of immovable property was about £124,000. The reports of the several civil commissioners, however, state that it is capable of supporting a very large population if its resources are only developed. As an instance of what energy and enterprise will do, it may be mentioned that two farmers, some years ago, sold their farm in the Upper Oliphant's River for £250, "because they could not subsist upon it." It is by no means one of the best farms in that locality; but it now supports upwards of eighty people and the new proprietor has derived a comfortable independence from his exertions. Within a year or two past, copper has been found in the district on a farm named "Zandfontein" and on Government land, but whether it can be obtained in paying quantities remains to be seen. Marble of a good quality is also found, and saltpetre exists in several localities and is used by the inhabitants for household purposes. Clanwilliam from its being a coast district has the advantage of regular winter rains, and it is seldom (not more than once in five or six years) that these fail. There are also in various places many powerful springs which may be used for irrigation; one of a mineral character on the Upper Oliphant's River has a great curative repute. Land varies much in price according to position and other circumstances, but the average value for occupied properties is from 7s. 6d. to 10s. a morgen.

Calvinia immediately adjoins Clanwilliam on the inland side. The township (which has a population of about 300) is 250 miles distant from Cape Town, by the direct road leading through Ceres, Karoo Poort, Laange Doorns, Vaarsche Fontein, and Draaikraal outspans. The division is one of the largest in the Colony, extending from the Tanqua River in the Karoo north to the Orange River, embracing an area roughly estimated according to the Blue-book at 26,000 square miles, but the greater portion of this

tract is generally known as Bushmanland—which will be more particularly noticed hereafter, in connection with the Northern Border territory. The occupied parts of Calvinia are chiefly the high table lands (nearly level with Table Mountain) locally designated the Bokkeveldt, Roggeveld, and Hantam. The climate there in the winter season is very sharp, snow falling and the frosts frequently affecting the fruit trees and the grain crops. The soil is fertile, consisting mostly of Karoo, and when the latter rains fall copiously the harvest is good, yielding an average of fifty fold. But being on the debatable ground between the winter and summer rain tracts, the district is subject to periodical droughts, and when these prevail breadstuffs and provisions reach a famine price. It is, however, more a pastoral country than otherwise, and sheep-breeding is the chief occupation of the farmers. The census of 1865 gave the number of woolled sheep in the district at 27,242 and of African sheep 246,943. More than half of the flocks are still of the hairy fat-tailed African kind, which supply the heaviest and best mutton to the western markets; but year by year these are being cleared out, and farmers are showing a greater disposition to betake themselves to the more valuable merinos. The clip of wool of Calvinia last year was upwards of 800 bales, most of it of a superior quality. The farms vary in extent from 3,000 to 10,000 morgen, and some are even 25,000 morgen. The largest flocks are about 6,000 sheep, besides cattle and horses, but the average may be put down at not much more than 1,500. Horse-breeding is carried on to a considerable extent, notwithstanding occasional heavy losses from epidemics. The Van der Merwe's, Visagies, and others keep up their valuable blood-stock, and the Western Hantam, like that of the New Hantam (near Colesberg) can always be relied on for supplies of good

serviceable animals. Ostrich-farming is increasing, the open and arid nature of the country being favourable for it, and the amount realized for feathers last year was estimated at £5,000. The excessive dryness of a great portion of the district in summer has induced the farmers for many years past to adopt what is now with them a regular habit—the "trekking" system. They close up their houses and move away with their sheep or cattle to the open plains stretching to the northward, which from the circumstance of their being thus used as free commonages have obtained the name of "Trekveld" and "Achterveld." A few years ago, licenses granting the privilege of grazing there were issued by the Government under the Squatters' Act of 1867. This yielded a revenue of £1,500 per annum, and it was estimated that 300,000 sheep and 8,000 head of cattle were pastured on these lands. The Squatters' Act having expired, part of the country numbering about 100 large lots was last year put up for annual lease, but only a few of these were taken at the upset rental of £3 per 20,000 morgen. Had there been any reasonable conditions made for the repayment of improvements effected by the lessees, the result would have been very different. The farmers would then have been encouraged to construct reservoirs and watercourses, which are necessary for the occupation of the country for any length of time. But failing this, they preferred reverting to the old state of things under which they roam about at will in search of the best pasturage and the largest natural pools, and not unfrequently there are quarrels and broils as to the possession of these. The Government, however, is making arrangements for the survey of the lands with a view to leasing them for terms of twenty-one years under the Land Act of 1864, and it is estimated that the revenue from them will reach £15,000 or £20,000 per annum. Farms in the occu-

pied parts of the district now average, in the Bokkeveld, as much as 30s. per morgen; in the Hantam, an average of 15s. per morgen; and in the Achterveld, where little or no improvements have been made, about 5s.

We next come to the rich copper-bearing district of Namaqualand, stretching along the coast from Clanwilliam to the mouth of the Orange River over an area estimated at twenty-one thousand square miles. The population does not much exceed 12,000 souls, and the extent of cultivated ground about 12,000 acres, so that the greater part of the country although known to be rich in hidden wealth is as yet an empty barren wilderness. Its geographical features, as well as its geology, zoology, and botany, and the situation and character of all its mining centres are admirably described by Mr. Wyley, the geologist, in his official report on the district in 1857. A broad sandy tract stretches inland from the sea, and rises by a gradual ascent to the high plateau of Buslmanland. Towards the north the mountains increase, some rising 1,500 feet above the general surface, which is about 3,000 feet in height.

The prevailing rock, in Namaqualand, Mr. Wyley says, is gneiss, passing into schists, as we approach the Orange River. In the south, the gneiss is often of a granitic texture, and cannot always be distinguished from the granite veins which are mixed up with it, as in all gneiss countries. It is broken into by new granites, and greenstone rocks, and very often, in the south, by a peculiar ferruginous felspar rock, which has been noticed in connection with the mines. This usually forms small rounded or conical hillocks, easily distinguished by their dark rusty brown colour, and as they are pretty sure to accompany the copper indications, they have often served as a guide to the latter, and have been termed "the copper-bearers."

The bedding of the gneiss, where it can be made out, is sometimes nearly vertical, sometimes horizontal, but it is seldom so marked as to exercise any great influence on the form of the hills. Not so with the quartzites and limestones along the middle of the mountain range, which appear in horizontal caps, and flat tabular mountains, like the Table Mountain, or the sandstone hills of the Interior. The hills of Bushmanland, excepting those very far to the eastward, although of gneiss or granite, have also a tendency to the tabular form, owing in most cases, to a more nearly horizontal arrangement of those rocks. Those of the western flats are, for the most part, of the same broken character as the gneiss of the highland districts.

