerate can be seen. These have probably been quarried locally.

The abutments of the foot bridge near Honeysuckle [6584 8104] are built in Oreton Limestone.

Route from Locations Q to S

*Turn right along the road towards **Honeysuckle**. After 100m cross a stile on the left and proceed through a field and uphill to a stile in the next field boundary. Continue diagonally across a second field to the stile at the corner of the field. Over this stile turn left and follow the hedge line passing a quarry on the right and descend through woodland into a grassy clearing. Follow a well-defined track uphill past **Little Stocking** on the left. Turn left onto the road.*

Q Honeysuckle to Oreton - 1

After crossing the stile at Honeysuckle [6572 8095] the track begins to climb the escarpment and once again crosses on to the Farlow Sandstone [locations **N**, **O**, **P**] and over the boundary between Upper and Lower Devonian rocks. Pieces of yellow Farlow sandstone can be found in the field to the west of the track [6536 8077].

R Honeysuckle to Oreton - 2

Towards the top of the slope, just over the stile, large pieces of Basal Carboniferous conglomerate can be seen [6539 8065]. These are the same types of rock found at location **M**. Within a short distance to the west there is a ravine formed by an old quarry [6539 8062]. This is in the Lower Carboniferous Oreton Limestone [see location **L**] and here it is about 45m thick. In this quarry 2m of massive limestone lie over 3m of flaggy limestone which in turn covers 10m of another massive limestone, all

dipping at about 40 degrees south (Fig.17). These are difficult to see from the track but access to the full quarry face would involve climbing a fence and entering private land - not recommended.

Fossil shells, corals and crinoids may be found in the limestone pieces beside the path [Fig. 10]. A nice fossil coral lies in the path just 3m over the stile [Fig.11]. Please leave it in place for others to appreciate.

The quarry rock face shows signs of the vertical drill holes used in the blasting out of the stone. It is not known when quarrying ceased. This is one of several quarries in the Oreton Limestone running to the east and west of Oreton [Fig.1].



Figure 17: Oreton Limestone dipping steeply south exposed in an old quarry.

The track leads down the dip slope of the limestone [Fig. 2].

S Oreton

At the bottom of the slope the track crosses a grassy clearing. Here the Oreton Limestone is overlain by the Cornbrook Sandstone [location **K**]. The junction between the two runs east west along the line of the clearing. There appears to have been a small quarry into the Cornbrook Sandstone in the dell to the east of the track at 6537 8045. The track climbs the hill

[formed from Cornbrook Sandstone] and blocks of sandstone and conglomerate can be seen in the wall and building to the left [Fig.18] [6531 8037]. The small wall to the right is built in Oreton Limestone.



Figure 18: Cornbrook Sandstone in the wall at Little Stocking

Locations T to V

*Simon Evan's Way continues along the road past the **Post Office** on the right and almost immediately turns left on a downhill track towards **Factory Farm**. Bear right past **Factory Cottage** then down the lane passing **Reaside Cottage** on the left. Bear right along the riverbank to cross an old iron bridge over the **River Rea** [not the private wooden bridge]. Continue along the track following the river bank for about 800m. Turn left at a fence line on the edge of woodland climbing the steep slope to the road. Turn right following the road past **Detton Hall** for about 700m to **Goesland**. At a dip in the road look for a fingerpost to the right and pass through a kissing gate along a well-marked path keeping **Goesland Cottage** on the left. Pass through the Cottage's orchard into an open field. Cross the field towards a fingerpost on the far left and so to the river bank. Follow the bank for about 300m then turn sharp left at a field boundary climbing steeply through fields [passing over an old railway line] and*

turn right on to the road near **Nethercott**.

T Oreton to Factory Farm

The route from Oreton to Factory Farm passes over the Cornbrook Sandstone but there are no solid rock exposures visible. There are, however, many loose blocks by the roadside and in the walls of buildings.

An old brick kiln [Listed Building] (Fig.19) can be seen to the west of the road at 6530 8035. This is the last remaining of several kilns which occupied this site. The clay for the brick making was excavated from a small open pit at the rear of the site and also apparently from adjacent fields. Clays for brick making are not present in the Cornbrook Sandstone and it is considered that the clays may be part of an easterly extension of the Upper Carboniferous Coal Measure strata. A small spring in front of the kiln discharges water containing bright orange iron hydroxide typical of Coal Measure outflows.



Figure 19 Old brick kiln at Oreton

Following the track past Factory Farm and along the eastern bank of the R.Rea a small stream is crossed at 6645 8005. At about this point the track crosses the line of the fault

which brings lower Devonian strata into contact with the Lower Carboniferous Cornbrook Sandstone [see location **K** and Figs 1 & 2], although the contact cannot be seen here .

Red and grey Devonian sandstones can be found in the path and the river bed and in the bank sides [6666 7983], where the path turns away from the river and climbs towards Detton Hall. Again the red soils suggest the presence of red sandstones and marls.

U Goesland

About 2m of red flaggy sandstone overlying 0.5m of conglomerate are exposed in the road cutting at 6677 7915 just before Goesland. They can also be seen in the bed of a small stream beside the road where they form a small waterfall (Fig.20). These are Lower Devonian [Dittonian] rocks and dip at about 30 degrees north west. They lie on the northern limb of a major upfold [anticline] [see Fig.2].



