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## Chapter 21 Detail of the Old Red Sandstone

A convenient arrangement for description will be:

The coast, from north to south

The Coed-y-gell escarpment

The Penrhoslligwy plateau

The base around Bodafon Mountain

The narrowing tract from Bodafon to Llangefni

Trwyn-cwmrwd

The sections, (Figure 275), (Figure 276), (Figure 277), (Figure 278), (Figure 279), (Figure 280), (Figure 281), (Figure 282), (Figure 283), (Figure 284), (Figure 285), given in Chapter 20, and also (Figure 154), (Figure 155), (Figure 156), (Figure 157), (Figure 158), (Figure 296) should be referred to.

### The Coast

On the little knoll at the river's mouth are easterly and northerly dips, probably due to faults of which there is evidence along the estuary. The lowest beds here visible are well bedded sandstones<ref>Throughout this chapter rocks may be taken to be red if their colour be not mentioned.</ref> and muds, with a thin grey limestone full of small pebbles of local members of the Mona Complex and dark Ordovician grits. Then comes very massive, yet bedded cornstone, rudely cleaved, and not very calcareous; after which sandstone and grey pebbly limestone, in beds about six inches thick, alternate for a yard or two, followed by massive cornstone, in which are some thin flaggy muds and a brown limestone with geodes of dolomite. The beds at the north end of Traeth yr Ora must be nearly on the same horizon as those close to the river's mouth, for the strike bends round. They are well bedded sandy muds ([E10299](#)) [SH 489 887] and analysis, ([E11398](#)) [SH 489 887] with three cornstones of the type regarded (p. 582) as being due to contemporaneous erosion, containing rose-coloured oval bodies in a greyer matrix ([E10436](#)) [SH 489 886] well bedded and about two feet thick each, whose junctions with the nmdstones are sometimes quite sharp, sometimes transitions. They pass up into massive cornstone.

At the south end of the smooth sand and low dunes of Traeth yr Ora the first thing seen is an isolated mass of conglomerate of Carboniferous type, which may not be *in situ*. The section is now continuous as far as the little cove north of Porth-y-môr, and the succession here given will convey an idea of the composition of this part of the series.

	Feet
13. Light brown limestone	about 1
12. Well-bedded purple sandstones, with courses of cornstone	about 32
11. Grey limestone	about 4
10. Cornstone, very nodular	about 20
9. Grey massive limestone ( <a href="#">E10434</a> ) [SH 492 884], ( <a href="#">E10300</a> ) [SH 491 884]	about 10
8. Calcareous mudstone; passing up into cornstone	about 5
7. Massive cornstone ( <a href="#">E10435</a> ) [SH 492 884]	about 50
6. Alternations of brown sandstone and cornstone	about 20
5. Massive calcareous brown sandstone	about 4
4. The disturbed bed	about 1

3. Brown sandstone, well bedded	about 7
2. Yellow calcareous beds, pebbly in places	about 5
1. Yellow and red fine sandstone	about 4
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The bed (No. 4) is that of (Figure 281), pp. 582, 585. The top of the massive cornstone (No. 7) is hummocky or domed, and the overlying mudstone fills up the depressions. In it cleavage is seen for the first time since leaving the river's mouth, and it is general hence to Lligwy Bay. In No. 8 there is at first more muddy than calcareous matter, but the lime increases upwards, though not steadily. At its top there is a very rapid increase, and in the thickness of three feet the rock becomes a reddish limestone with mudstone strings in all directions. In another three feet it is a grey limestone with grey sandy strings, and finally the solid grey limestone that was analysed [\(E10300\)](#) [SH 491 884], with faint lines of shearing [\(E10440\)](#) [SH 492 884]. The change from this to red nodular cornstone (No. 10) is quite sudden, but muddy parts of the latter pass down into deep fissures of the limestone. In this cornstone the vertical growth of the nodules is better seen than anywhere else. The passage to grey limestone is again gradual, though rapid, and its top again sharp and well defined. This limestone, though thinner than No. 9, has a larger surface outcrop. The sandstones (No. 12) are quite normal, and — some of their junctions with cornstone so sharp as to be well seen even in a hand-specimen.

From the south end of the secluded sandy beach of Porth-y-môr there is a continuous section, interrupted only by narrow gaps, all the way to Lligwy Bay. The first exposures show (Figure 279) lenticular beds on a small scale very clearly. Over these is a massive cornstone, in which the relations of the cleavage to its different elements are well displayed. Cornstones are now becoming fewer, and on the south side of Porth-y-môr (Plate 34) we may be said to reach the summit of the calcareous portion of the series. Rather fine purple sandstones and sandy micaceous flags, with a few thin cornstones and subordinate calcareous beds, occupy the remainder of the sea-section..

The dip steepens rapidly as we pass beyond Porth-y-môr, until in the little cove south of it the beds become vertical. They remain so for some 65 yards, and then the dip lowers to 40° or 30° as far as the headland at the turning into Lligwy Bay, where there is a synclinal axis, the beds rising in the opposite direction and dipping north at angles of 20° or 30° to the end of the section. From Porth-y-môr to the synclinal axis the relations of the cleavage (Plate 34) and (Figure 285) *a—e*, can be studied better than anywhere else, the sliced specimens described on p. 586 [\(E10438\)](#) [SH 494 879]—[\(E10439\)](#) [SH 493 877] having been taken from here. Its sweep round with the rise and fall of the dip of bedding is very striking. A few coarser sandstones are unaffected by it. The sandstones [\(E10437\)](#) [SH 493 876] are bedded and laminated, with frequent finer mudstones between, some of which are calcareous. The over-folding and thrusting (Figure 282) (Figure 284) is in the part that looks on to Lligwy Sand. Finally, red flags are to be seen, rather obscurely, close to the dunes, in a stream-bed some 200 yards west of the mouth of the Lligwy river.