Springbokfontein, or Springbok as it is commonly named, is the chief seat of magistracy of the district, and near to the centre of the wonderful mining industry which has sprung up during the last twenty years. The existence of copper in this locality was known nearly two centuries ago, and as early as 1685 attempts to turn it to account were made by the Dutch Company's Governor, Van der Stell, and afterwards by others, but without success. The want of fuel and the difficulties of transport in those days were probably insurmountable obstacles to enterprise. It was only in 1852 that the working of the present mines was commenced by a Cape Town firm, the late Messrs. Phillips & King, now King & Son. They opened the ground at Springbok, which then was a desolate place, with merely a mud cabin and a few mat huts occupied by the natives. The mineral indication was situated at the base of a hill rising about 600 feet above the plain. Before being broken into it exhibited a mass of rusty brown rock, of a somewhat semi-circular form about 160 yards in greatest length. The lowest portion consisted of very

slightly altered granite, or rather very granitic gneiss, showing little trace of copper; the upper part on the other hand was highly altered and mineralized gneiss with an abundant copper stain, not superficial, but penetrating far into the decomposed rock, in addition to which there were several veins of red copper ore at the surface of the ground. The first eleven tons of ore were shipped by the steamer *Bospherus* on the 31st August, 1852. Since then upwards of 88,000 tons averaging 30 per cent. of copper, have been shipped. The exports for several years have been 7,000, and it is rapidly approaching to 10,000 tons per annum. Springbok is now an important village, with its public offices, pretty English church, and substantial houses. Five miles away from it, a new mine, the Ookiep, has been opened; and the tall chimney stalk 120 feet high, the smelting works and other extensive buildings erected there, as well as the large heaps of ore lying about, show the importance of the station. There is a population of 1,500 on the place, a portion of whom work under ground and the remainder on the surface, in the different occupations connected with the mine. A number of these are Cornish men and skilled European artisans, but there are also labourers from St. Helena, and Hottentots, Bastards, Damaras, and other natives employed. Again at Spectakel, twenty miles from Springbok, and near to the junction of the Buffels and Schaap Rivers, there is another mine with a population of about 600; and at the Concordia mines, eight miles north-east of Ookiep, there is also a large establishment with smelting works and some 300 to 500 people employed there.

In 1860 Messrs. Phillips & King retired deservedly enriched by their enterprise and energy, and their property was transferred to the Cape Copper Mining Company (Limited). From that time the development of the mineral wealth of the district has

been most marked. Skilled labour and machinery were introduced, new centres were opened, a railway constructed from the seaport towards the mines, and the whole business conducted under a well arranged system of administration and management. As a mercantile success, the result has been highly satisfactory. Their principal mine is that of "Ookiep" and the richness of its yield may be judged of from the fact that it produced more metal last year than the whole of the Cornish and Devon mines during the same time. Professor Noble who visited it in 1873, says:—"It is beyond all doubt the richest copper mine in the world. In 1870 it yielded 5,300 tons of ore, at an average per centage of 29·38; in 1871 it gave 6,071, at an average of 32 per cent; and in 1872 it yielded 6,900 tons, with a per-centage of 33·25. During the present year it is yielding at the rate of from twenty to thirty tons per diem; while the estimated amount of its wealth within reach of the present shaft with its traversing extensions is upwards of 30,000 tons! The total depth attained by the shaft is 420 feet,—or to give a still more vivid notion of it, I need only mention that the most experienced miners take 'twenty minutes' in climbing up the ladders from the bottom to the summit level. Of course, at various levels extensions are made in all directions, east, west, north, and south, traversing the copper bearing lode. At the fifty fathom or 300 feet level in one direction there is a 'stope' or excavation of sixty feet by 120 feet, forming a huge cavern, the roof of which is supported by three pillars of resplendent ore, necessarily left untouched; while at the deeper level of sixty fathoms or 360 feet, the area explored and excavated is 210 feet from north to south, and 150 feet transversely to the eastward." Of the ore in reserve—that is, in sight but not yet brought to the surface—the mining engineer's estimate

is 35,000 tons. In his last report he says: "I have gone carefully into calculations as to the quantity of copper ore that we have at present discovered in the mine, and I estimate the number of fathoms, and the yield per fathom, to be as follows:—

In back of	20	fath. level,	680	faths. yielding	5½	tons per fath.	3,740
,, ,,	30	,,	600	,,	5	,, ,,	3,000
,, ,,	40	,,	1,043	,,	5	,, ,,	5,215
,, ,,	48	,,	800	,,	3½	,, ,,	2,800
,, ,,	58	,,	2,590	,,	5½	,, ,,	14,245
,, ,,	68	,,	1,000	,,	6	,, ,,	6,000
						Tons	35,000

Added to this, the managers contemplate the period some years hence when they will be working the ore ground at 120 fathom or 720 feet level, so that Ookiep has a brilliant future to look to. But the Company are also directing attention to other portions of their property, more especially to the locality formerly known as Copperberg (now Carolusberg) six miles south-east of Ookiep which was visited by Governor Van der Stell in 1685. Kildennan, six miles to the north of Ookiep, is also being opened, and another mine at Buffel's River, thirty miles to the west of Ookiep, has been found very productive, though uncertain. The Company has likewise commenced the working of the mines known as Kudas and Numis, 120 miles north of Ookiep. These latter are about sixty miles distant from the coast and within five or six miles from the Orange River, which may be made available by means of flat bottomed boats for the transport of the ore to its mouth.

The Cape Copper Mining Company, although the most important and extensive, is not the only joint-stock association engaged in mining here. The Concordia Company with a large capital have commenced work on the Hester Maria and Wheal Julia mines,

and other outcrops of cupriferous rock. There are also many abandoned workings, such as the Bulltrap, Burra Burra, and Schaap Mines, which are awaiting the employment of capital for development. Northward again from Pella to the Orange River Mouth lodes of copper-bearing rock are known to exist; and a strip of country 100 miles in width from the sea board ought to be workable with profit if transport and quick dispatch at a reasonable rate were provided.

The matter of transport was the great difficulty with which the Cape Copper Mining Company had to contend. Their mines were far away from the sea, and the ore had to be conveyed over frightful mountain roads and sandy tracks to the coast. Trains of ox and mule wagons were employed, absorbing the whole agricultural appliances of the district and drafts from other parts of the Colony besides; but they were unable to meet the rapidly-growing requirements of the traffic, and the piles of valuable ore lying unremoved at the mouth of the mines induced the Company to send out their present engineer, Mr. R. T. Hall, to see how the transport problem could be solved. Hondeklip Bay was then the shipping and landing port, and a constructed road was opened from there towards Springbok. Mr. Hall after a careful survey of the country and the coast, recommended the directors to abandon the Hondeklip route and bay, to remove their establishment to Port Nolloth, and to carry a narrow-gauge railway from there inland to the mines. This plan has been adopted with gratifying success.

The railway as an example of a cheap and effective mode of opening up the country is of a very interesting character. It has been constructed for about one tenth of the cost and one fifth of the time required for ordinary lines. The gauge is two feet six inches. It is laid with rails mostly 18 lb. to the yard but

occasionally 28 lbs. securely bolted to longitudinal creosoted pine sleepers seven inches by three inches, and fixed laterally by iron tie-rods fastened underneath. The line starts from the landing jetty at Port Nolloth, and for the first fifteen miles runs over a sandy plain up to Ograbies, which has an altitude of 500 feet above the sea level; beyond there it winds along the mountain valleys, rising by imperceptible gradients to a level of 1,600 feet near Muishond; from there towards Klipfontein the ascent is steep and rapid, making 1,400 feet in seven and a half miles, but a ruling gradient of one in twenty for two miles leads it up to the summit level of 3,000 feet; and thence it descends easily to the mission station of Steinkopf or Kookfontein, about sixty-five miles from the Bay and twenty-six miles from Ookiep, to which the line is now being extended. The cost of this railway over the first fifty-one miles was only £52,205 or a fraction over £1,000 a mile; over the latter portion to Kookfontein, on which there are rapid curves and heavy works, both rock cutting and viaducts, the average was much above £1,000 a mile, but in no instance as high as £2,000. The whole sixty-five miles now being worked cost altogether about £100,000, and the entire length of ninety miles to Ookiep will be completed for the estimated total amount of £150,000. The cost of maintenance is from £80 to £100 per mile per annum. The locomotives used are very light, weighing with water and coal about seven tons, and have a working pressure of from 100 lb. to 120 lb. per inch. A good deal of expense has been entailed in securing a regular supply of water. At one place between Nonamas and Ograbies in a valley about a mile in breadth, a well was sunk 124 feet, all the way through alternate layers of sand and hard baked alluvial deposit, but the bottom was as dry as the top, although, strange to say, straight roots of some plant alive ran

from top to bottom. Now reservoirs have been constructed, from which water is conveyed by pipes to the railway for the use of the engines.