Figure 20: Lower Devonian Sandstone at Goesland

V Goesland to Nethercott

The track along the eastern bank of the R. Rea passes close by a small weir where red sandstones can be seen [6737 7881]. Here, about 100m to the east of the track, an elegant bridge of the former Cleobury Mortimer & Ditton Priors Light Railway can be seen through the trees (cover picture). It is built from Oreton Limestone [see location L]. About 100m along the track the R. Rea has cut into the hillside [6739 7873] and a long low cliff of red flaggy sandstone, dipping to the north west, is exposed. These rocks show current bedding [see Figs 10 & 21].



Figure 21: Current bedding in Lower Devonian above the River Rea at 67397973

Route from Locations W to X

*Follow the road past **Nethercott** and after about 200m take the right fork and continue to **Neen Savage**.*

W Nethercott

At the top of the track, before the Nethercott road, there is another spectacular view towards Titterstone and Brown Clee Hills [see J].

Just before Nethercott Farm is reached 3m of soft flaggy sandstone, dipping 5-10 degrees north west, is exposed in the roadside bank [6767 7870]. There

are loose blocks of conglomerate on the verge. One of the farm building walls adjacent to the road stands on 0.6m of grey cornstone conglomerate within red flaggy sandstones [6767 7863] [Fig. 22].



Figure 22: Lower Devonian Cornstone conglomerate and marl at Nethercott

X Neen Savage

In the cutting approaching Neen Savage [6756 7781] 2m of flaggy, current-bedded sandstone overlying a thin bed of conglomerate is exposed. These beds dip 5 degrees south whereas at Nethercott [W] they dipped to the north west. Thus from Nethercott to Neen Savage the road has crossed the axis of the upfolded rocks and these strata are now on the southern limb of the anticline [see Fig. 2].

Simon Evan's Way passes the church at Neen Savage [6747 7734]. The church is built mostly of the local

Lower Devonian sandstones with the tower mainly in a soft red sandstone. Some of the cornerstones of the tower have weathered and been replaced with a white/yellow gritstone of unknown, but not local, origin [Fig. 23]. The knave is built in green and brown sandstones, conglomerates and cornstones, probably originating from different local quarries to those used for the tower. The very old gravestones were made from local sandstone, the less old are mainly of marble, probably from overseas. More modern gravestones in the churchyard are made from a wide range of rock types - granite, gabbro, marble, slate etc but none of these are local stone.



Figure 23: Neen Savage Church built in lower Devonian sandstone. Corners replaced with non-local gritstone

Route from Locations Y to A

*Having passed the church at **Neen Savage** follow a dirt track going right off the road for about 1km. Cross a footbridge over the **River Rea** turning left on to the road. Climb **Ron Hill***

*proceeding down **The Hurst** and so back to the **Old Post Office** in **Cleobury Mortimer**.*

Y Ron Hill

Climbing up Ron Hill and away from the R. Rea a large disused quarry can be seen to the east of the road [674 763]. The quarry face shows about 10m of a massive sandstone with marked cross bedding [Fig. 24]. The sandstone forms a strong feature to the east and west. This rock is towards the top of the Lower Devonian, Breconian, series where there is a greater predominance of thick sandstones than in the underlying Dittonian strata.



Figure 24: Massive sandstone in the Lower Devonian – quarry at Ron Hill. Note the current bedding.

Returning to the start of the Simon Evan's Way you have walked over rocks spanning 100 million years of the earth's history.

Maps and References

For those wishing to consider the geology along the Simon Evan's Way in more detail reference should be made to:

British Geological Survey 1967 Map *One Inch Geological Sheet 166 Church Stretton* pub. HMSO

British Geological Survey 1976 Map *1:50 000 Geological Sheet 182 Droitwich* pub. HMSO

Allen, J.R.L., 1974 *Sedimentology of the Old Red Sandstone [Siluro-Devonian] in the Clee Hills area, Shropshire*. *Sedimentary Geology*, 12(2), 73-167

Ball, H.W. (Harold) & Dinley, D.L. (David), 1961. *The Old Red Sandstone of Brown Clee Hill and the adjacent area*. *Bulletin of the British Museum (Natural History), Geological (Palaeontological) Series*, 5(7), 177-242.

Dinley, D.L. & Gossage, D.W., 1959. *The Old Red Sandstone of the Cleobury Mortimer area, Shropshire*. *Proceedings of the Geologists' Association*, 70, 221-238.

Rosenbaum, M.S. & Wilkinson, W.B., 2005 *Geological Trail for Titterstone Clee and Clee Hill*. Shropshire Geological Society Special Publication, printed by Scenesetters, Bucknell SY7 0AL, UK

Acknowledgements

The authors wish to thank Bill Duley for initially suggesting the project and Kate Wilkinson for photography and presentation.

Disclaimer - The information contained in these notes has been prepared following a summary of the geological literature of the area and visits to all the locations described. Its sole aim is to give walkers following the Simon Evan's Way some insight into local geology. It should not be used for any other purpose. The footpath notes are solely for guidance and the authors cannot accept responsibility for errors.

COPYRIGHT Gill & Brian Wilkinson 2005