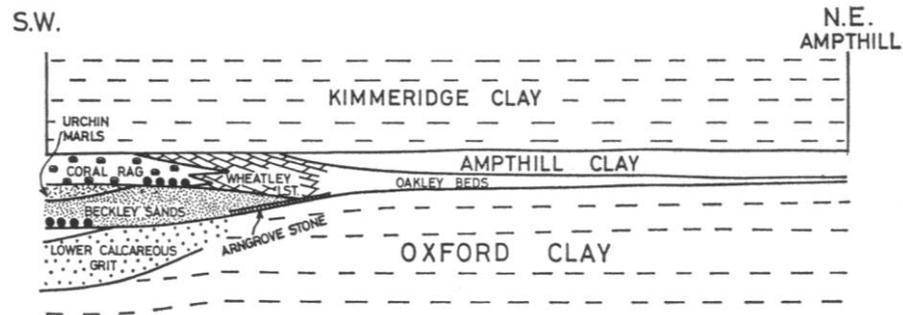


In recent years the Rock Edge site has been carefully managed by the Oxford City Park Ranger service, together with the Oxfordshire Geology Trust. Teams of volunteers regularly clear away scrub and debris from the site to maintain access to the rock face. An Open Day is held annually for local residents, to explain the significance of the geology on their doorstep and to encourage them to help in the upkeep of the site.



Lateral carbonate transitional relationships of the Corallian rock types around Oxford. (After Arkell 1947).



Sustaining and transforming our heritage

Rock Edge (Cross Roads) Quarry, Headington



This 4 acre (1.6 hectares) area, now designated a *Site of Special Scientific Interest (SSSI)*, is a remnant of the many limestone quarries formerly worked extensively throughout Headington. The rocks exposed in the cliff face are of Upper Jurassic age, approximately 155 million years old, and belong to the Corallian Formation which comprises the Coral Rag and Headington Stone Members which laterally pass into the Wheatley Limestone Member (seen in nearby Magdalen Quarry, see map). They are underlain by the Beckley Sand member and overlain by the Amphill Clay and Kimmeridge Clay Formations.

SAFETY WARNING

Much of the exposed rock is soft and crumbly. Parts of the rock face are unstable, with boulders and rock debris littering the floor at the base of the 'cliff'. Please supervise young children when examining the rock face. PLEASE, NO CLIMBING ON THE ROCK FACE.

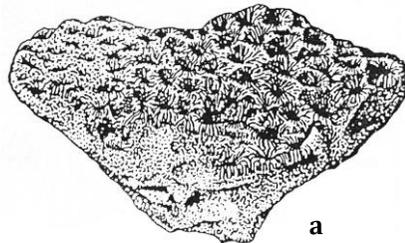
Rock types: At the SW end of the quarry a 3 metre high rock face of bedded rubbly Coral Rag limestone is seen. This represents a former coral patch reef, composed of fossilised fragments of coral. The pieces of branching coral are chaotically arranged, while the massive colonial coral mounds remain in-situ within the beds. Other fossils present are bivalves (free swimmers, encrusters and borers), echinoderms



(particularly spines), serpulid worms and (very rare) ammonites.

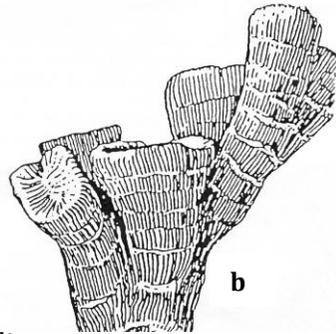
Towards the NE end of the site there is a transition to a more layered sequence (called the Headington Stone) with cemented limestones containing small oolites (tiny rounded grains) and limestones with broken shell fragments. These deposits represent the sandy seafloor environment around the former coral reefs.

Fossils: Which you might find include fragments of the corals *Isastraea explanata* (a), *Thecosmilia annularis* (b) and *Thamnasteria concinna*, bivalves (mussels, oysters) such as *Radulopecten vagans*, *Camptonectes auritus*, *Plagiostoma rigidum*, *Rastellum gregareum*, *Nanogyra nana* and *Lithophaga inclusa* or spines from sea urchin such as *Plegiocidaris florigemma* or *Nucleolites clunicularis*.



Please DO NOT collect fossils directly from the rock face, but you can collect from the loose rock fragments at the base of the outcrop.

We can learn from this outcrop that beds of the same age which are only a short distance apart can have quite different appearance and composition. Indeed, not far away, at Littlemore (4km S), equivalent beds are more clay rich (perhaps indicating the presence of a river flowing into the sea at this point) and at Dry Sandford (8km SW) they are sandier.



Furthermore we can conclude that the Upper Jurassic climate here was warmer than at present, with the area covered by a shallow sea at

temperatures above 20°C. At that time this area of England was closer to the Equator.

History: Quarrying in the Headington area goes back to mediaeval times, if not earlier, and was a major industry from the 13th to the 17th centuries.

The rubble Coral Rag was used to build the 11th century tower of St Michaels-in-the-Northgate in Oxford, as well as the city walls. The Headington stone was used for building many of the older Oxford colleges and for Windsor Castle, but has typically been replaced over the centuries with more durable Cotswold limestones. The last working Headington quarry (Magdalen or Workhouse Quarry) closed in 1949.