The quantity of goods carried along this line last year was 3,402 tons (of 2,240 lb.) up; and 10,424 tons down; and the assistance it has proved to the Company as a means of transport in comparison with the former ox-and-mule-wagon conveyance will be seen from the following traffic-returns of Ookiep for the last six years. It has to be noted that the first portion of the railway (forty-six miles) was opened in 1871, and the second part to Kookfontein in 1873. The two ports have quite altered the positions they relatively held, and for the future the preponderance in favour of Port Nolloth is certain to be still more marked, as the chief trade of the district and of part of the north-west Border will be centred there :—

	FROM OOKIEP			
	Viâ PORT NOLLOTH.		*Viâ* HONDEKLIP BAY.	
	Up Transport. Goods, Fuel, and Forage. Shipping ton 2,240 lb.	Down Transport. Ore and Regulus. Gross Shipping ton 2,240 lb.	Up Transport. Goods, Fuel, and Forage. Shipping ton 2,240 lb.	Down Transport. Ore and Regulus. Gross Shipping ton 2,240 lb.
1868	316	367	222	1,829
1869	831	1,484	500	2,891
1870	1,364	2,478	915	3,172
1871	1,088	7,461	286	1,567
1872	1,794	7,611	157	1,163
1873	3,402	10,424	...	1,183

The agricultural products of Namaqualand are comparatively limited, chiefly owing to the uncertain and at best of times small rainfall, which does not exceed eight inches annually and in some places not half that amount. There are no such things as permanent streams; running water is a thing rarely seen; and the principal dependence is on surface springs rock springs, or the dry channel of river beds, from which water (chiefly brack) is procured by sinking in the sand. Still there are upwards of one hundred and thirty measured farms and one or two mission stations in the southern part, the produce and stock on which are valued at £180,000. In 1865 the yield of the whole district was 47,076 bushels wheat, 2,476 bushels barley, 11,267 bushels rye, 3,620 bushels oats, some oathay, potatoes, tobacco, and 12,716 lb. of wool. The cereal production, however, is far short of what is required for local consumption, the mule train of the Mining Company alone consuming at the rate of 5,837 bushels of oats, rye, and barley, and 19,000 lb. of oatsheaves and chaff per month, and large supplies have to be obtained from Malmesbury. To meet the wants of the small farming population, a village named Bowesdorp has been created near the Kamiesbergen, where there is a Dutch Reformed Church and schools. There is also a Mission Station for the improvement of the natives at Lilyfontein, in connection with the Wesleyan Society. The other mission stations are those of the Rhenish Missionary Society, one at Steinkopf under the Rev. Mr. Brecher, and one at Kammagas, under the Rev. Mr. Weich, where a large reservoir and gardens have been made from which the mining villages get welcome supplies of fruit and vegetables.

Port Nolloth (formerly known as Robbe Bay) is an indentation on the coast with a reef of rocks protecting it from the Atlantic. Its length from north

to south points, is about two miles, and its breadth from shore to reef varies from 1,000 to 3,000 feet. The reef runs nearly N.W. by S.E., but about the middle and for a space of near 1,500 feet, there is a break, which forms what is termed the bar or entrance to the harbour. The depth of water here is about twenty-eight feet at low tide, the reef on either side is nearly bare at low-water spring tides. On the south side of the bar or entrance is "Robbe Island," a small islet nearly covered at a very high spring tide, but a great protection to the shore against the run of the sea from westward. Opposite here are the public offices and the general places of business. A jetty has been built 300 feet in length, carried out to a depth of eleven feet at low water; there is also suitable wharfage accommodation and stores for the purposes of carrying on a large trade. Moorings have been laid down and beacons and a light for the guidance of vessels have been put up; and last year authority was granted by Parliament for expending about £5,000 in clearing the harbour and forming a channel from the moorings to the jetty of a uniform depth of eleven feet at low water spring tides. There is a considerable business at the port now, and this year it has been made a seat of magistracy. In 1873 the number of vessels entered coastwise was fifty-nine, with a registered tonnage of 6,987 tons; and fifteen vessels from foreign parts, with a registered tonnage of 4,323 tons; the total value of direct imports was £34,226, the value of exports £242,722, and the amount paid to Government for duties and royalty on ore exported from the Crown lands was £3,459 16s. 8d. Steamers ply weekly between Port Nolloth, Hondeklip Bay, and Cape Town, making passages regularly of about forty-eight hours. Ten or twelve days will allow ample time for a trip from the Metropolis to the mines and all that is most interesting in Namaqualand.

IV. THE NORTH-WEST DISTRICTS AND THE ORANGE RIVER.

The north-west districts comprise the extensive unappropriated territory, marked on the map as Great Bushmanland, forming the inland portions of the divisions of Calvinia, Fraserburg, and Victoria West. Here colonization has only lately been gaining upon the wilderness, and there is still a great area waiting to be filled up, whose pastoral and agricultural capabilities when developed will add largely to the wealth of the country.

The unoccupied lands reach from the settled parts of Calvinia, north of the Hantam Mountains up to the Orange River, about 300 miles in a straight line, and across from the borders of Namaqualand at Pella eastward to Prieska, nearly, if not quite, 400 miles. This large tract was included within the Colony on the proclamation of the Orange River as the boundary in 1847; but until very lately it was regarded as a desert and left to the free occupation of migratory squatters and their flocks, and wandering Bushmen and Korannas, living along the river, hunting antelopes and ostriches in the open plains extending on each side. The squatters consisted of white and coloured people of two classes,—some of whom had no farms, and led a purely nomadic life, and others who had farms in the adjoining districts which they occupied during the greater part of the year, only moving into this open country after the periodic rains had fallen, for the sake of the rich pasturage. The Korannas and Bushmen were remnants of the

indigenous population, many of them retaining their savage lawless habits, and sometimes levying blackmail upon the squatters' flocks. In 1868-9, their depredations assumed such a character as to excite no small degree of terror among the outlying farmers along this border. Stock to the amount of 15,000 sheep besides cattle and horses, were carried off, and life and property there were considered very insecure. But the forays and raids of these banditti were soon checked by the operations of the Frontier Mounted Police under the late Sir Walter Currie, who followed them up and cleared them out of their haunts in the dense bush along the Orange River. Since then the presence of a body of twenty-five policemen, whose head-quarters are at Kenhardt, has sufficed to keep the whole of the country perfectly orderly and peaceful.