The cliffs of this Old Red Sandstone coast are nowhere lofty, all being less than 30 or 40 feet in height; but the exposures are very clear and good.

## The Coed-y-gell Escarpment

The lower beds are obscured by dense bush, and whether those below the bend in the lane west of Penrhyn, which are sandstones with lenticular cornstones, are on the same or a slightly lower horizon, is uncertain. Near Pentre-eirianell are cornstones with occasional flags, apparently in the Coed-y-gell group. The dip is low here, and the two small knobs between the main boundary and City Dulas, appear, from the features, to be outliers of cornstone, here overlapping on to the Ordovician rocks.

The crags of the great escarpment (Figure 275), whose cornstone cannot be less than 140 feet in thickness, are not easy of access on account of the bush (though they can be got at in places), but the great fallen blocks along the shore appear to have come from them, and these are very massive, with what might be called limestone in parts. From Coed-y-gell the escarpment runs on seawards, past the bend in the lane alluded to, and below Penrhyn farm, so that the beds (Nos. 7 to 11) of the coast must be placed on the same horizon, considered as a whole. But only so considered. From the proved impersistence of the cornstones it is evident that single beds could not be traced for any distance inland. The larger bands of them represented on the map must be regarded as generalisations, or calcareous zones', and their boundaries

may not be true stratigraphical horizons. The two grey limestones of the coast, for example, cannot be traced inland beyond Penrhyn farm. The crest of the great escarpment, for some distance, is composed of a good conglomerate, about 10 feet thick, containing pebbles up to two inches long, chiefly of venous quartz, with dark Ordovician grits, and a quartzite like that of Bodafon, most of them rather well rolled. This rock has very little red staining, its matrix being of a dull green colour. In the floor of the steep lane above Pentre-eirianell about 50 feet of yellow sandstone are (rather obscurely) exposed; but as green calcareous flags occur immediately to the south-west, the character of the beds must be changing rapidly.

## The Penrhoslligwy Plateau

The highest beds are found in the eastern part, so it will be convenient to begin with the area lying between Plâs Bodafon and the road from City Dulas to Rhoslligwy School. Immediately above the basal conglomerate (see below and (Figure 276)) cornstones come on, and form a series of sharp little wooded escarpments between the crags of quartzite and the Smithy at the cross roads. Massive grey limestone occurs in the two longer bands nearest to the Smithy, and also in the wide band south-east of Bodafon-isaf. Little is seen of the beds between these escarpments, but they appear to be mudstones moderately calcareous, some sandstone also appearing above the long cornstone that lies east of the conglomerate. But the beds open out eastwards, and it is evident that the apparent horizons are unreliable, for near Fedw-isaf four short cornstones have appeared in an interval in which, a little way to the northwest, there was only room for one. On the thick cornstone south of Bodafon-isaf rests a small outlier of conglomerate, about 120 feet across, whose pebbles are chiefly from the Mona Complex. Two small faults displace the base of the system on either side of the farm, but they neutralise each other. South of Fedw-isaf calcareous flags prevail, although one cornstone remains which, 240 yards west-south-west of the Church, becomes a massive grey limestone. In the stream at the Church fine micaceous sandstone, with green banding, is seen, dipping east at  $10^{\circ}$ . South of this exposures are more scanty. The highest of the cornstones just described dips under good banded flags, which are well seen about 100 yards west of the Smithy, and also at the cross-roads, dipping at  $18^{\circ}$  east, and  $25^{\circ}$  east-north-east respectively. The green banding is very strong, but not persistent.

Passing to the district north of the City Dulas road; we find first a good section 240 yards east-south-east of the Inn, showing about three feet of conglomerate, five feet of fine massive sandstone, three feet of cornstone, and six feet of green and red calcareous sandstone, in ascending order. Above this, towards the farm west of Tyddyn-isaf are sandy flags and mudstones, with one bed of conglomerate (300 yards north of the Smithy), and in this series are 10 bands of cornstone, of which the highest is a massive grey limestone for most of its course, is indeed the longest traceable band of such rock in the whole series. It is traversed, near its western end, by schistose green films. We must now recommence just above the -Coed-y-gell conglomerate (Figure 275), as the beds appear to be on the same general horizon as those just above the farm west of Tyddyn-isaf. About 60 or 70 feet of well-bedded sandstones come on, with several cornstones, a group no doubt in part equivalent to that above the grey limestones of the coast, but widening out eastwards. Upon these rests the large cornstone south of Penrhyn, a generalised zone, as explained above. It is not seen on the coast, and either dies out or is concealed beneath the drift of Porth-y-môr. There is a marked feature on its upper side, which is probably a small fault, for dips are too high to allow it to rest as an outlier upon the hillside. In it are some sandstones, and good limestones along its southern side, of a grey and rose colour, among which is the one whose analysis (No. II) is given on p. 580.

The beds resting upon this zone probably include the highest that are seen in the district, being those that are taken in by the sweep round of the Lligwy Bay syncline together with the rise of the ground. The beds on the southern limb of the syncline strike at the Carboniferous rocks for more than a mile, which is undoubtedly a phenomenon of unconformity. That the boundary is faulted is, however, clear. The dip of the Carboniferous sandstones is too low to carry their base over, for between the school and the sea they are horizontal only 25 yards from the line, and the boundary features are nearly straight. Besides which (Figure 296), at Graig-fryn that boundary comes right up to the quartzite inlier, cutting out the Old Red Series altogether, and bringing even the Limestone of the Bonciau Carboniferous outlier within 216 yards of the quartzite. This, which will be called the Lligwy fault, must have a displacement of at least 200 feet, and probably a good deal more.

