but by acts of 1910 this territory was made over to the federal government. It is, however, described below.

The southern coast-line shows two large gulfs, Spencer and St Vincent—the first 180 m. long, the other 100. Spencer Gulf is open to the ocean, while St Vincent Gulf is partly shielded by Kangaroo Island, with Investigator Straits as its western and Backstairs Passage as its eastern entrance. Yorke Peninsula separates the two gulfs. Eyre’s Peninsula is to the west of Spencer Gulf, and at its southern extremity are Port Lincoln, Sleaford Bay and Coffin’s Bay, of which the first is the most important. Along the Great Australian Bight are several small bays, and the junction of South and Western Australia is on the Bight. Going eastward from the Gulf of St Vincent is Encounter Bay, through which there is an entrance to Lake Alexandrina, the mouth of the Murray river. The Coorong is the name given to the narrow sheet of water, nearly 200 m. long, formed by the Murray and separated from the ocean by a very narrow strip of land. Lace- pede and Rivoli Bays are the only other important indentations of this coast. In Northern Territory are several important indentations, Melville, Adam, Arnheim and Raffles Bays, Van Diemen’s Gulf, Port Essington and Port Darwin (lat. 12° S.). The Gulf of Carpentaria divides the territory from Cape Yorke Peninsula of Queensland, the more important inlets on the shore of the gulf in Northern Territory being Caledon Bay and Limmen Bight. The principal island belonging to South Australia is Kangaroo Island, situated at the mouth of the Gulf of St Vincent; it is also the longest Australian island, measuring 210 m. by 85 m. at its widest part. Off the north coast of Northern Territory are Melville and Bathurst Islands, the Wessel group, and Groote Eylandt in the Gulf of Carpentaria.

Mountain ranges are not an important feature of the country, which, on the whole, is level where not slightly undulating. In the south of the state the principal ranges run north and south; the Mount Lofty range, beginning at Cape Jervis, runs parallel with St Vincent’s Gulf and at one or two points touches 3000 ft., Mount Lofty, near Adelaide, having an elevation of 2330 ft. The Flinders range rises on the eastern shores of Spencer Gulf and extends north for several hundred miles, terminating near the so-called Lake Blanche; there are in this range several isolated peaks which attain 3000 ft., the most prominent being Mt Remarkable, 3100 ft., Mt Brown, about the same height, and Mts Arden and Serle, about 3000 ft. The Gawler range, running across Eyre’s Peninsula, south of the lakes, attains an elevation of about 2000 ft. at several points. Beyond Lake Torrens the ranges tend in the direction of north-west and after- wards east and westerly; and occasional summits reach 5000 ft. Northern Territory is traversed by several minor ranges, but the country has not been thoroughly explored and the heights and direction of the ranges have not been in all cases determined; no elevation above 2000 ft. has, however, been discovered.

South Austrah\*a is by no means a well-watered country, but there are some fine streams in the north of Northern Territory. In South Australia proper the Murray enters the sea at Lake Alexandrina, after having received the drainage of three states. The Torrens, Wakefield, Hindmarsh, Tuman and Gawler are unimportant streams; on the banks of the first named is situated the city of Adelaide. From Queensland flows the Barcoo, or Cooper’s Creek, into Lake Eyre, which also receives the Macumba, with its tributary the Alberga, and several other rivers. These are rivers only when they are filled with the torrential rains of the interior, and for the most part are depressions destitute of water. Northern Territory is marked by an absence of water except at the extreme north, where there are several fine rivers, some of which are navigable for over 100 m.; the most note­worthy are: the Roper, flowing into Limmen Bight in the Gulf of Carpentaria, the Liverpool, the South Alligator, the Adelaide, the Daly and the Victoria. There are numerous lakes shown on the maps of South Australia, but none are permanent; they are depressions filled by the rivers in times of flood, but otherwise waterless or containing shallow pools of salt water. (T. A. C.)

*Geology.—*South Australia may be divided geologically into four parts, the geology of each of which is so distinct that they may be conveniently considered apart. These divisions are (1) the Great Valley of South Australia and the adjacent highlands that border it, (2) the Lake Eyre Basin, (3) the Western Plateau, (4) the basin of the Lower Murray, with (5) the Northern Territory.