This unpopulated territory is more or less suitable for pastoral occupation, but it is barely supplied with water and subject to recurring droughts. The winter rains which visit the west coast districts, do not extend more than 100 miles inland; and scarcely any part of Bushmanland ever receives any moisture from them. It is dependent upon the sub-tropical rains and thunder-storms of the summer months. These generally fall in December, but are uncertain. When they come, the sandy flats and plains are quickly transformed into one wide meadow of waving grass for hundreds of miles. The grass grows in stools or tall tufts separated from each other by three to six feet of reddish sand. There are five or six species of common occurrence, but the best is that known as the Bushman or "twaa-grass" described by Mr. Wyley:—"It grows from two to three feet in height, from a small bushy base, its long slender culms growing nearly upright, but inclining slightly outwards, with panicles nearly a foot in length. Its long feathery awns, are simple and undivided, but with two stiff bristles at the

base. When it is green, oxen, horses, and sheep, all thrive upon it, and grow fat, in a few weeks; and even in the winter, when thoroughly dried up, it is better feeding than the green reeds or bushes. Most of the natives, and some of the farmers, trek to it in the summer months, with their cattle, thousands of which may sometimes be seen drinking at the same pool. During the last two years, large quantities of this grass have been brought by the native wagons to Concordia. It is cut with a reaping hook, like oats, each clump or tuft affording about a handful. Four men can usually load up a wagon in an hour, the wagon travelling along as the grass is cut. If cut while in flower, or before the seed ripens, I have no doubt it would make excellent hay, which could be stacked on the ground, and transported, at leisure, for winter feeding." It may seem strange, Mr. Wyley adds, that a tract hundreds of miles in extent, producing this grass, should not be occupied; but there are serious obstacles to this. In the first place, the grass is green for only a few months at best, and as the rain falls only locally, and some years, scarcely at all, there would be risk in settling at any particular place. Besides, throughout the country where these grasses grow, the waters are few and far apart. Notwithstanding these drawbacks there is little doubt that as soon as the country is surveyed and offered for lease, it will be permanently settled. Wells may be dug in every direction, and many tanks or reservoirs can be constructed; and it is likely enough that here as in the grassveld of the Hope Town district, several thousands of sheep and cattle may be depastured. The civil commissioner of Calvinia in his last year's report states that according to the information given him by Mr. Garwood Alston, the Government Surveyor, the probable extent of Bushmanland unoccupied, may be put down at 30,000 square miles,

which can be laid out in farms of about 20,000 morgen, to the number of 500 or 600. Looking at the revenue derived from Crown lands in other parts of the division which are surveyed and leased, the average value of each 20,000 morgen of land there may safely be put down at a rent of at least £20 per annum. Mr. Alston's estimation of the cost of survey of the whole of this tract of land figures at £25,000, or less than the rent of three years, if surveyed in farms to the extent and number stated, and leased under the provisions of Act No. 19 of 1864.

In Bushmanland as throughout many parts of the adjoining northern districts of the Colony there are several of those hollows or depressions having little or no outlet, which are called "vleys," "vloors," and "pans." Some of them are considerable saline deposits, and are covered with salt; others having an overflow of water show only a filmy coating or saline efflorescence, which does not altogether check vegetation and as soon as dry, short grass springs up on the mud, affording good pasture for sheep and horses. One of the largest of the salt pans is due north from Calvinia and named the Great Commissioner's Pan. It is about ten or eleven miles long by a little more than a mile broad, covered with a thick crust of salt, looking in the distance almost like snow. Many of the Boer and Bastard squatters employ themselves here, gathering the salt and selling it in the neighbouring districts at from 20s. to 30s. a bag. Zevenfontein Pan although not so large also yields salt of excellent quality. There is another about three miles north of the Commissioner's Pan, known as Klavervley, where the water, especially after a flood, is drinkable, and, it is said, the outlet from it could be easily dammed up and a fine lake about one and a half miles long, and more than half a mile broad, with a depth of fifteen feet all over might be secured.

The drainage of this territory runs northward. The waters of the high plateau of the Roggeveldt and Nieuwveldt Mountains are carried off by the Fish, Riet, Hartog's, and Zak Rivers, which afterwards form the Hartebeeste, and then join the Orange River. In the dry season these streams are comparatively small, and often a mere succession of pools, but after rains they run briskly, and where level with the banks, overflow and soak the adjacent flats. In many places so very even is the country that they may be said to have no defined channel and form extensive sheets of water, a few inches deep. The Zak River at 250 miles from its source, thus varies in breadth from one to four miles, and further on from Onderste Doorns to Leeuwenkop it widens as much as ten miles. At a locality known as De Kruis, the Zak joins the Haartebeeste River, which really forms the central drain into the Orange. Along its course is the most valuable part of Great Bushmanland. Water can be obtained in its bed even when dry, and its valley generally affords pasture to cattle during both the winter and summer months. After floods, there are extensive alluvial bottoms on each side of it where agricultural products of every kind might be raised. These are now commonly used by the squatters as sowing-lands, but without any labour or trouble beyond scratching in the seed. One overflowing of the soil is sufficient to ensure a crop even although no rain should fall afterwards. The returns are something marvellous. Wheat usually gives one hundred and fifty fold, and Mr. J. Auret, the surveyor, in one of his official reports mentions an instance where on the Zak River 800 muids were raised from thirty-two muids of seed.

The Zak and Haartebeeste Rivers form the boundary between the divisions of Calvinia and Fraserburg. They may also be said to fix the line of

demarkation between the grassveld and the bushveld, which extends eastward. At present, too, for some distance they mark the limits of the unoccupied and occupied lands. On the Calvinia side, the farmers graze promiscuously, live in huts and make no improvements; on the Fraserburg side, the lands are held on quitrent tenure or convertible lease, and substantial houses, springs, wells, and dams, and occasionally gardens and tree plantations are met with.

Further on, in the adjoining division of Victoria West, wherever the waste lands have been surveyed they have been readily taken up and occupied and a vast extent from which it was supposed at one time that no profitable return could be derived, is now utilized and highly valued as excellent grazing ground. The western portion of this division has quite lately been declared a magisterial district, and named Carnarvon. The village of Schietfontein is its centre. This was originally a location of Kafirs, Fingoes, and Bastards, among whom a mission was established by the Rhenish Society. The families settled here received a grant of a piece of ground with sowing land, and grazing for 500 sheep and twenty head of cattle, on condition that they erected a house within twelve months afterwards. A large number fulfilled these conditions and received transfer and title to the land, and were prospering well under the late missionary, the Rev. Mr. Alheit, an energetic man, who gave no countenance to idlers. After his departure, many disposed of their titles and several of the erven fell into the hands of Europeans. The place has since developed into a village, a Dutch Church as well as a Mission Church having been built, and one or two stores, which do a good business with the surrounding farmers. The church and new tenements are creditably white and neat as compared with the old mud houses. The village is situate on a flat, surrounded by low hills; but it is

a pity that it was not built 500 yards lower down where there is a better fountain and water supply. To some extent this may yet be remedied by abandoning the present gardens and laying out new water erven; it may then in course of time become one of the finest towns in the inland parts. The principal arable lands are distant about an hour's ride, at a spot named Zaaipoort where a considerable quantity of grain is grown. These present a fine sight, when sown and green, with the waving corn stretching over more than six miles. Sowing facilities are pretty general here in regular seasons, but when drought comes, supplies have to be looked for from elsewhere.

The mountains of the Kareebergen, whose eastern extremity extend around Schietfontein, are geologically very interesting. They are not high, few of them rising more than 1,500 or 2,000 feet above the plain. There is among them a great preponderance of table-topped hills and a few conical ones, all more or less banded with projecting beds of sandstone. In the higher hills the bands number six or seven. They resemble the bands in the Upper or Stormberg beds, but are hardly so well developed. In the shales about five miles north-east of Schietfontein are plant impressions and very large blocks of fossil wood, like that found at Kneehalter's Nek and other places in the Albert district. These facts led Mr. Wyley to regard the Kareebergen as belonging to the upper coal measures or Stormberg series, and it is possible that in some places throughout them serviceable coal may be found.