## The base around Mynydd Bodafon

The general character of this has been described (p. 584), but the following details will be a guide to the best exposures. At a point a third of a mile south of Bodafon-isaf strong conglomerates [\(E10060\)](#) [SH 474 870] well-bedded, and dipping 20°–25° north-east, begin, and good exposures continue for about a quarter of a mile. Their escarpments look towards the quartzite crags, but are separated by a smooth hollow not less than 50 yards in width (Figure 278). But between 430 and 390 yards west of Fedw-isaf patches of the conglomerate are visible on the other side of the hollow, resting directly upon the quartzite. A few yards to the north-west there is a conglomerate-like but cataclastic breccia in the quartzite, which may easily be confused with the true conglomerate. The Old Red Series then (Figure 276), (Figure 154) transgresses and buries the outcrop of the Bodafon thrust-plane.

Just south of this the boundary is shifted 117 yards by two small faults (Figure 154). In Plâs Bodafon woods there is an inlier of quartzite, and south of the drive the base is again faulted, after which it runs along the road, until, some 300 yards from the lodge (Figure 277), (Figure 155) it suddenly runs about 20 feet up the steep side of the hill in a tongue of conglomerate that seems to be some 10 feet thick. The pebbles are of Bodafon quartzite and moor-schist (the last much reddened), in a red sandy matrix. Those of quartzite are well-rolled and nearly a foot in length.

About Graig-fryn in the valley (Figure 296) the country is obscure; the little stream that runs from west to east just to the north of it has cut through 20 feet of drift, and there is no direct evidence that the four small knobs of quartzite are isolated from Graig-fryn hill and from each other by Old Red Sandstone. But in the bed of that stream, closely overarched though it is by bushes, flagstones dipping north and north-east, and so off the inlier, at about 30°, may be seen for nearly 300 yards. Nor is the Old Red Sandstone all at this low level. On one of the small knobs, 260 yards north of Graig-fryn house, is a very thin skin, in places, of rounded pebbles of quartzite and venous quartz in a gritty matrix. It is therefore probable that the small knobs, as well as Graig-fryn hill, are surrounded by the flagstones.

On the south side of the road at Maen-addwyn, 108 yards west of the 324-foot level, is a poor exposure of pebbly red flaggy sandstones. Hornfels of the Mona Complex is exposed close by on all sides except the south, so that there can be no doubt that it is a small outlier, not more than 50 feet wide, of Old Red Sandstone. This is the last that is seen of the basal beds about Bodafon, and it shows that the deposit lapped round the south, as it does around the north end of that hill.

## The narrowing tract from Bodafon to Llangefni

Near Plâs Bodafon, sandstones and sandy flags, often calcareous, are seen in 13 or 14 places, from which, and from the Graig-fryn stream section, it appears that the lower, dust-rock part of the system has disappeared by overlap, leaving only the upper sandy portion that is seen at Lligwy Bay. The narrowing of the outcrop is also partly due to dying out of the Penrhoslligwy syncline. East of Maen-addwyn, however, a 'cornstone zone', much of which is really sandy, dipping south-east at 20°, and overlain by grey flagstones, is traceable for nearly half a mile. South of this exposures are scanty. At Capel-coch is the last good cornstone, resting upon red beds that dip east at 15°. Hence, the base-line, along which is no escarpment, swings towards the great marsh; and near the margin of this, east-north-east of Trescawen, are two good exposures of fine red sandstone, partly calcareous, forming low escarpments. No exposure is known again for two miles, and the lines have been drawn from the evidence of debris, soil, and features. From these it appears probable that there is a north-and-south fault near Cefn-iwrch, with a thin outlier of red sandstone on its west.

East by south from Pen-y-cefn, conglomerate is seen in the river-bed, and for the remainder of its outcrop the formation lies entirely in the valley, overlooked by the Carboniferous sandstone (the boundary with which is poorly defined) on one side and by rugged ground of the Mona Complex on the other. From Glyn-afon to the Kennels there are exposures. At those two places are good sections in coarse red conglomerate with horizontal seams of purplish gritty mudstone, the pebbles also lying horizontally. The matrix is much decayed. The pebbles are of all sizes up to a foot in length, and well rounded. They are derived from the adjacent schists, largest and most plentiful being those of quartzite of local type. The Gwna schists, striking at this conglomerate, rise rather sharply to higher levels, but the sinuous features do not indicate a fault (Figure 280). Four more exposures of red conglomerate, sandstone and shale occur in the river, the last being 133

yards north-east of the bridge, under alluvium; so that the Old Red Sandstone is just on the point of being overstepped by the Carboniferous when both are cut off by the Llangefni fault.

Beyond that fault the Carboniferous rests directly upon the Mona Complex. But it is not unlikely that the pebbly red beds of the Henblâs Water (p. 646), which are rapidly overstepped by the Carboniferous Limestone, may be really an outlying fragment of the Old Red Sandstone, preserved in a hollow.

## Trwyn-cwmrwd

This interesting little fragment is only to be seen at low tide. It forms the outer portion of the foreshore, and the strong staining of the adjacent gneisses makes it very inconspicuous. The beds dip gently seawards, and end off in a curve of miniature escarpments that face towards the land. It is composed of about 20 feet of pebbly sandstone of a deep red colour, with here and there the usual green reduction-spots. The pebbles are partly of venous quartz, partly of the more granitoid portions of the gneiss, and some of them are six inches in diameter. The beds rest upon the gneiss with a very strong unconformity, for the foliation of the latter is here vertical, and strikes directly at the foot of the escarpment along the low foreshore. The dip of the sandstones can be hardly sufficient to carry their base over the top of the cliffs and up the slopes of the rising land behind. The fragment has been traced for 180 yards along the coast, but may extend further among the weed-covered reefs to the south. The conglomerate near the mouth of Traeth Dulas (Chapter 23) is quite different in character, and of thorough Carboniferous type. Its dip and situation indicate that it is not an outlier, but the margin of the main body of the formation.

