

gneisses, with no evidence of an Archaean event at about 2600 Ma. (See also Note on p. vii).

This ancient basement is not exposed in Jersey but it is present in Normandy and Brittany, particularly near St Brieuc.

Cogne (1959) gave the name Pentevrian to the rocks near St Brieuc that have yielded dates of 1200 to 900 Ma (Leutwein and Sonet, 1965; Leutwein, 1968), and the name has been extended by some authors to include all pre-900 Ma basement rocks within the Armorican massif. Roach and others (1972) have suggested the name Icartian for the 2020 Ma event represented by the Icart orthogneiss of Guernsey.

A succession of low-grade metasedimentary rocks of deep-water continental slope or rise origin and of unknown thickness is widely exposed in Normandy and Brittany, and is known as the Brioverian (Barrois, 1895). Near St Brieuc similar metasedimentary rocks rest unconformably on Pentevrian high-grade metamorphic rocks. The oldest rocks in Jersey—the Jersey Shale Formation—are ascribed to the Brioverian and were correlated by Graindor (1957) with the Upper Brioverian of Normandy. There is a raft of Brioverian metasedimentary rocks in the L'Erée adamellite at Pleinmont in Guernsey, indicating that these rocks were once more widely distributed in the Channel Islands area than at present. The Jersey Shale Formation is overlain by a sequence of andesitic and rhyolitic pyroclastic rocks and lavas that comprise the Jersey Volcanic Group. Felsic volcanic rocks of broadly similar age occur at St Germain-le-Gaillard in the Cotentin and in the Trégor and Erquy areas of Brittany. The Brioverian rocks were folded and metamorphosed to varying extents in different places before the deposition of Lower Palaeozoic sediments—the oldest being of Cambrian age—which, in Normandy and Brittany, rest unconformably on them. The name Cadomian is given to the late Precambrian orogeny which deformed the Brioverian rocks.

Igneous rocks occur in each of the Channel Islands, as both major and minor intrusions. Nearly all are related to the Cadomian orogeny, and were intruded in late Precambrian to early Palaeozoic times over the period 675 to 480 Ma (Adams, 1976). Most were emplaced after the Cadomian deformation. As a group, the Jersey granites are somewhat younger than their counterparts in Guernsey, Herm and Alderney, though all have associated gabbroic and dioritic rocks which show many interesting and unusual features. The L'Erée adamellite, exposed on the west coast of Guernsey, differs from the other granites in being foliated and containing large feldspar megacrysts. It is the oldest of the Cadomian granites (645 ± 25 Ma, recalculated from 660 ± 25 Ma of Adams, 1976) and was emplaced before the cessation of Cadomian movements. Other foliated granites occur in Sark and on the islets to the north and south of Jersey (Les Paternosters, Les Dirouilles, Les Ecréhous and Les Minquiers). Isotopic ages show these to have been emplaced at about 617 Ma, before the emplacement of the principal granite masses of the islands.

Other than the inclusion in the granite at L'Erée, rocks corresponding to the Jersey Shale Formation and the overlying volcanic rocks are not exposed in the other islands. The islands comprising the two Bailiwicks are, therefore, geologically complementary, Jersey showing late Precambrian, supracrustal sedimentary and volcanic rocks and the effects on them of Cadomian deformation and low-grade metamorphism, in contrast to Guernsey, Sark and Alderney, where the old crystalline basement, predating the Brioverian rocks by about 1000 Ma, is exposed. Cadomian igneous complexes are a common element, and post-Cadomian molasse-type sediments of the Rozel Conglomerate Formation in Jersey are probably broadly coeval with the Alderney Sandstone Formation, which has long been correlated with the earliest Palaeozoic rocks of the Cap de la Hague area of France.

For many years before the present framework of isotopic dates was established, British geologists sought to relate rocks in the Channel Islands to similar formations in south-west England. It is now

apparent that such comparisons as can be made with Britain link Brioverian-Cadomian deposits with rocks of broadly similar age exposed, for example, in Anglesey, Shropshire, and near Rosslare in Eire. Granitic rocks of similar age to those in the Channel Islands occur in the Avalon Peninsula of eastern Newfoundland. It seems likely that these areas had similar geological settings in late Precambrian-early Palaeozoic times.

The flat, peneplaned surfaces of the islands bear testimony to much more recent geological events which have shaped the present topography. The loess that occurs on all the main islands is the westerly extension of the European loess, deposited during Pleistocene times by winds blowing across the cold lands to the south of the ice-covered parts of northern Europe. The other superficial deposits reflect both periglacial conditions and episodes of warmer climates and higher sea levels. The numerous raised-beach deposits and evidence of hominid occupation of cave-sites give the islands a significant place in charting the history of Pleistocene and Holocene times.

[Authors and contributors](#)

[References](#)

[Glossary](#)

Retrieved from

'http://earthwise.bgs.ac.uk/index.php?title=Introduction_-_Jersey:_description_of_1:25_000_Channel_Islands_Sheet_2&oldid=43569'

Category:

- [Jersey, classical areas of British geology](#)

Navigation menu

Personal tools

- Not logged in
- [Talk](#)
- [Contributions](#)
- [Log in](#)
- [Request account](#)

Namespaces

- [Page](#)
- [Discussion](#)

Variants

Views

- [Read](#)
- [Edit](#)
- [View history](#)
- [PDF Export](#)



More

Search

Navigation

- [Main page](#)
- [Recent changes](#)
- [Random page](#)
- [Help about MediaWiki](#)

Tools

- [What links here](#)
- [Related changes](#)
- [Special pages](#)
- [Permanent link](#)
- [Page information](#)
- [Cite this page](#)
- [Browse properties](#)

• This page was last modified on 13 November 2019, at 21:32.

- [Privacy policy](#)
- [About Earthwise](#)
- [Disclaimers](#)

