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PLATE XI.

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Illustrate the memoir by Professor Sedgwick and Mr. Murchison on the Structure and Relations of the Deposits between the Primary Rocks and the Oolitic Series in the North of Scotland.

PLATE XIII.

Sketch of a Geological Map of the North of Scotland. The object being simply to carry the eye to the range of the secondary deposits, no subdivisions have been attempted. Thus in the red colour are included all the primary formations mentioned in this memoir: the pale brown represents the new red sandstone and conglomerate, bituminous schist, coal measures, old red sandstone and conglomerate; and the dark brown the lias, the oolitic series, and its subordinate coal beds, as described in the present volume: p. 125.

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Fig. 1. Section from the north coast of Caithness: p. 132.

* The two fossil fish figured in this Plate were found during the passage of the paper through the press, and only one of the specimens is alluded to above (p. 118). No generic and specific names are given to these imperfect specimens: but it may be observed that they do not belong to the genus Chaetodon, or to the genus Stromateus. It may be proper to state, that a fossil fish of the genus Palæothrissum occurs abundantly in the coal formation of Saarbruck; an additional fact to show the near connexion between the fossils of the magnesian limestone and those of the inferior formations. (See p. 99.)
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PLATE XV.

Figs. 1. 2. 3. Dipterus macropygopterus. Of these fig. 1. is the most perfect specimen, showing a pointed anal fin prolonged nearly as far as the inferior lobe of the caudal fin: p. 143.

Fig. 2. This specimen is represented with the belly upwards, and the double fin of the back downwards. (See the bend of the lateral line.)

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Illustrate Mr. De la Beche's paper on Tor and Babbacombe Bays.

PLATE XVIII.

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PLATE XIX.

Examples of contorted carboniferous limestone near Torquay, showing that the curvature of the strata has been effected in all directions: p. 165.
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PLATE XX.

An undescribed fossil from the carboniferous limestone in the vicinity of St. Mary Church, probably allied to the Tunicata: p. 164, note.

PLATES XXI. XXII. XXIII. XXIV.

Illustrate Mr. De la Beche's paper on Nice.

PLATE XXI.

Geological Map of the environs of Nice, and of the coast thence to Vintimiglia. The dolomite and compact, light-coloured limestone are represented of one colour, as they are so intermingled that they could not be separated without rendering the Map confused. These rocks, together with the gypsum, are considered as an equivalent of some part of the oolite formation of England; but recent observations have shown that they may also be some modification of the great green sand series. As this point has not yet been cleared up, the original reference to the oolite formation has been retained: p. 175.

PLATE XXII.

A general view of the coast of the Mediterranean as seen from Mont Moron near Nice: p. 171.

PLATE XXIII.

Various sections, showing the relative positions of the compact limestone, dolomite with gypsum, the green sand, and the tertiary rocks.

Fig. 1. Section from the sea near Nice to Mont Revel.
Fig. 2. Section from the Var near Ste. Marguerite to St. Sauveur: p. 176.
Fig. 3. Section from the Fanal or light-house at the point of St. Hospice peninsula to Drap on the Paglion Torrent.
Fig. 4. Coast section from Roccabruna to the river Nervia, on the road from Vintimiglia to Genoa: p. 178.

PLATE XXIV.

Fig. 1. Natural section of the contact of the sub-Apennine clay-marl and rolled-pebble-conglomerate in the valley of la Maddelaine (the conglomerate resting apparently unconformable upon the clay-marl). There are two or three exhibitions of the same nature in the neighbourhood. The more general character, at least on the
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points of contact of these rocks, is an interstratification and alternation of the one with the other: p. 176.

Fig. 2. Section of a cleft containing osseous breccia at the Castle Hill of Nice: p. 173.

PLATES XXV. XXVI.

Illustrate Captain Franklin's paper on the Geology of a Portion of Bundelcund, Boghelcund, and the districts of Saugor and Jubulpore.

PLATE XXV.


PLATE XXVI.

Section from Mirzapore to Jubulpore.

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Illustrates Professor Buckland's paper on the Pterodactyle.

Fig. 1. Pterodactylus macronyx: p. 220—222.

Fig. 2. Extremities restored: p. 220.

Fig. 3. Jaw from the lias at Lyme Regis, supposed to be of a Pterodactyle: p. 220.

PLATES XXVIII. XXIX. XXX. XXXI.

Illustrate Professor Buckland's paper on Coprolites.

PLATE XXVIII.

Figs. 1. to 9. inclusive. Specimens of Sauro-coprus exhibiting the external spiral structure of these bodies: the number of folds varies in different specimens—compare them with the recent injected intestines, Plate XXXI. figs. 19. 20. 21. 22.

Figs. 10. 11. Longitudinal sections of Sauro-copri, exhibiting the cone-like structure of their interior similar to that of fig. 8. Plate XXXI., but the latter is in an inverted position.

Fig. 12. Transverse section of a Sauro-coprus, showing the spiral folding of the lamina of digested bone of which it is composed; and also showing the transverse sections of fish-scales included in it.

Figs. 1. 2. 4. 9. show the transverse fracture at the upper end of the folded laminae of digested bone.