Signs of disturbance at the river's mouth have (p. 592) been already noticed, and the form of the ninth-western shore of the Traeth is suggestive of a fault. If, now, the dip shown in (Figure 275) continues, and if we protract the angle across the narrow opening of the Traeth, it will appear that the fragment of Trwyn-cwmrwd owes its preservation to a fault that has let down the base of the formation some 400 feet. We have seen reason to think (see p. 335) that the Old Red Sandstone once rested directly upon the Mona Complex of the Deri Inlier, which indicates that the Dulas fault is running on inland. Its course is unknown, but it may very likely drop the Dulas thrust-plane (see p. 450) against the Arenig Beds. The position of the Carboniferous conglomerate just mentioned in the footnote shows that the Dulas fault must be of Post-Carboniferous date, and shows also that the Carboniferous is just in the act of overstepping the base of the Old Red Series in a north-westerly direction.

An interesting phenomenon at Trwyn-cwmrwd is the staining of the gneisses. This is intense, and along almost half a mile of coast they are usually quite as red as the Old Red beds themselves. Indeed, the two formations become easily confusable, especially as the gneisses were locally brecciated before they were stained, so that the reddened breccia simulates the Old Red conglomerate. Only by their vertical foliation, which is not wholly obliterated by the brecciation, can such gneisses be distinguished. In addition to the red films and pellicles of the staining, seams of haematite occur here and there between the folia. The special decomposition inflicted upon the gneisses of this coast, greatly in excess of that of all the other gneissic tracts of Anglesey, leads one to suspect it to be also an effect of percolation from the Old Red rocks, creeping downwards in advance of the ferric solutions.



FIG. 275.—SECTION THROUGH THE OLD RED SERIES FROM COED-Y-GELL TO LLIGWY BAY.  
Scale: eight inches = one mile.

M = Bodafon Moor Schists } Mona  
MQ = Bodafon Quartzite } Complex.  
b = Ordovician.

Symbols used in Figs. 275, 276, 277, 278.  
c = Old Red Sandstone Series.  
c' = " " Cornstones.  
d = Lligwy Sandstone (Carboniferous).

d<sub>1</sub> = D<sub>1</sub> Subzone of Carboniferous Limestone.  
d<sub>2</sub> = D<sub>2</sub> " " " "  
BT = Bodafon Thrust-plane.

(Figure 275) Section through the Old Red Series from Coed-y-gell to Lligwy Bay. Scale: eight inches = one mile. Symbols used M = Bodafon Moor Schists, Mona Complex, Mq = Bodafon Quartzite, Mona Complex. b = Ordovician. c = Old Red Sandstone Series. c = cornstones d = Lligwy Sandstone d<sub>1</sub> = D<sub>1</sub> Subzone of Carboniferous Limestone. d<sub>2</sub> = D<sub>2</sub>

Subzone of Carboniferous Limestone. BT = Bodafon Thrust-plane.



Fig. 276.—SECTION FROM THE NORTH END OF BODAFON MOOR, THROUGH THE OLD RED SERIES, TO THE SMITHY.  
Scale: eight inches = one mile.

M = Bodafon Moor Schists } Mona  
MQ = Bodafon Quartzite } Complex.  
b = Ordovician.

Symbols used in Figs. 275, 276, 277, 278.  
c = Old Red Sandstone Series.  
c' = " " Cornstones.  
d = Lligwy Sandstone (Carboniferous).

d<sub>1</sub> = D<sub>1</sub> Subzone of Carboniferous Limestone.  
d<sub>2</sub> = D<sub>2</sub> " " " "  
BT = Bodafon Thrust plane. " "

(Figure 276) Section from the north end of Bodafon Moor, through the Old Red Series, to the Smithy. Scale: eight inches = one mile. Symbols used M = Bodafon Moor Schists, Mona Complex, Mq = Bodafon Quartzite, Mona Complex. b = Ordovician. c = Old Red Sandstone Series. c = cornstones d = Lligwy Sandstone d<sub>1</sub> = D<sub>1</sub> Subzone of Carboniferous Limestone. d<sub>2</sub> = D<sub>2</sub> Subzone of Carboniferous Limestone. BT = Bodafon Thrust-plane.

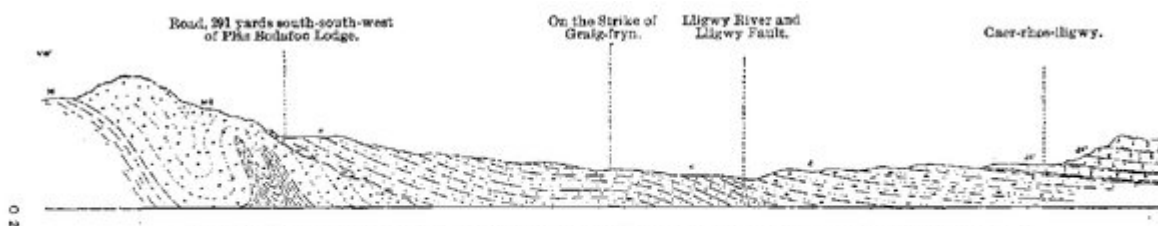


FIG. 277.—SECTION FROM THE NORTHERN SUMMIT OF MYNYDD BODAFON, ACROSS THE VALE OF LLIGWY.  
Scale: 7.5 inches = one mile.

M = Bodafon Moor Schists } Mona  
MQ = Bodafon Quartzite } Complex.  
b = Ordovician.