Mr. Dunn, who visited the neighbourhood, has also pointed out that near Schietfontein are several interesting localities presenting geological phenomena identical with the "New Rush," "De Beers," "Du Toit's Pan," "Bultfontein," and "Jagersfontein,"—the dry diggings, or at present supposed localities in which the diamond has originated, and from

which nearly the whole of the diamonds of Griqualand West have been dug. There are two such places at Klipfontein (J. Jacob's), two hours from Schietfontein, and one at Blaauwkranz, an hour from Schietfontein, corresponding to the New Rush in appearance of reef soil, pebble, and bort. Mr. Dunn says:—"These localities are easily distinguishable on the surface by an edge of upturned shale surrounding a more or less circular area; within this boundary is the soft, friable, and apparently decomposed trappean rock, fragments of shale lying in confused order, cores of igneous rock not yet decomposed, small pieces of calc-spar, red spinels, diopside (green) a topaz-like mineral, but much softer—black spinel, &c., in fact every mineral that is met with at the previously mentioned diggings. It is difficult to form a decision as to the manner of their formation. Considering that they are filled with what is evidently igneous rock in a decomposed state, fragments of shale, &c., being scattered at random through it, that the edges are also invariably in these cases bent *upwards* as though by the force of heavy molten matter acting on the edges, it is rendered probable that these were 'pipes' or chimneys connecting one sheet with another. That the material in them is nothing more than decomposed trap may be clearly seen in some dykes in the neighbourhood of Victoria West where material identical with 'Dry Diggings' rock occurs." In the extreme northern part of the division near Prieska a "rush" took place two years ago from the discovery of a few diamonds there, but they proved to be merely surface finds which are not unusual along the Orange River,—where, for instance, on the Hope Town side the brilliant "Star of South Africa," valued at £30,000, and now in the possession of the Countess of Dudley, was picked up by a native shepherd.

Prieska has been selected by the Government as the

site of one of the new villages about to be formed along the Orange River. These will be of great advantage as centres for the pastoral population settling on the Crown lands along the border, and are likely to extend trade and civilization amongst the natives beyond it. The river at Prieska flows along in a wide smooth stream bearing on its bosom a large island which has received the name of "Leibbrandt," after the respected minister of the Dutch Reformed Church of Victoria West, who was one of the earliest to penetrate into and make known the character and capabilities of this part of his parish. The banks on the colonial side are covered with a dense growth of willow, mimosa, and other trees, and the hills adjoining are crowned with blocks of jasper conveniently pointed and of all dimensions, "so truly rectangular with smooth faces," says Mr. Dunn, "that no mortar is required, every stone will fit exactly." There is a small river named the Prieska, running for some distance, and a good fountain which may be greatly improved and used for irrigating a portion of the village ground. But about six miles higher up, the Orange River itself can be easily led out permanently and so bring a large and fruitful area under cultivation. The plan of the new village provides reserves for church and school purposes and public buildings, with about 150 dry and water erven for municipal purposes in addition to commonage; and we are glad to notice that there are very stringent regulations for the preservation of the wood and bush for some miles along the river banks. Prieska will, of course, take some time to be established, but from its position and natural facilities it is likely to thrive and ultimately take a place among the border towns. It is distant from Victoria West, 121 miles; from Carnarvon (Schietfontein), 127 miles; from Hope Town, 77 miles; and from Griqua Town, Griqualand West, 66 miles.

Another point chosen by the Government as the site of a new border village is further down the Orange River, at a place bearing the name of Wegdraai. It does not figure on the map (which very imperfectly represents the topography of this part of the Colony), but is situate about sixty miles north-east of Kenhardt. This locality was some time ago recommended by Mr. Jackson, the late Border Magistrate, as suitable for a settlement, and last year it was inspected and favourably reported upon by Mr. Garwood Alston. The Orange River here for a distance of fifteen miles has a mean fall of about two feet six inches. It flows along in short rapids and reaches of comparatively smooth water. At one spot, the Bucchubergen Poort, it is divided by islets into three groups of streams, and there it is proposed to lead out a water-furrow for about twenty-five or thirty miles to Wegdraai, where some 4,000 or 5,000 acres of rich alluvial soil could be put under irrigation. With no great trouble adjacent lands could also be utilized, and in a few years if an industrious population were placed there it might prove the granary of the north-west districts. A commonage of 30,000 morgen, extending on the south-west side to the Ezelbergen, is intended to be attached to the village, and other liberal inducements held out to settlers. Mr. Alston says that "politically the advantages would be incalculable, and commercially there is no doubt that the sale of the water-erven would reimburse the Government, provide a considerable quitrent, and materially enhance the value of the surrounding Crown lands." Experience must teach what the products of the country will be. It is known that cattle and sheep do very well, and the soil only wants the assistance of water to render it highly productive of every variety of agricultural crop. Trade with the natives of the interior will be greatly

facilitated, and abundant scope opened for the speculations of enterprising individuals.

The Great Orange River—the "Gariep" of the aborigines and the old colonists—is the most wonderful geographical feature of South Africa. Traversing the continent from east to west over a distance of about 1,000 miles, it carries down the waters from the lofty range of the Drakensberg, the plateaux of Basutoland, Free State, and even a portion of the Transvaal, and receives the extensive drainage of Griqualand West, Bushmanland, and Great Namaqualand. Its stream, which sometimes, as at the Narrows above Colesberg, is compressed between precipitous hills to a channel not more than 100 yards apart, widens in its course to one and a half to two miles, and in full flood to four or five miles—now and then spreading out into translucent lakes, breaking over foaming cataracts, or dividing into numerous channels reticulating from countless grassy and wooded islets. To persons travelling through the bare dry and often desolate central plains, its cool, clear stream and shady banks are a welcome and grateful sight, and all who have visited it speak in enthusiastic terms of its beauty. The river runs in a deep valley, and at many places in approaching it, from the rapid fall of the ground, the mountains alongside have the appearance of being in a pit, the upper portions of them alone being seen. The banks are generally covered with trees, such as the willow, accacia, pendoorn, zwartbosch, ebony, capparis, and wild juniper. These grow scattered over the flats or terraces, commonly forming a belt of dense thicket a hundred yards in breadth. Westward, from near the junction of the Haartebeeste to De Nuis, above the Great Waterfall, there is a succession of some twenty or thirty islands (one of them ten miles long by one broad in the middle), with very dense bush on each side,—respecting which the late Sir Walter

Currie, in reporting his operations with the police against the Korannas there, said that he used to think the Fish River bush of the Eastern Districts a jungle, but he found it nothing as compared with the water-jungle of the Orange.

The Great Waterfall at this part of the River, was first described by Mr. G. Thompson in his "Travels" (1827) and more recently by the late Surveyor Moffat (son of the venerable missionary) who visited it in 1856 in the course of his exploration of the river under the auspices of Governor Sir George Grey. Mr. Moffat says:—"The Waterfall is a grand object, and must be grander still with a full river. I did not know whether to consider the fall itself with the beautiful cascade on its left, and the grand boss on the right, or the deep chasms below, with its parallel and precipitous walls and the apparently insignificant stream meandering there, the grander object. The sides of the chasm and the appearance of a group of black conical hills of greenstone about five miles below, on the left bank, testify that a fissure must have existed in which the broad waters of the river found a vent, and that that rock was the subterrane disturbing agent which formed it. Compact gneiss is the rock which the river channels traverse immediately at the waterfall (strike true N.; dip. say 90° E.) One side of the fissure still remains perfect, and presents, on the left bank of the fall, a gigantic boss of granite, with a perfectly vertical wall over the round top of which the exfoliating masses are gradually becoming displaced. A cascade on the right bank of the fall, at right angles to it, is formed by one of the lateral channels, before described as passing the fall. I could see the polished lips of two others on the edge of the chasms, on the left bank, some way below. With difficulty I crossed two of these streams and several dry channels on the north side, to reach my stand-

point, so that there can be no doubt that, at the time of my visit, three cascades were in full operation on the left edge of the chasm, independently of the main fall; and when the river is full, there must be at least ten beautiful cascades west of the fall in simultaneous operation, all formed by the lateral streams converging to the edge of the chasm, at various intervals, and thus circumventing the main fall; and the dimensions of the stream precipitated at this must be still grander and terrific. But to see them all at one view would be next to impossible, or even to reach the main fall at such a juncture would be impossible without a pont, and, even with one, dangerous."

