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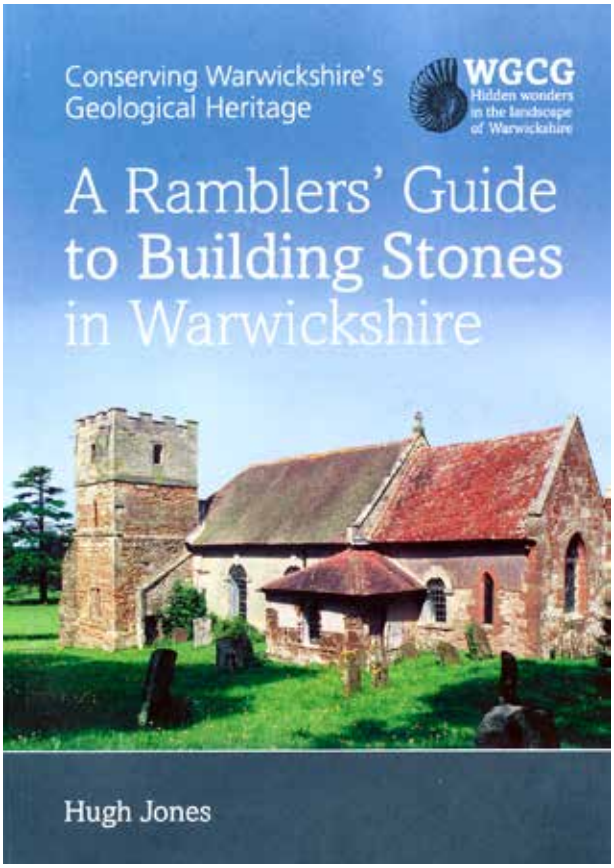


A Ramblers' Guide to Building Stones in Warwickshire

This book is an enjoyable armchair read, and at the same time a practical field book. Its combination of practicality and good looks starts on the front cover with a new, stylish appearance and a title that could not be more accurate. For this book belongs in the car pocket or the rucksack, always available when you are wandering in Warwickshire.

Whether you find yourself in Kineton, Mancetter or Kenilworth the book provides fascinating insights into the links between ancient buildings, local building materials and geology.

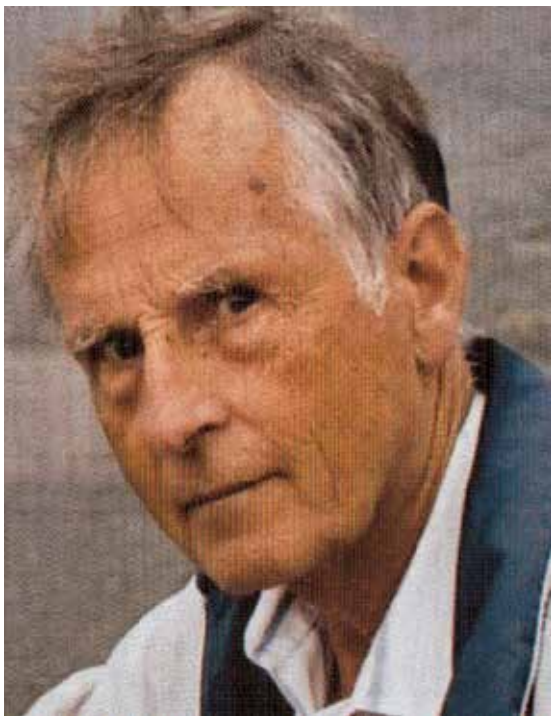
About the author - Hugh Jones

Hugh Jones started fossil collecting at the age of eight and went on to graduate from Cambridge with a degree in geology in 1958.