Figs. 6. & 7. show minute superficial impressions derived from the vessels of the intestines in which they were formed.
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Figs. 8. & 9. have large rugose impressions derived also from pressure of the intestines. Small fish-scales are seen on the surface of figs. 6. & 9.

Fig. 4. is black, and is the specimen which Dr. Prout's analysis shows to be coloured probably by Sepia.

PLATE XXIX.

Fig. 1. Large Coprolite, showing the transverse section at the upper end of its folded lamina, and containing fish-scales.

Fig. 2. Portion of a large Coprolite in the collection of Captain Waring, containing an undigested vertebra of Ichthyosaurus and fragments of other large bones.

Fig. 3. Opposite side of fig. 2. exhibiting the same vertebra, and two smaller ones.

Fig. 4. Part of the largest Coprolite yet discovered at Lyme, exhibiting vertebrae of Ichthyosaurus at its fractured surface.

Fig. 5. Portion broken from fig. 4. showing the same vertebrae, and the coracoid bone of an Ichthyosaurus imbedded in it: this bone has been transferred in the drawing to A, from its real place at B, on the other side of the specimen.

PLATE XXX.

Figs. 1. to 12. inclusive, are Coprolites from the lias at Lyme Regis.

Fig. 1. Sauro-coprus, containing rings, resembling the horny rings in the cups of the suckers of Sepia; it also shows the edge of the folded lamina.

Fig. 2. Sauro-coprus full of fish-scales, and at the point A containing a congeries of small rings resembling those at the extremity of the arm of a small Sepia.

Fig. 3. Magnified appearance of the rings at A. fig. 2.

Fig. 4. Coprolite full of fish-scales, and exhibiting no traces of folded structure.

Fig. 5. Amorphous Coprolite, thin and flattened; it appears to have been evacuated in a semi-fluid state before it was moulded to the usual shape in the intestines.

Figs. 6. to 12. inclusive. Small Coprolites from the lias at Lyme Regis, resembling many of those in the lias on the Severn; they are without spiral structure.

Figs. 7. 10. 11. & 12. have small fish-scales in them.

Figs. 13. to 29. inclusive. Coprolites from the bone bed in the lowest lias at Westbury-on-Severn, Aust Passage, and Blue Anchor near Watchet; they are mostly black, smooth, and glossy; and many of them have small round points (like those on urinary calculi) irregularly projecting from their surface, but they contain no uric acid; it is unknown from what animals they are derived; few of the forms here represented occur among the Coprolites at Lyme Regis.

Figs. 17. & 18. exhibit on their surface a convoluted structure.

Fig. 19. contains small scales and fragments of small bones: scales and bones are rare in the Coprolites from the Severn district.
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Figs. 26. 27. have the shape of tamarind stones, and a kind of case or epidermis, as if formed by secretion, round their margin.

Fig. 28. in shape resembles a kidney bean.

Fig. 29. seems to be a fragment of a broken sphere, and in shape resembles fig. 30.

Fig. 30. is a concretion of phosphate of lime from a human gall-bladder.

Figs. 31. to 41. inclusive, are small Coprolites of various shapes from the bone bed near the bottom of the carboniferous limestone at Clifton near Bristol.

PLATE XXXI.

Figs. 1. to 7. inclusive. Specimens of Iulo-eido-coprus from the chalk and chalk-marl of Sussex; the wavy lines and corrugations on their surface are apparently derived from the intestines in which they were formed. See the surface of the recent intestines, figs. 20. & 21.

Figs. 9. 10. 11. Iulo-eido-copri, from Maestricht, in the collection of Col. Houlton of Farley Castle.

Figs. 2. & 11. at their larger extremity show the edge of the thin winding plate, the coils of which around itself make up the body of the Coprolite.

Fig. 6. exhibits scales of fishes imbedded in the substance, and parallel to the surface of the lamina of digested bone. See a similar parallelism in the scales and lamina of fig. 12. Plate XXVIII.

Fig. 8. Longitudinal section of fig. 7. showing the conical arrangement of the interior, like that at Plate XXVIII. figs. 10. 11. but inverted.

Fig. 11. Coprolite figured as an unknown fruit in Burtins’ Oryctogr. de Bruxelles, Pl. V. G.

Fig. 12. Amia-coprus from the chalk near Lewes, found by Mr. Mantell within the skeleton of an Amia; p. 234.

Fig. 13. Coprolite from the chalk at Lewes; not yet ascertained from what animal.

Fig. 14. Coprolite purchased by Dr. Buckland in a collection of fossils from the Isle of Sheppey.

Fig. 15. Coprolite from the freshwater coal shale at Fuveau near Aix, in the collection of Mr. Murchison.

Fig. 16. Coprolite from the freshwater marl containing insects above the gypsum at Aix, in the collection of Mr. Murchison.

Fig. 17. Coprolite from the green sand of Wiltshire.

Fig. 18. Coprolite, from the sandstone of Tilgate Forest, in the collection of Mr. Mantell. See fish-scale on its surface.

Figs. 19. 20. 21. Intestines of Dog-Fish injected with Roman cement, showing spiral coils; and in figs. 20. 21. exhibiting vascular structure, as on the surface of figs. 1. 4. 5. 9. 11.

Fig. 22. Intestine of a Skate injected with Roman cement; the external coil marking the spiral fold of its interior.