The relative extent of the draining surfaces and distant sources of the main tributaries of the Orange was estimated by Surveyor Moffat as follows:— "Regarding this river, extending from East long. 24½ degrees to the sea, as the main trunk, it may be said to have five tributaries, viz.:—

	Draining surface in square miles, about	Distance of sources.
The 'Oup or Fish River...	52,000	400 miles.
Aintass River.....	140,000	400 ,,
Haartebeeste River	50,000	270 ,,
Vaal (including the Hart)	55,000	400 ,,
Black River (commonly called the Orange, including the Caledon)	28,000	400 ,,

giving a total of 325,000 square miles, as the extent of surface of the hydrographical basin of the Great Orange River. Of these five, the three first-named, though draining three fourths of the basin, are merely occasional rivers, with dry channels, containing here and there standing pools, and the other two permanent streams containing sometimes, in very dry seasons, little more water than a sturdy rivulet. The former are filled by sudden thunderstorms, and come down

in immense floods sweeping everything before them.* Of the three, perhaps the Haartebeest River, with its broad level bottom which receives the drainage of the Nieuwveld, carries down the greatest quantity of water; and the two last named (Black and Vaal) coming from the high lands of the Drakensberg in the east, with its fountains, frequent rains and snows, alone cause the channel to remain full for several months and often the whole year."

The river in its course through Namaqualand, from Pella down to some few miles from its mouth, runs among mountains of from 500 to 2,000 feet high. The stream at its winter level occupies a breadth of from 100 to 300 yards, flowing at the rate of two and a half miles an hour; during the summer months it rises to a great height quite covering the channel from bank to bank, inundating the trees along its margin, and still more so those in the low islands and periodically dry portions of the bed, for weeks together. But occasionally the river rises much higher even than this, especially when the rainy season up country is excessive. The quantity of water it then brings down is enormous as the speed in the deeper channels is five or six miles an hour. In the flood of this year (1874) it rose thirty feet in five days. Such floods carry off immense quantities of trees which have been uprooted or fallen through natural decay; some of them are stranded on its banks or near its mouth, but the greater part goes out to sea and is carried by the current along the coast.

The author of "To the Cape for Diamonds"

* On one occasion (Mr. Moffat was informed) in the Fish River Great Namaqualand, so sudden was one of these floods, that a tiger and an antelope, which had come down to different standing pools of its channel to drink, were in succession caught up by it and carried away, until entrammeled in a tree, where both could be seen terror stricken, gazing at one another!

writing of this river says that it might be made use of as a navigable highway up to Hope Town, but in this he shows ignorance of its character, perhaps excusable when he supposes that no man has traced its course. Notwithstanding the extent of its main artery, and the immense quantity of water which flows along it, its outlet on the West coast is quite unnavigable except for boats; while the rapids, falls, and islands, to be met with more inland are insuperable barriers to its ascent by any vessels, for purposes of transport, beyond comparatively short distances. Near its mouth it spreads over a delta about three miles wide, in flood forming an imposing sheet of water covered with innumerable flocks of wild fowl, but in the dry season of the year easily fordable. Sir James Alexander who was there in 1838, thus describes the aperture into the sea: "At last we saw a line of breakers assailing the sandy beach with hollow roar, and stretching right across the mouth, which was merely an opening of about one hundred and seventy yards between two points of sands, on which sat a line of penguins and gulls; outside lay the ocean

'Beautiful, sublime, and glorious,
Wild, majestic, foaming, free.'"

Mr. P. Fletcher who surveyed it in 1854, says:—"It is interesting to compare the manner in which the three rivers on the west coast of the Colony empty themselves into the sea. For instance the Berg River has a small spit on the north side of its mouth, three quarters of a mile long, and about seventy yards broad, which is comparatively stationary, no doubt modified by St. Helena Bay, situated at its south, and Cape St. Martin due west. The Orange River has a corrresponding spit at the north side of its mouth; but in summer another spit forms from the south side, and towards the end of the dry season, sometimes overtakes

the retreating northern one, thus closing the mouth entirely up, and remains in this state until the first river-flood. The salt water seldom goes further up the river than four miles. This bar was reckoned (by parties resident on the spot for some years) to be passable about twelve days in the year, or one a month at an average. The mouths of these rivers have slate formations." A more recent survey, was made in 1872 by the Admiralty Surveyor, Lieut. Archdeacon, but the result only confirmed previous conclusions as to the spasmodic nature of the limited navigation this great river affords.

V. THE SOUTH-EAST COAST DISTRICTS.

Turning from the West Coast, let us now look at that portion of the Colony lying on the south-east side of the range of Mountains which skirt the Karoo plains, extending from the plateau of the Cold Bokkeveld in the Tulbagh division along the Zwartberg Mountains to the Zitzikamma, and embracing the whole of the sea-board from Cape Hanglip eastward to Cape St. Francis. It comprises eleven divisions, namely, Tulbagh, Worcester, Robertson, Caledon, Bredasdorp, Swellendam, Riversdale, Mossel Bay, George, Oudtshoorn, and Knysna. Its area is over 27,000 square miles and the aggregate population under 100,000 souls.

The particular features of this belt of country are a succession of hills and mountains rising from 200 to 3,000 or 4,000 feet, alternating with valleys and plains sloping off to the coast, and in some places thickly-covered with magnificent primeval forests. Sandstone, quartzite, and limestone constitute the formation of the mountains, while clayslates generally underlie the valleys, which everywhere have a thick covering of soil and in favourable seasons are very fertile. Most of these districts have been occupied for a long time past, chiefly by the descendants of the old colonists. There are many towns and hamlets planted throughout them, as well as extensive corn-fields, vineyards, orchards, tobacco plantations, sheep and cattle pastures, and ostrich enclosures. Their annual yield of produce is moderately estimated at £1,000,000, but it may easily be doubled as population increases, and the waste lands are occupied and agricultural operations multiplied.

Portions of Tulbagh and Worcester are on the elevated terrace bounding the Karoo, and extend for a considerable distance into the plains which bear that name. The Cold Bokkeveld is the highest part, rising from 4,000 to 5,000 feet above the sea level; and forming the watershed of the country, the drainage on one side running to the Oliphant's River and on the other to the Breede River. It extends from the Cedar Mountains to the Witsenberg on the west and to the Hex River Pass on the east. There are some first-class farms there, combining corn, wine, sheep, and cattle. The winter seasons, for two or three months, approach an Alpine character, snow covering the ground and ice the pools of water. Cherries, apples, and other European fruits, grow to great perfection. Flockmasters, however, are careful to avoid this cold temperature especially about the lambing time, and migrate with their sheep to the milder Karoo plains. The pastures thus occupied by them have been known as "leg-plekken" (lay-places) and until lately were all held under annual licences, but portions of them have now been surveyed and leased, and many of the lessees have made application to convert their leases into quitrent tenure, finding that by opening up springs, making dams, and planting trees they can change what was considered a "howling desert" into valuable farms.

Ceres is the district town of Tulbagh. From the Worcester Valley railway it is approached by the mountain road of Mitchell's Pass, a scene of great boldness and picturesque beauty. At the eastern summit of the Pass, 1,700 feet above the sea, the little town,—a creation of the last fifteen years,—is seen stretched out on the circular undulating plain of the Warm Bokkeveld. A great deal of the trade to the Interior passes through it and it receives all the traffic from Calvinia and the north-west districts,

which is likely to be largely increased by the opening up of a new road to Fraserburg through the Verlaten Kloof. The mountains surrounding it especially to the eastward have lately been prospected for gold, of which traces have been found in several places, from near Verkeerdevlei—a sheet of water a mile and a half long and three-quarters of a mile in breadth, and the source of a small stream known as the Touw River—on to the Draai, Constabel, and Kragga. At the latter spot a nugget weighing about two ounces was picked up in 1855. The geological formation is interesting also from the quantity of fossils (mollusca and crustacea, identified chiefly as Devonian) found in the shales and sandstones of the Gydow, Karoo Poort, and Hex River.