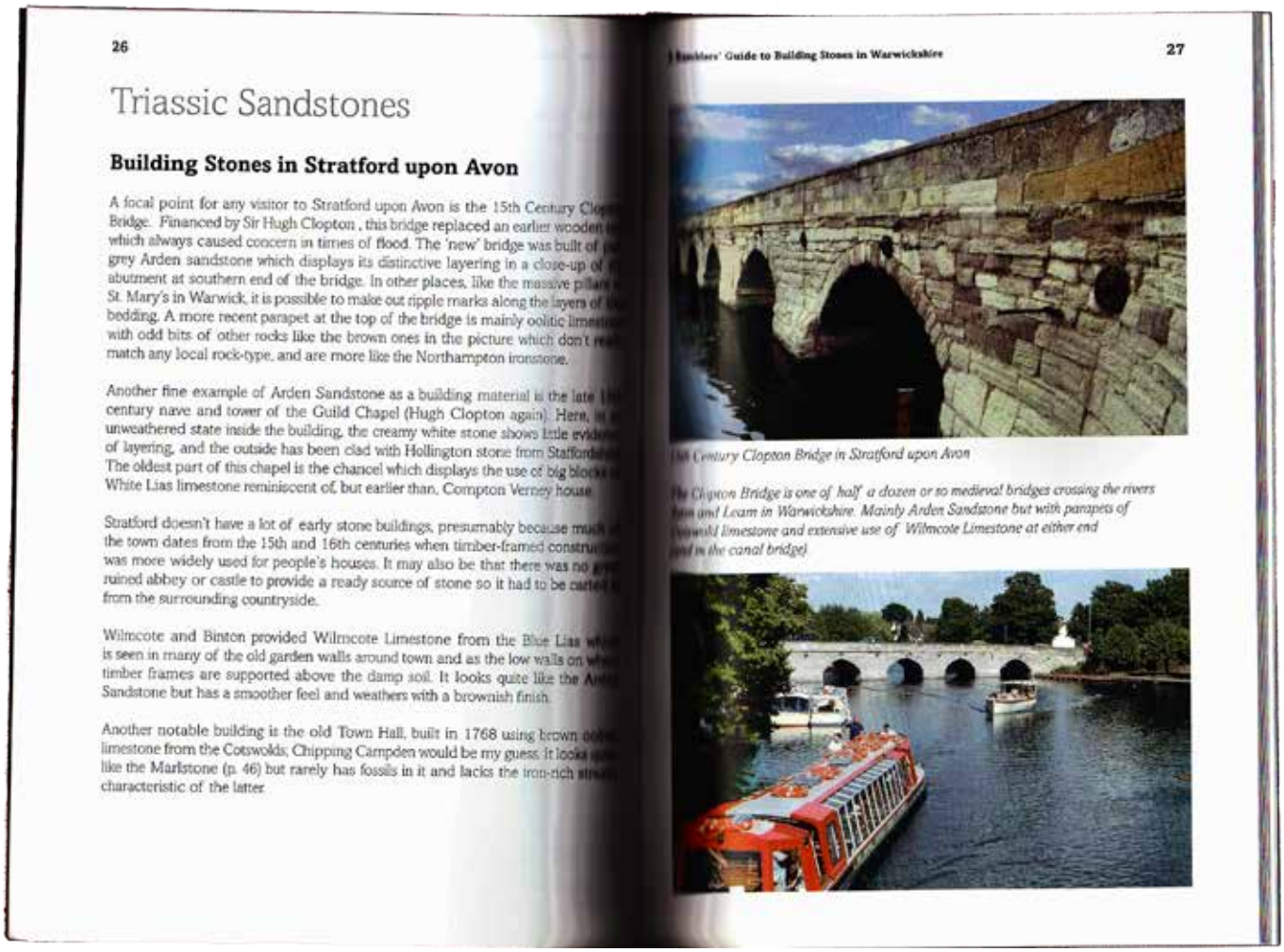
After a few years as a geologist with BP Exploration most of his career was teaching biology at the Mid-Warwickshire College of Further Education in Leamington Spa.

On retirement, enthusiasm for geology returned and this book is the outcome.

Some example of the book are shown on the following pages.



