age. Cambrian rocks succeed the Torridonian, again with strong unconformity; they are represented, in ascending order by (1) false bedded quartzite, (2) quartzite with annelid burrows, the “pipe rock," (3) the fucoid beds with *Olenellus* band,. (4) serpulite grit, (5) Durness limestone and dolomite and their marmorized equivalents. The white quartzite that has been left as a cap on such dark Torridonian hills as Quinag and Canisp forms a striking feature in the landscape. These Cambrian rocks occupy a very irregular belt along the line above mentioned; the broadest tract is in the neighbourhood of Loch Assynt, another large area lies about the southern end of Loch Eriboll and the Durness limestone is extensively developed near the loch of that name. Along the belt of Cambrian rocks there is abundant evidence of crustal deformation on the most extensive scale; one after another great slices of rock, often miles in extent, have been sheared off and pushed forward by thrusts from a south-easterly direction, so that in several places it is possible to find the Lewisian gneiss dragged up and carried forward right on to the Cambrian; in the Durness district the eastern schists have been so transported from a distance of 10 m. The most striking of the planes of thrusting is that known as the Moine, others of great magnitude occur to the west of it, such as those by Glencoul and Ben More. Masses of granite appear in the eastern schists on the county boundary by Strath Halladale,at Ben Laoghal, Ben Stomino and east of Lairg. The Old Red Sandstone forms some elevated ground around Dornoch and Golspie and patches occur at Portskerra and elsewhere. A narrow strip of Mesozoic strata lies along the coast from Golspie Burn to Ord. Triassic marls are seen in the Golspie stream; these are succeeded northwards, near Dun­robin Castle, by Lias, then by Great Oolite, with the Brora coal, followed by Oxfordian, Corallian and Kimeridgian beds. Evidence of ice action is everywhere apparent, the striations show that the ice travelled towards the north-west and north, and from the eastern part of the county, towards Moray Firth.

*Climate and Agriculture.—*The rainfall varies greatly, being lowest on the south-east and highest in the mountainous hinterland of the west, with an annual mean of 44∙7 in. The average temperature for the year is 47° F., for January 38∙5°F., for July 56∙5°F. Only one- fortieth of the total area is under cultivation, the shire ranking lowest in Scotland in this respect. The great mass of the surface is grazing ground and deer forest. The best land adjoins Dornoch Firth, where farming is in an advanced condition, but there are fer­tile patches along the river valleys. At the beginning of the 19th century the crofters occupied almost every cultivable spot, and were more numerous than the soil could support. The first duke of Sutherland (then marquis of Stafford) adopted a policy of wholesale clearance. Between 1811 and 1820 fifteen thousand peasants were evicted from their holdings in the interior and transferred to the coast. The duke incurred great obloquy, but persisted in his re­forms, which included reduction of rent, improvement in the well-being of the people, reclamation of thousands of acres, and abolition of the tacksman or middleman, so that tenants should hold directly of himself. He also did much to open up the shire generally. Be­tween 1812—when there was only one bridge and no road in Suther­land—and 1832, he bore half the cost, the government contributing the rest, of constructing 450 m. of road, 134 bridges, some of con­sidcrable size, and the iron bridge at Bonar of 150 ft. span. The 3rd duke (1828-1892) carried out a large plan of reclamation. Attempts have been made to repeople some of the glens (Strath- naver, for example) depopulated by the clearances. Crofters still largely predominate, nearly two-thirds of the holdings being under 5 acres—the highest proportion in Scotland. The chief grain crops are oats and barley, the chief green crops turnips (including swedes) and potatoes. The raising of livestock is the staple business of the county. The sheep are mostly Cheviots, the cattle West Highland, shorthorn and crossbred. Horses—principally ponies, though Clydesdales are used on the bigger farms—are almost wholly kept for agricultural purposes, and pigs are also reared. The deer forests belonging to the duke of Sutherland are Reay, 64,600 acres; Ben Armine and Coirna-fearn, 35,840; Glen Canisp, 34,490; and Dun­robin, 12,180—in all 147,110 acres, or more than one-ninth of the whole area. Excepting the south-east coast, the valley of the Shin, and a considerable portion of Strath Oykell, there are very few districts under wood.