The western division consists of a plateau of Archean gneisses, granites and schists, which extend across Australia from the Eyre Peninsula on the south to the northern coasts on Port Darwin. In the south-western corner of the state the Archean plateau is separated from the Southern Ocean by the Cainozoic limestones of the Nullarbor plains, which extend from the shore of the Great Australian Bight to the foot of the great Victorian desert. Thence northward, the Archean rocks form the whole foundation of the country, until they end in a scarp, the “ so-called coastal range,” to the south of the Gulf of Carpentaria, and in the exposures near Palmerston, on Port Darwin. This plateau bears occasional deposits of later age. The chief of these are the Ordovician rocks of the Macdonnell Chain; they there trend approximately west-north- west to east-south-east, and represent part of the old Lower Palaeo- zoic mountain chain, which appears to have once extended across Australia from Kimberley to Adelaide and Tasmania. To the north-east of the Ordovician rocks of the Macdonnell Chain are the Cambrian deposits of Tempe Downs and the head of the Herbert river. Some Jurassic fresh-water deposits occur in basins on the plateau, having been proved by a bore, now being put down, in the hope of forming a flowing well at Lake Phillipson.

In contrast to the striking uniformity of the Western Plateau is the geological complexity of the part of South Australia known as “ the Counties,” including the settled districts in the south of the state around Spencer Gulf. The country is underlain by Archean and granitic rocks; they are exposed in the Gawler Range to the west, in the Archean outcrops near the New South Wales frontier, on the railway to Broken Hill, and at the foot of the highlands, along the western edge of the Murray basin. The highlands of South Australia consist mainly of contorted Lower Palaeozoic rocks, including the best representative in Australia of the Cambrian system. These Cambrian deposits, in addition to yielding a rich Cambrian fauna, contain a long belt of glacial deposits, the discovery of which is due to W. Howchin. These highlands form the whole of the mountainous country to the east of Lake Torrens; they extend southward to the highlands behind Adelaide, and form the axis of Kangaroo Island, while a branch from them forms the backbone of Yorke Peninsula. The highlands end to the north along a line running approximately east and west through Mt Babbage and the Willouran and Hergott ranges, to the south of Lake Eyre. The country to the west of Lake Torrens is a plateau, capped by the Lake Torrens Quartzites, which are apparently of Upper Palaeozoic age. This plateau has been separated from the South Australian highlands by the formation of the rift valley, in which lie Lake Torrens and Spencer Gulf. St Vincent Gulf occupies a foundered area between the Mount Lofty ranges, the Yorke Peninsula and Kangaroo Island. The south-eastern corner of South Australia is occupied by the basin of the Lower Murray, which in middle Cainozoic times was occupied by a sea, in which was laid down a thick series of marine sands and limestones. These rocks have yielded a rich fossil fauna from the cliffs beside the Murray. In the southern part of this district there is a western continuation of the basaltic sheets so conspicuous in Victoria. Some of them have been ejected from volcanoes, of which the vents are still well marked. The best extinct crater known is Mt Gambier.

The Lake Eyre basin occupies a vast depression to the north of the South Australian highlands ; it is bounded to the west by a line of ridges and mountains of Archean and Lower Palaeozoic rocks, which connect the north-western end of the South Australian high- lands with the mountains on the Archean plateau at the head of the Macumba and the Finke rivers. The Lake Eyre basin was occupied in Lower Cretaceous times by a sea, which extended southward from the Gulf of Carpentaria ; and it appears to have been bounded to the south by the northern edge of the South Australian highlands. In this sea were laid down sheets of clays, known as the Rolling Downs formation. After the retreat of this sea the clays were covered by the Desert Sandstone, which has been cut up by denudation into isolated plateaux and tent-shaped hills. On the margin of the Desert Sandstone in Queensland there are some marine beds interstratified with the Desert Sandstone, and the fossils fix its age as Upper Cretaceous. The origin of the Desert Sandstone has given rise to considerable discussion; but it is no doubt in the main a terrestrial formation including some lake deposits. The surface is often converted into a vitreous quartzite by deposition of an efflorescent chert. Obsidian buttons are scattered over the central deserts, and have been regarded as of meteoric origin; they have also been considered proof of local volcanic action, but they have probably been scattered by the aborigines. Extensive estuarine deposits of Pliocene or early Pleistocene age, with a rich fauna of extinct marsupials and birds, occur on the plains to the east of Lake Eyre.

The Northern Territory includes the mountains of the Macdonnell Chain, and all the country thence to the northern coast. It consists of an Archean plateau, covered in places by Cambrian and Ordo- vician deposits. To the north of the Victoria river and the Roper