Triassic Sandstones in Stratford upon Avon



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Triassic Sandstones

Building Stones in Stratford upon Avon

A focal point for any visitor to Stratford upon Avon is the 15th Century Clop… Bridge. Financed by Sir Hugh Clopton, this bridge replaced an earlier wooden … which always caused concern in times of flood. The 'new' bridge was built of … grey Arden sandstone which displays its distinctive layering in a close-up of … abutment at southern end of the bridge. In other places, like the massive pillars … St. Mary's in Warwick, it is possible to make out ripple marks along the layers of … bedding. A more recent parapet at the top of the bridge is mainly oolitic limest… with odd bits of other rocks like the brown ones in the picture which don't re… match any local rock-type, and are more like the Northampton ironstone.

Another fine example of Arden Sandstone as a building material is the late … century nave and tower of the Guild Chapel (Hugh Clopton again). Here, … unweathered state inside the building, the creamy white stone shows little evide… of layering, and the outside has been clad with Hollington stone from Staffords… The oldest part of this chapel is the chancel which displays the use of big blocks … White Lias limestone reminiscent of, but earlier than, Compton Verney house.

Stratford doesn't have a lot of early stone buildings, presumably because much … the town dates from the 15th and 16th centuries when timber-framed constru… was more widely used for people's houses. It may also be that there was no … ruined abbey or castle to provide a ready source of stone so it had to be carted … from the surrounding countryside.

Wilmcote and Binton provided Wilmcote Limestone from the Blue Lias wh… is seen in many of the old garden walls around town and as the low walls on wh… timber frames are supported above the damp soil. It looks quite like the And… Sandstone but has a smoother feel and weathers with a brownish finish.

Another notable building is the old Town Hall, built in 1768 using brown oo… limestone from the Cotswolds; Chipping Campden would be my guess. It looks … like the Marlstone (p. 46) but rarely has fossils in it and lacks the iron-rich str… characteristic of the latter.

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…th Century Clopton Bridge in Stratford upon Avon

The Clopton Bridge is one of half a dozen or so medieval bridges crossing the rivers … and Leam in Warwickshire. Mainly Arden Sandstone but with parapets of … wold limestone and extensive use of Wilmcote Limestone at either end … in the canal bridge)

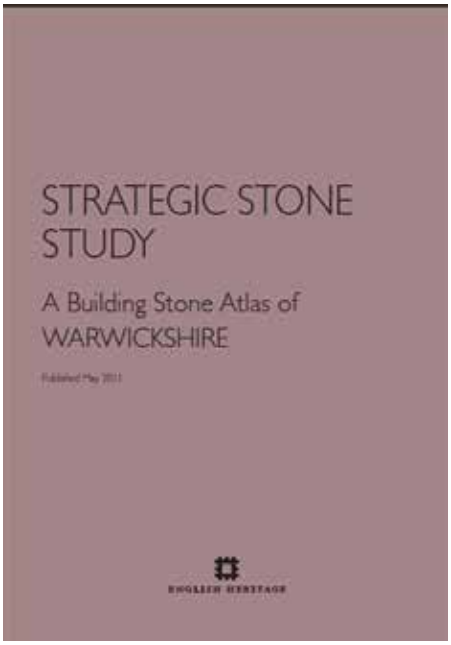
First published in 2006 this book has since been updated with this revision being published in 2011.

Hugh made a significant contribution to the ***Strategic Stone Study***, a joint BGS/English Heritage venture which enabled details of the most significant building stones in each county of England to be established and, where possible, the original source of stone for a particular building or settlement was identified.

http://www.bgs.ac.uk/mineralsUK/buildingStones/StrategicStoneStudy/EH_project.html

This book benifits from that work by presenting it in an easily readable and understood way.