The finest part of these districts, however, is the beautiful and fertile basin where the towns of Tulbagh and Worcester are situate. This is a valley some seven or eight hundred feet lower than the Warm Bokkeveld; it extends for about thirty miles in a line from west to east, and is well watered by the Breede River and other streams from the mountains enclosing it on either side. The direct route to it from Cape Town has hitherto been by Bain's Pass—a magnificent mountain road constructed through a kloof in the Drakenstein range for eighteen miles, and for a good deal of the distance scarped out of the face of nearly perpendicular cliffs, or carried over abyss-like gaps and fissures which have been built up with retaining and parapet walls from 100 to 300 feet high Immense hanging blocks of sandstone are perched upon the slopes in various fantastic shapes and forms. Here and there small trees, shrubs, heaths, wild flowers, and ferns shoot up among the rocks. And after heavy rains there are numerous sprays, cascades, and waterfalls leaping from ledge and precipice down to the torrent at the bottom of the kloof, presenting

altogether a scene of unusually grand character. Further on in the same mountain range there is another and much easier Pass, known as the New Kloof; through this, the railway from Cape Town to Tulbagh and Worcester has now been carried, and will be completed and opened for traffic towards the close of the present year. Tulbagh is a small village lying in a hollow of the valley, a mile or two from the railway, and not likely to be largely increased by its proximity, although the rich agricultural farms around it will be materially benefited by the new facilities of transport.

Worcester on the other hand is most advantageously situated for the purposes of trade and traffic, and possesses all the elements of progress. The town was laid out about 1820,—its admirable site, in the middle of the broadest part of the valley watered by the Breede River, having been chosen by Lord Charles Somerset when he visited the district in 1817. Its wide and regular streets lined with trees, hedges, and running streams,—its palatial "Drostdy" and public offices with its adjoining gardens, the type of what country magistrate's quarters should be,—its town-hall and market-square, its handsome churches and model schools,—its well-built, commodious houses, mostly of modern style interspersed with orchards and vineyards, and its surroundings on each side of picturesque mountains, in winter white with snow and in summer flushed with mellow evening tints,—all contribute to form what is at present without exception the prettiest township in South Africa. Connected with the Metropolis by railway, it will be the principal inland terminus for the central and south-east districts for the next five or six years, and even after the Midland line is extended to Beaufort West, will continue as the entrepôt of a very productive portion of the Colony. The large and at present comparatively-unoccupied

plain around it is particularly fertile, and there is sufficient command of water to bring every acre of it under cultivation. Capital, enterprise, and industry are all that are wanting to develope its manifold resources and turn them to profitable account.

The thermal spring of Brandvlei (Fire Lake) is about an hour's drive from Worcester and well worth a visit. This spring is remarkable both for its temperature and the great volume of water it pours forth. It rises near the junction of the mountains and the flat, in a large pool about thirty yards long by ten broad, over most of which space it is constantly bubbling up through a sandy bottom and throwing a cloud of vapour. The heat of the water is from 150 to 160 degrees; but it is entirely devoid of medicinal taste or smell and when cool is not distinguishable from the purest spring water, being quite sweet and forming no deposit. At one side of the pool an artificial embankment has been made for the division of the water on the property, where it is used for irrigation, and it runs off in a rapid stream of sufficient volume to turn a mill. Vegetation is luxuriant on its border and along its course where it gradually cools. The water is often used for culinary purposes, such as cleaning fowls, scalding pigs, and cooking eggs; and the spring is sometimes resorted to by persons who believe in its curative virtues, especially in cutaneous affections.

There is another spring of lower temperature more generally frequented by invalids, in the field-cornetcy of Goudini. This is a valley on the west side of Worcester adjacent to the mountains of Du Toit's Kloof; it is about twelve miles long and of the same breadth, and most of it very fertile. Raisins and brandy are largely manufactured here; of the former as many as 5,000 bags (each 250 lb.) are produced in a season. On the eastern side of Worcester, again,

there is the Hex River Valley through which the railway to Beaufort West will enter the Karoo. This locality impresses every one who sees it with its beauty and capabilities. Its soil is rich Karoo, plentifully watered and very productive. The corn lands give a usual increase of fifty to sixty fold and in some cases it reaches 105 fold. Besides grain crops, peas, potatoes, &c., the vine grows well, 1,000 vine stocks which elsewhere only give an average of one legger of wine here produce as much as three and four leggers. In this as in other parts of the district flocks of merino sheep running up to about 5,000, as well as goats and ostriches, are pastured. Cattle are bred and reared both for draught and slaughter purposes, and there is a considerable amount of dairy stock, the irrigable meadows along the rivers maintaining them in good condition throughout the driest seasons. Horse-breeding was once pretty general but at present those engaged in it are few and far between, although most of the farmers still delight in keeping spirited and well appointed teams for their own use. Farms are of various extent and value, according to position and extent of improvement, and ranging in worth from £2,000 or £3,000 to £15,000. Among the finest may be mentioned those of De Vos and Meiring in the Hex River Valley, De Wet's at Brandvlei, and the Naude Brother's, Klopper's, and Du Toit's on the Hex River flats. The latter (Du Toit's) was a few years ago occupied by only one family where now there are ten. This division and sub-division of properties is yearly becoming more common, what was formerly grazing ground being converted into corn-fields and vineyards or irrigated enclosures for cattle or ostriches; but there is space enough for all and for numbers yet to come, as the productiveness of the soil is such as will allow of the realization of Goldsmith's prosperous State,

"Where every rood of land maintains its man."

At the limits of the Worcester division, and once forming part of it and Swellendam, is the district of Robertson. Its extent is roughly estimated at seventy-two miles from north to south and eighty-four miles from west to east. The chief villages are Robertson along the course of the Breede River, Montagu lying behind the range of mountains of Cogman's Kloof, and Lady Grey in the Boschesveld. Robertson was at one time celebrated for its potatoe crops; in 1865 the quantity grown was 15,000 bushels, but lately they have been abandoned for grain and wine. The yield of the vineyards is something wonderful; in Montagu three to five leggers (equal to from 378 to 630 imperial gallons) from 1,000 vines is the ordinary return, and there are many instances of even six leggers. The grapes are very superior, and large quantities are made into raisins of excellent quality. Hitherto the impracticability of getting heavy bulky produce to a market has led to the manufacture of spirits and raisins generally, but now that the railway is brought close by, superior wines may be made and exported. It is considered that the wines of Worcester and this district are much stronger-bodied and preferable to those from the Paarl and Stellenbosch valleys. The produce of one small vineyard (Mr. Hugo's) on the slope of the Hex River Mountains beyond Darling Bridge has been highly reputed for years as equal to Madeira, and has always commanded even in the lowest state of the market a uniformly high price. The quantity made is only about twenty-five leggers, although any extent of equally good soil is lying idle around. The present yield of the vineyards of Tulbagh, Worcester, and Robertson, however, is greatly in excess of what it was at the last census. Then the number of vines was 7,738,887, yielding about 500,000 gallons of wine and 75,000 gallons brandy, besides raisins. Now, Worcester alone gives 1,000 to 1,500 leggers of brandy

yearly. The dried fruits of the three districts then amounted to nearly 1,200,000 lb.; the wheat was over 100,000 bushels, and barley 58,000 bushels, besides rye, oats, maize, tobacco, and other produce, and the returns now will probably be as much again.