Symbols used in Figs. 275, 276, 277, 278.  
c = Old Red Sandstone Series.  
c' = " " Cornstones.  
d = Lligwy Sandstone (Carboniferous).

d<sub>1</sub> = D<sub>1</sub> Subzone of Carboniferous Limestone.  
d<sub>2</sub> = D<sub>2</sub> " " " "  
BT = Bodafon Thrust plane. " "

(Figure 277) Section from the northern summit of Mynydd Bodafon, across the Vale of Lligwy. Scale: 7.5 inches = one mile. Symbols used M = Bodafon Moor Schists, Mona Complex, Mq = Bodafon Quartzite, Mona Complex. b = Ordovician. c = Old Red Sandstone Series. c = cornstones d = Lligwy Sandstone d<sub>1</sub> = D<sub>1</sub> Subzone of Carboniferous Limestone. d<sub>2</sub> = D<sub>2</sub> Subzone of Carboniferous Limestone. BT = Bodafon Thrust-plane.

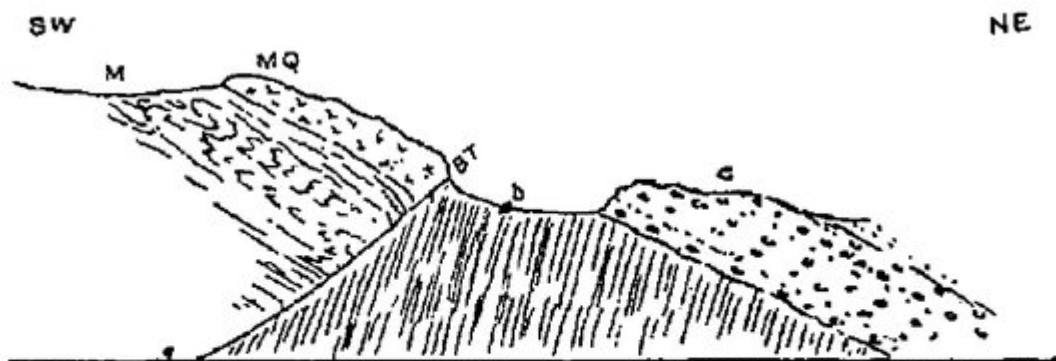


FIG. 278.—SECTION PARALLEL TO PART OF FIG. 276, ALONG A LINE 266 YARDS FURTHER TO THE WEST-NORTH-WEST.

(Figure 278) section parallel to part of (Figure 276), along a line 266 yards further to the west-north-west. Scale: 8 inches = 1 mile. Symbols used M = Bodafon Moor Schists, Mona Complex, Mq = Bodafon Quartzite, Mona Complex. b = Ordovician. c = Old Red Sandstone Series. c = cornstones d = Lligwy Sandstone d<sub>1</sub> = D<sub>1</sub> Subzone of Carboniferous Limestone. d<sub>2</sub> = D<sub>2</sub> Subzone of Carboniferous Limestone. BT = Bodafon Thrust-plane.

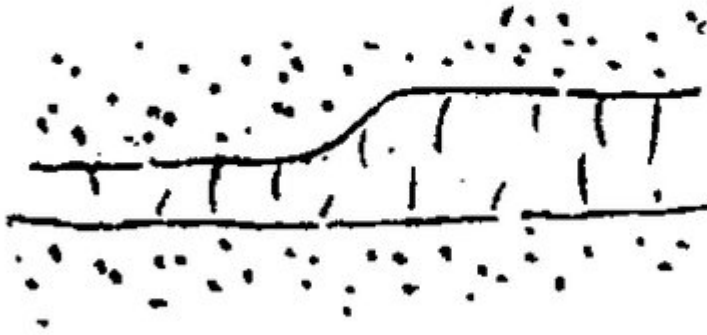
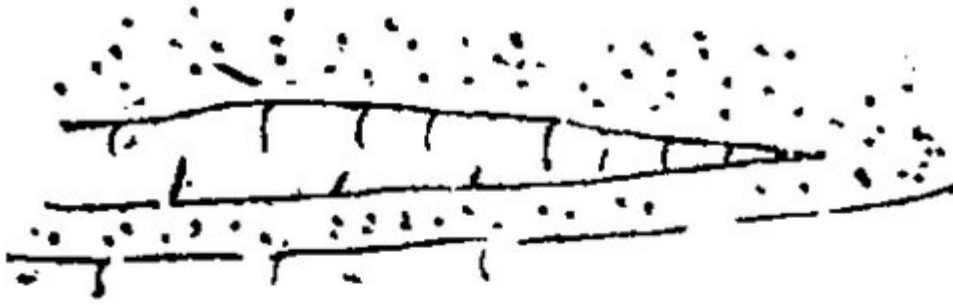


FIG. 279.  
 WEDGING OUT OF SMALL  
 CORNSTONES.  
 Porth-y-môr.

(Figure 279) Wedging out of small cornstones. Porth-y-môr.

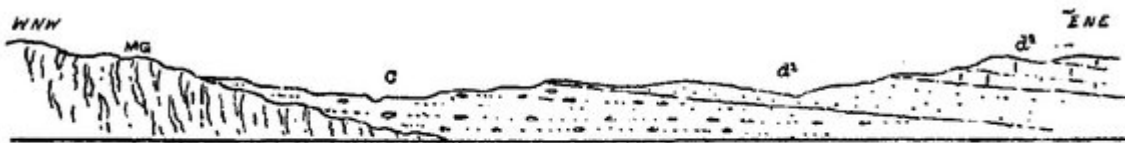


FIG. 280.—SECTION ABOUT A MILE NORTH-EAST OF LLANGFNÍ.  
 Scale: 12 inches — one mile.  
 MG — Gwna Mélange. C — Old Red Sandstone.  
 d² = Lligwy Sandstone (Carboniferous).  
 d¹ = Carboniferous Limestone.

(Figure 280) Section about a mile north-east of Llangefni. Scale: 12 inches = one mile. MG = Gwna Mélange. C = Old Red Sandstone. d² = Lligwy Sandstone (Carboniferous) d¹ = Carboniferous Limestone.