A Glossary provides explanations of geological terms used within the book, and a map shows the location of the main rock types found within the county (this includes Coventry & Solihull)



Acknowledgements
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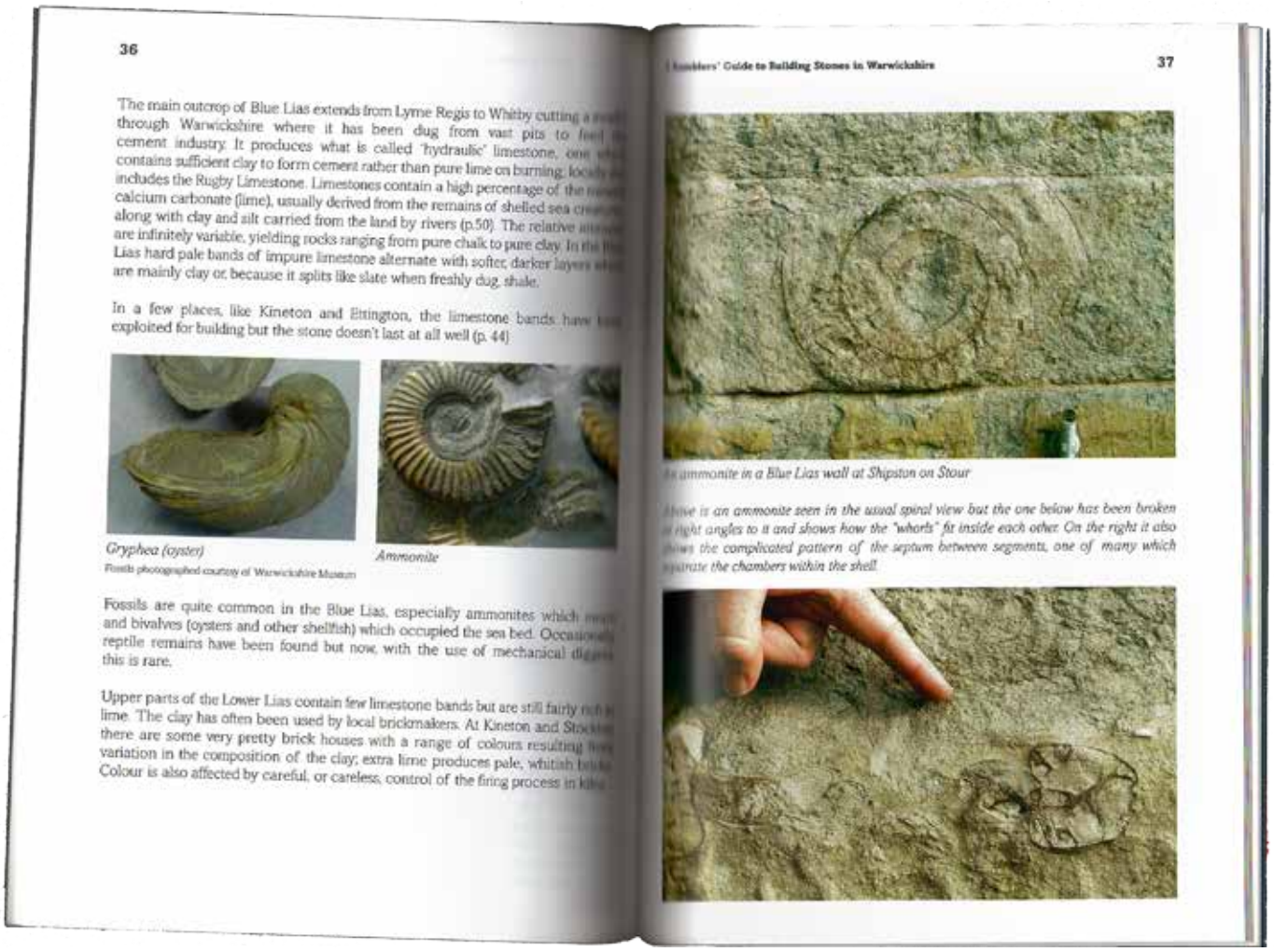
Fossils in Blue Lias