*Other Industries.—*Next to agriculture, the deep-sea fishery and the salmon fisheries in the rivers are the most important interest. Helmsdale (pop. 1259) is the only port of any consequence. Her­rings are the principal catch, but cod, ling and other fishes are also taken. Whisky is distilled at Clyne and Brora; some woollens are manufactured at Rogart; coal is mined at Brora, marble quarried in Assynt and limestone and sandstone in several districts. The exceptional facilities offered by the deer forests, moors and the many lochs and rivers attract large numbers of sportsmen whose custom is valuable to the inhabitants; and Dornoch and Lochinver are in growing repute as holiday resorts. The Highland railway enters the county at Invershin, goes northward to Lairg, then east to Brora and north-east to Helmsdale, whence it runs north-west to Kildonan, and north to Forsinard, where it shortly afterwards leaves the shire. The Glasgow steamers call at Lochinver once a week, and mail-cars run periodically from Lairg to Lochinver and Scourie in the west and to Durness and Tongue in the north; from Helmsdale, by the coast, to Berriedale, Dunbeath, Latheron and Lybster; and from Tongue to Thurso. Considering its scanty and scattered population and mountainous character, the county is well inter­sected by roads, many of which were constructed by successive dukes of Sutherland, who own four-fifths of the shire.

*Population and Administration.—*In 1891 the population amounted to 21,896, and in 1901 it was 21,440, or 11 persons to the square mile, the least populous of Scottish counties. Several islands lie off the west and north coast, but only Roan, at the entrance to Kyle of Tongue, is inhabited (67). In 1901 there were 469 persons speaking Gaelic only, 14,083 who spoke Gaelic and English. The county returns a member to parliament, and Dornoch, the county town, belongs to the Wick group of parliamentary burghs. Sutherland forms a joint sheriffdom with Ross and Cromarty, and a sheriff-substitute presides at Dornoch. The county is under school-board jurisdiction; some of the schools earn the grant for higher education, and the “ residue ” grant is expended in bursaries. The Sutherland combination poorhouse is situated in Creich and there is a hospital, the Lawson Memorial, in Golspie.

*History and Antiquities.—*Of the Picts, the original inhabi­tants, there are considerable remains in the form of *brocks* (or round towers), numerous and widely scattered, Picts’ houses, tumuli, cairns and hut circles. Dun Dornadilla, in the parish of Durness, 4 m. south of Loch Hope, is a tower, 150 ft. in circumference, still in good preservation. The Norse jarl Thorfinn overran the country in 1034 and the Scandinavian colonists called it, in relation to their settlements in the Orkneys and Shetlands, *Sudrland,* the “ southern land,” or Sutherland. After the conquest of the district by the Scottish kings, Suther­land was conferred on Hugh Freskin (a descendant of Freskin of Moravia or Moray), whose son William was created earl of Sutherland in 1228 by Alexander II. Assynt was peopled by a branch of the Macleods of Lewis, till they were dispossessed by the Mackenzies, who sold the territory to the earl of Sutherland about the middle of the 18th century. The vast tract of the Reay country, belonging to the Mackays, an ancient clan, also fell piece by piece into the hands of the Sutherland family. Killin, on the east bank of Loch Brora, was the site of an old chapel dedicated to St Columba, an association commemorated in the name of Kilcolmkill House, hard by. On the south shore of Helmsdale creek stand the ruins of the castle in which the 11th earl of Sutherland and his wife were poisoned by his uncle’s widow in 1567, with a view to securing the title for her only child who was next of kin to the earl and his son. Ardvreck Castle, now in ruins, at the east end of Loch Assynt, was the prison of the marquis of Montrose after his defeat at Invercarron (1650), whence he was delivered up by Neil Macleod of Assynt for execution at Edinburgh. In the graveyard of the old church of Durness is a monument to Robert Mackay, called Rob Donn (the brown), the Gaelic poet (1714-1778).

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**SUTLEJ,** a river of India, one of the “ Five Rivers ” of the Punjab. It rises E.S.E. of the Manasarowar lakes in Tibet, at an elevation of about 15,200 ft., threads its way through the gorges of the Himalayas with heights of 20,000 ft. on either side, crosses Bashahr and the Simla hill states, and enters the British district of Hoshiarpur. Thence it flows through the plains of the Punjab, receives the Beas in Kapurthala state, and joins the Chenab near Madwala. From that point the whole river bears the name of Panjnad (“ five rivers ”) until it falls into the Indus near Mithankot after a course of 900 m. In the time of Ranjit Singh the Sutlej formed the boundary line between the Sikh and British dominions, and the Sikh states south of the river still bear the title of Cis-Sutlej.

The Sutlej supplies two systems of irrigation works: the Sir- hind canal, which draws off the whole of the cold season supply of the Sutlej at Rupar, 100 m. above its junction with the