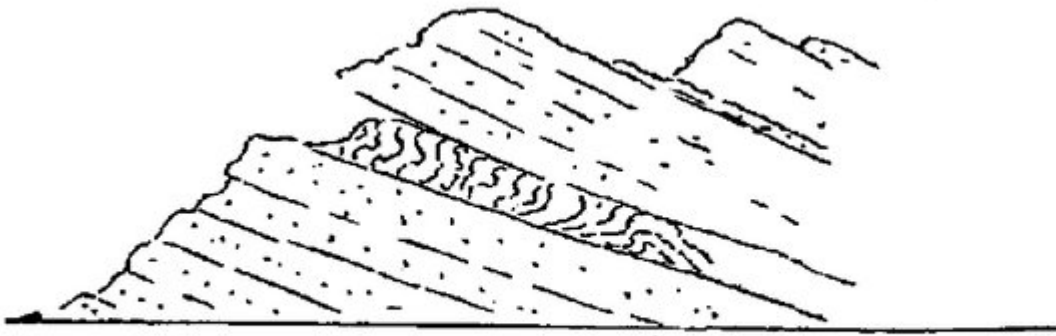


FIG. 281.—CONTEMPORANEOUS CONTORTION IN OLD RED SANDSTONE.

(Figure 281) Contemporaneous contortion in old red sandstone. Traeth-yr-ora.

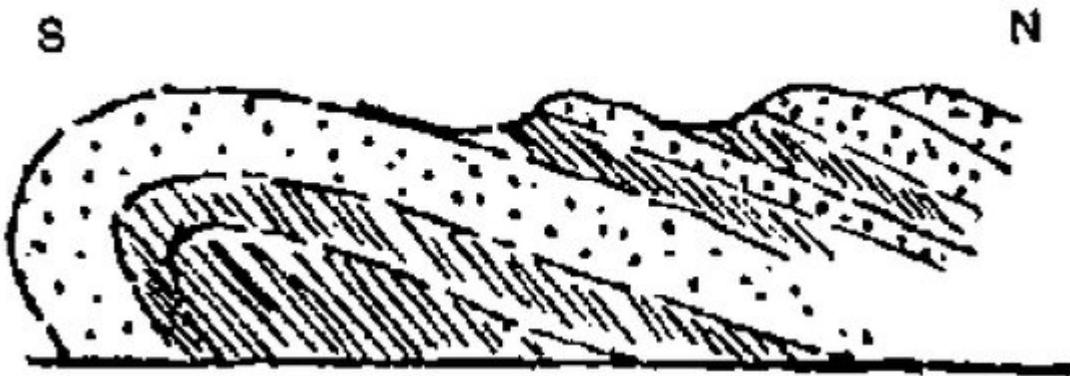


FIG. 282.

ISOCLINAL ANTICLINE IN OLD RED SANDSTONE.

(Figure 282) Isoclinal anticline in Old Red Sandstone. Lligwy Bay.

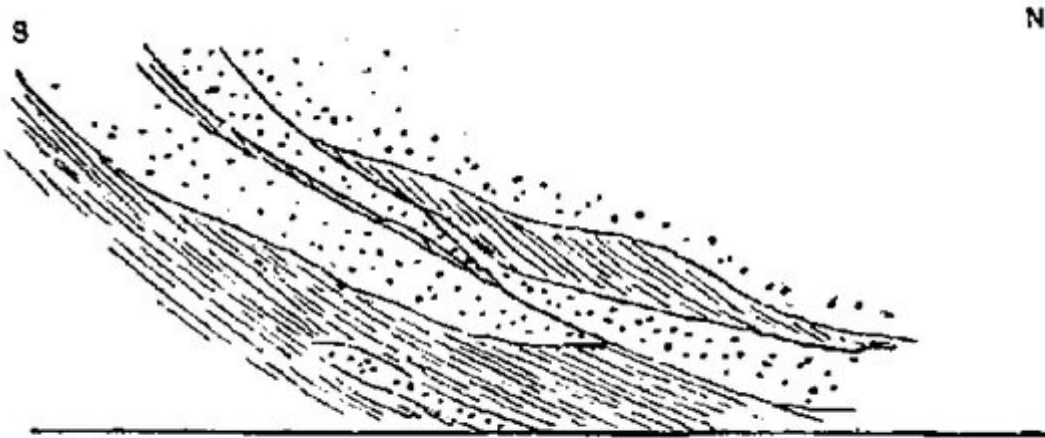




**FIG. 283.**

**ISOCLINAL SYNCLINE IN  
OLD RED SANDSTONE.**

*(Figure 283) Isoclinal syncline in Old Red Sandstone. Lligwy Bay.*



**FIG. 284.—THRUSTING IN OLD RED  
SANDSTONE.**

*(Figure 284) Thrusting in old red sandstone. Lligwy Bay.*

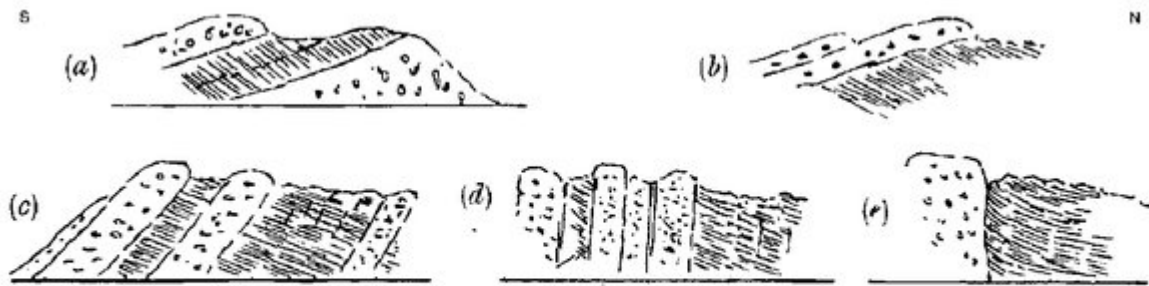


FIG. 285 (a—e).—THE TURNING OF THE CLEAVAGE ROUND THE MONOCLINAL FOLD IN THE OLD RED SERIES.  
Coast between Porth-y-môr and Lligwy Bay.