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The main outcrop of Blue Lias extends from Lyme Regis to Whitby cutting a swath through Warwickshire where it has been dug from vast pits to feed the cement industry. It produces what is called 'hydraulic' limestone, one which contains sufficient clay to form cement rather than pure lime on burning; locally it includes the Rugby Limestone. Limestones contain a high percentage of the mineral calcium carbonate (lime), usually derived from the remains of shelled sea creatures along with clay and silt carried from the land by rivers (p.50). The relative amounts are infinitely variable, yielding rocks ranging from pure chalk to pure clay. In the Blue Lias hard pale bands of impure limestone alternate with softer, darker layers which are mainly clay or, because it splits like slate when freshly dug, shale.

In a few places, like Kineton and Ettington, the limestone bands have been exploited for building but the stone doesn't last at all well (p. 44)

Gryphea (oyster)

Ammonite

Fossils photographed courtesy of Warwickshire Museum

Fossils are quite common in the Blue Lias, especially ammonites which swam and bivalves (oysters and other shellfish) which occupied the sea bed. Occasionally reptile remains have been found but now, with the use of mechanical diggers this is rare.

Upper parts of the Lower Lias contain few limestone bands but are still fairly rich in lime. The clay has often been used by local brickmakers. At Kineton and Stockton there are some very pretty brick houses with a range of colours resulting from variation in the composition of the clay; extra lime produces pale, whitish bricks. Colour is also affected by careful, or careless, control of the firing process in kilns.

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An ammonite in a Blue Lias wall at Shipston on Stour

Above is an ammonite seen in the usual spiral view but the one below has been broken at right angles to it and shows how the "whorls" fit inside each other. On the right it also shows the complicated pattern of the septum between segments, one of many which separate the chambers within the shell.

This book may be purchased from the **Warwickshire Geology Conservation Group.** The cost is £6.00 + £1.50 P & P.

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Ice Age building stones

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Oolitic limestone in Long Compton village

The Rollright Stones, chunks of oolitic limestone the same as the bedrock they stand on

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Building Stones from the Ice Age

Ice sheets advanced over Warwickshire several times during the time we call the Ice Age; periods of intense cold interspersed with much warmer 'interglacial' intervals. At times the ice was probably more than a hundred metres thick in the north of the county but thinning southwards and never extending much beyond Edgehill. The ice sheet contained bits of rock and soil scraped up from all over the country north of here and as it melted they settled to the ground as 'glacial drift'. Occasionally there are big boulders which are referred to as 'glacial erratics'; where these are of a distinctive kind of rock we can sometimes pinpoint the source from which they came and from that deduce the direction of ice movement. Mostly we have been left with a thin smear of sand and gravel which here and there is thick enough to provide a ready source of material for the construction industry.

The thickest and most extensive deposits lie north and west of Rugby, including Dunsmore Heath. In a few places pebbles from the 'drift' have been collected and used in the walls of buildings. The church at Churchover (p. 54) is a particularly good example where the 15th century tower is basically White Lias (local) but the nave and chancel, rebuilt late in the 19th century, are entirely clad in split pebbles of great variety. Another interesting example is St. Mary's at Clifton on Dunsmore where the tower is a mix of grey and reddish sandstones typical of the Coventry area; the rest is mainly ironstone, some of which is the dark brown Marlstone type and some the yellower, sandy Northampton Sand (or ironstone) which becomes increasingly common towards Daventry. Scattered among the ironstones are pebbles of hard brown sandstone from the 'drift' and blocks of very dark brown conglomerate. In the conglomerate are a variety of smallish rounded pebbles, not more than a few centimetres across, and in some blocks lots of similar sized angular flint pebbles. Local studies have found this 'pebble rock' or 'motherstone' (p. 54), as it is known very locally, to be fairly widespread on the Heath where it seems to have formed as an iron-pan at a depth where it interferes with deep ploughing. Such layers are found where groundwater carrying dissolved minerals (iron and manganese) evaporates as it nears the surface and leaves behind a kind of hard chemical crust.

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