(Figure 285) (a—e) The turning of the cleavage round the monoclinical fold in the Old Red Series. Coast between Porth-y-môr and Lligwy Bay.

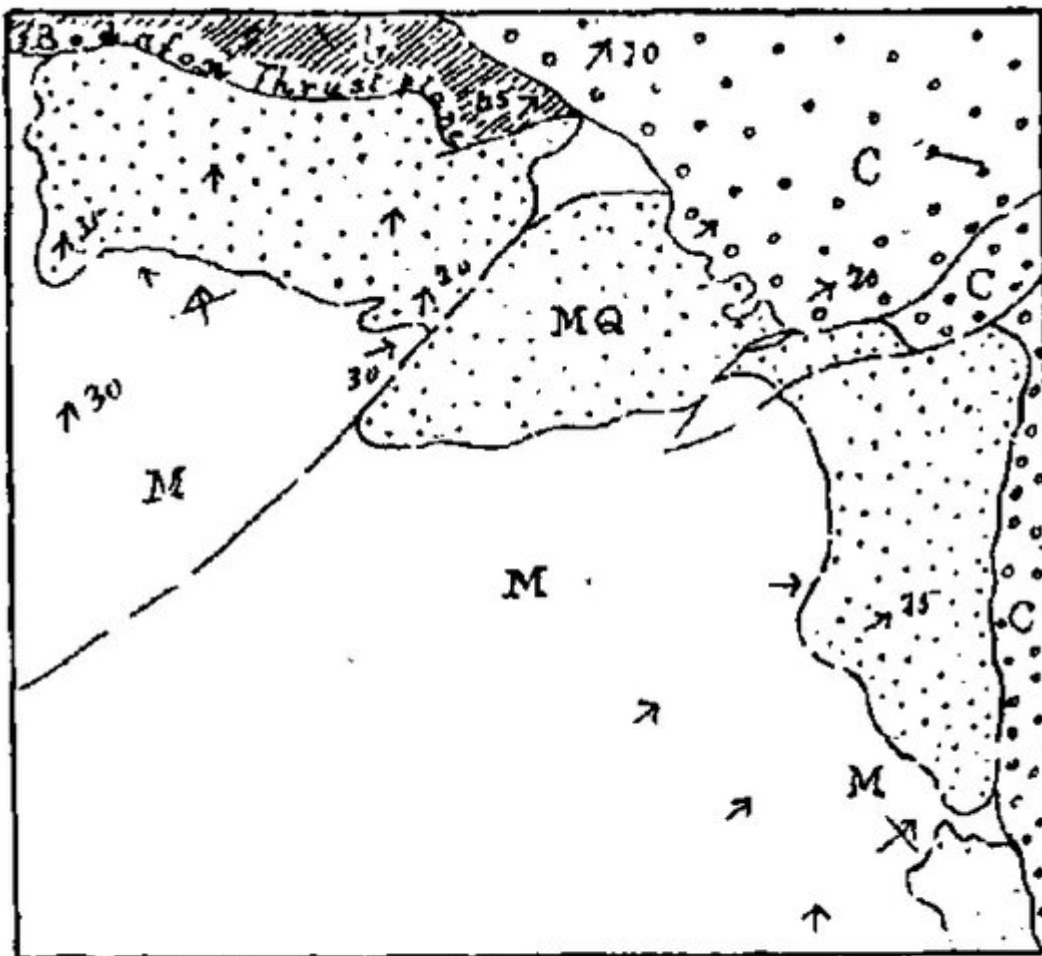


FIG. 154.

**NORTHERN PARTS OF BODAFON MOOR.**

(Figure 154) Northern parts of Bodafon Moor. From the six-inch maps. M = Bodafon Moor Schist. MQ = Bodafon Quartzite. b = Ordovician Shale. c = Old Red Sandstone.

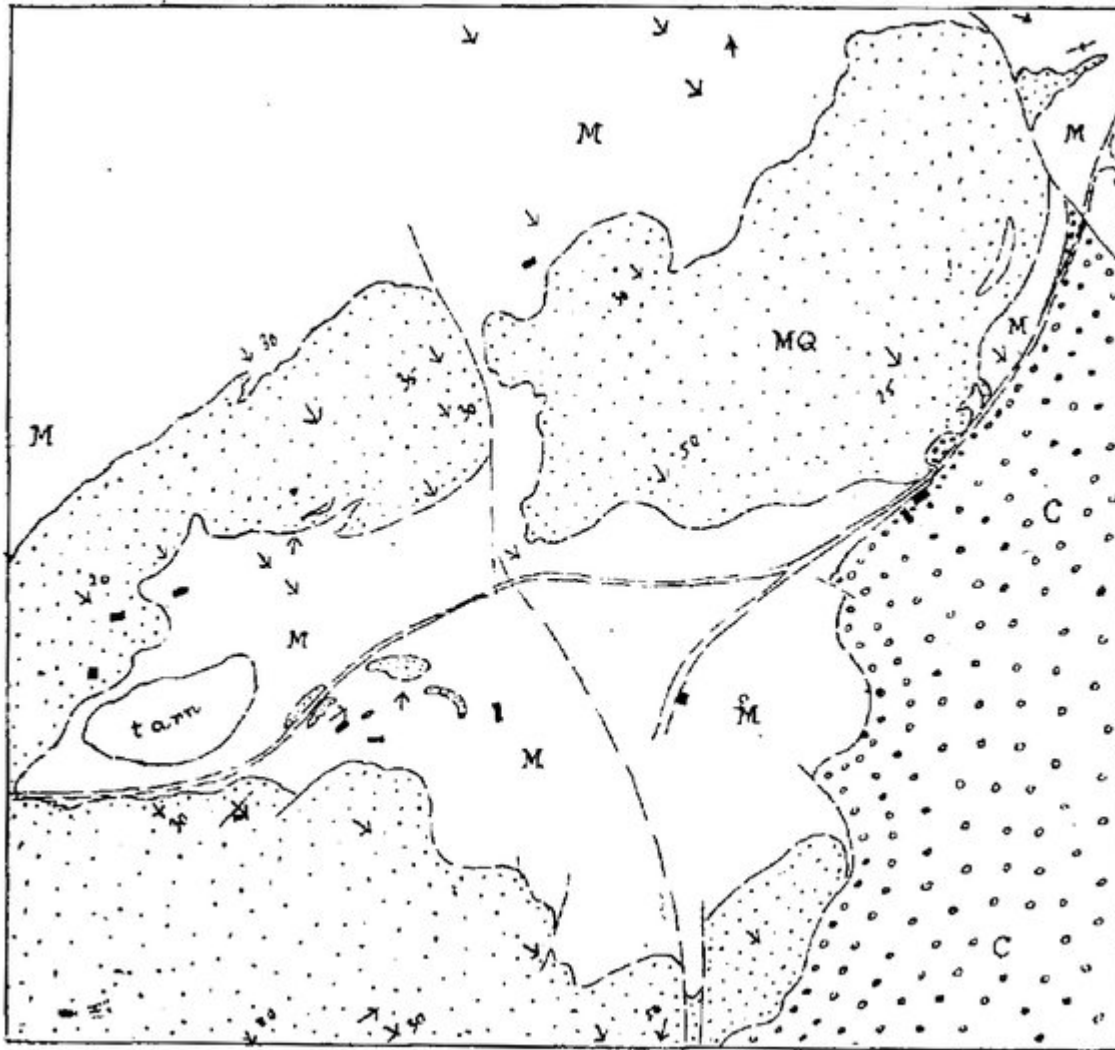


FIG. 155.—THE CENTRAL PARTS OF MYNYDD BODAFON.

(Figure 155) The central parts of Mynydd Bodafon. From the six-inch maps. M = Bodafon Moor Schists. MQ = Bodafon Quartzite. C = Old Red Sandstone.

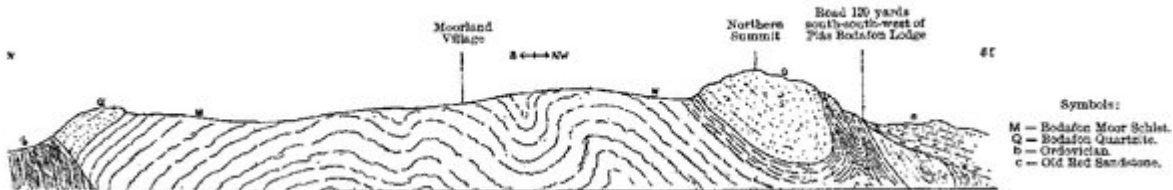


FIG. 156.—SECTION ACROSS BODAFON MOOR AND THE NORTHERN SUMMIT OF MYNYDD BODAFON.

(Figure 156) Section across Bodafon Moor and the northern summit of Mynydd Bodafon. Scale: Eight inches = one mile. Symbols: M = Bodafon Moor Schist. Q = Bodafon Quartzite. b = Ordovician Shale. c = Old Red Sandstone.

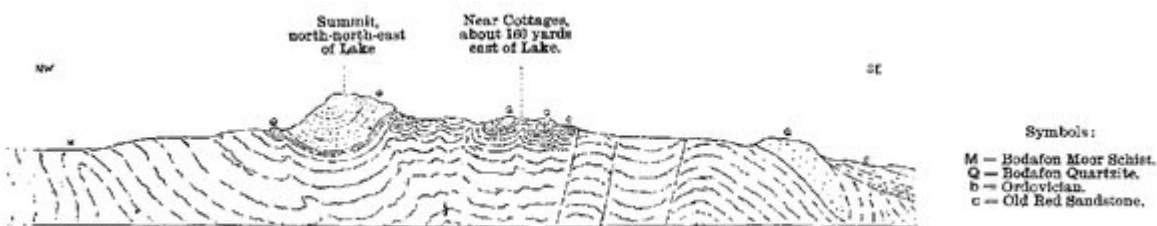


FIG. 157.—SECTION THROUGH THE CENTRAL PARTS OF MYNYDD BODAFON.

(Figure 157) Section through the central parts of Mynydd Bodafon. Scale: Eight inches = one mile. Symbols: M = Bodafon Moor Schist. Q = Bodafon Quartzite. b = Ordovician Shale. c = Old Red Sandstone.



FIG. 153.—SECTION THROUGH THE SOUTHERN PARTS OF MYNYDD BODAFON.

(Figure 158).—Section through the southern parts of Mynydd Bodafon. Scale: Eight inches = one mile. Symbols: M = Bodafon Moor Schist. Q = Bodafon Quartzite. b = Ordovician Shale. c = Old Red Sandstone.



FIG. 296.—SECTION ACROSS THE GRAIG-FRYN INLIER AND THE VALE OF LLIGWY.

Scale—Eight inches = one mile.

MQ = Bodafon quartzite. C = Old Red Sandstone.  $d_1, d_2$  =  $D_1$  and  $D_2$  sub-zones of Carboniferous Limestone

(Figure 296) Section across the Graig-fryn inlier and the vale of Lligwy. Scale eight inches = one mile. MQ = Bodafon Quartzite. C = Old Red Sandstone.  $d_1, d_2$  =  $D_1$  and  $D_2$  sub-zones of Carboniferous Limestone



(Plate 34) Cleavage and bedding in Cornstones and Mudstones of the Old Red series. Porth-y-mor.