From Robertson we pass by the Boschesveld and the little hamlet of Villiersdorp, into the sheep walks of Caledon, Bredasdorp, Swellendam, and Riversdale, formerly one division under the name of Swellendam, but now divided into four districts. A great part of this forms the best grazing ground in the Colony, carrying large flocks of sheep besides a good number of cattle and horses. There is also a considerable breadth of land under corn. The finest sheep farms are along the strandveld near to Cape L'Agulhas, in Bredasdorp, where there is excellent pasturage on the flats and limestone hills, the latter abounding in a variety of grasses, herbs, and heather, out of which the sheep can suit their particular tastes. It was here on the fine estate of Zoetendal's Valley that the breeding of the Spanish Merino was commenced in 1812 by Mr. J. F. Reitz, who was afterwards joined by Mr. M. van Breda, and whose stock supplied a great part of the country with these animals. Year by year, since then, pastoral pursuits have been engaged in by men of marked intelligence, enterprise, and wealth, who by valuable importations have improved their flocks both in size and fineness of fleece; and the uniform care bestowed upon the preparation of the wool produced here has deservedly obtained for it a foremost name in the home market. Many of the properties are of considerable extent, ranging from 10,000 to 30,000 morgen. On some of them the plan of enclosing pastures has been adopted, and proved to be infinitely preferable to the general kraaling system. At Zoetendal's Valley and Duinefontein, there are parks of 7,000 morgen or 14,000 acres, and on Mr. A.

Van der Byl's estate, Nachtwacht, there is a stretch of seven miles of camp where the stock-flock of sheep and troops of blood-mares, as well as domesticated ostriches and herds of wild antelopes (chiefly bonteboks) are grazed. The largest flocks of fine woolled sheep were possessed by Mr. J. A. Van der Byl of Fairfield, who had as many as 20,000, the charge of which has now devolved upon his sons. The total number of merino sheep in these four districts in 1865 was 744,388 and the clip of wool was returned at nearly one million and a half pounds.

Horse-breeding was for years very spiritedly and successfully carried on here, and although it received a severe check from the epidemic which swept over the Colony in 1855, it is still pretty well maintained. This branch of farming has been particularly indebted for progress and improvement to the late Mr. T. B. Bayley, formerly of the Bengal Civil Service, who from 1844 to 1856 occupied the fine estate of "The Oaks," River Zonder End (now the property of Mr. Chiappini) and spent a good deal of money on the introduction of thoroughbred horses from England. From his stud and that of Mr. A. Van der Byl, young stock have been sent out which have defied all competition at the turf-gatherings throughout the whole Colony. But numbers of the ordinary, active, and hardy Cape horses are also still bred in Caledon, Swellendam, and Riversdale. Lady Duff Gordon truly describes them as "valiant little beasts who, ungroomed, half-fed, seldom stabled, and having nothing but a roll in the dust to refresh themselves withal, will carry a six and a half foot rider sixty miles a day, day after day, at a shuffling easy canter six miles an hour."

The food supplies of these divisions are very considerable, but might be much greater, as wide wastes are covered with the rhenoster bush, the index of a

soil well adapted for cultivation. Grain of all kinds, is raised on every farm in excess of local consumption. In 1865, the crop of wheat was 170,873 bushels, barley, 66,000 bushels, and oats 74,358, besides other cereals. Wine and fruits are also generally produced, and a large quantity of tobacco is grown, especially about Heidelberg and Riversdale. Aloes and bucchu, as well as many varieties of bush known as the Cape "tea" plant, and now in common use as such, grow wild on the flats and mountain slopes, and their collection and preparation give employment to the Hottentots and other natives.

Several mission-stations have been established here and form valuable depôts or centres around which the coloured class are gathered. At one of these, Genadendal, under the charge of the Moravian Brethren, there is a population of about 4,000, many hundreds of whom go out as labourers among the farmers over the country, during the harvest and wine-pressing seasons, the remainder of the year being passed in comparative ease and listlessness at their homes. The expediency of continuing the natives under this state of mission pupilage has long been a vexed question amongst colonists; but the solution of it suggested by the late Colonial Secretary, Mr. Montagu, seems the best way in which any change can be made. "Instead of treating the natives as mere machines, obtaining from them the greatest amount of work at the smallest possible cost, without caring aught for their temporal or spiritual welfare or the comfort of their families, and thus driving them to the mission institutions, where these are provided, let the farmers hold out inducements to them to establish themselves as permanent instead of casual labourers of the land, and a new and improved condition of their social relationship will soon follow."

There are a number of towns and villages through-

out these districts. The first is Caledon (seventy miles distant from Cape Town) noted for its hot baths, which are considered efficacious in cutaneous and rheumatic disorders. Near the sea are Bredasdorp and Napier. Inland along the Langebergen is the pretty bustling town of Swellendam, a welcome sight to all who travel over the undulating ruggens and scrubby rhenoster-bush valleys approaching it. It has a thoroughly prosperous, business appearance, and is the centre of a considerable amount of trade. Formerly there was a great deal of export from here by the Breede River, which is navigable for vessels of twelve feet draught of water for forty miles from its mouth; and now the recent opening of the new road over Southey's Pass has made a very fertile tract of country accessible and within reach of the coast. This is known as the Tradouw, an extensive Karoo valley behind the Langebergen, where the villages of Zoar, Amalienstein, and Ladismith are situate, and reaching as far as the Zwarteberg range, through which there is an outlet to the Great Karoo by the Seven Week's Poort. The Crown lands here were formerly leased annually for a trifling sum, but since the Pass has been opened they have realized high prices, and last year about 72,000 morgen were converted into purchased property for a cash payment of £9,000 and an annual quitrent of £90 per annum. The other towns further on are Heidelberg on the Duivenhoek's River, and Riversdale, on the Kafirkuil's River, both progressive centres of the agricultural and pastoral country around them. Beyond Riversdale the Gouritz River passes on to the sea. Its source is in the Nieuwveld hills, above Beaufort West, where it is known as the Gamka; as such it receives the thunder showers of the Karoo and after coming through the Zwarteberg range is again fed by the Oliphant's River, so that it becomes at times a most

formidable and dangerous stream, as yet unbridged. This part of the country is beyond the climatic region visited by the wintry north-west winds, and is dependent for rains upon the showers brought by the "south-easters," generally as early as September, but in seasons of drought not until much later in the year, when the pastures become miserably dry.

Crossing the Gouritz, we enter the old division of George, now forming four sub-divisions, George, Oudtshoorn, Mossel Bay, and Knysna, with an area of 6,000 square miles, and a population of fully 30,000. It is pastoral as well as agricultural, and the clip of wool in 1865 was returned as 413,499 lb. The district of Oudtshoorn is the most inland, reaching to the Zwartebergen. It consists of several valleys, all well watered or capable of being irrigated from permanent streams. The Oliphant's River, Wynand's River, Grobbelaar's River, and the Cango are celebrated for their productiveness, yielding two crops, first of wheat or oats, and then of beans, mealies, or tobacco, in ordinary seasons. In 1865 this district alone gave 172,000 bushels of wheat, 50,000 bushels of barley and oats, 17,000 hundred pounds of oathay, 7,000 bushels of maize, 966,641 lb. of tobacco, 300,000 lb. dried fruits, 22,000 gallons of wine and 55,000 gallons of brandy. Most of the produce is raised by irrigation, in fact without it scarcely a cabbage or a potato could be brought to perfection. The abundance of water, however, is mainly owing to the daming up of the rivers, which is done to a considerable extent between Oudtshoorn and Cango. This prevents the rush of water to the sea, and allows of the ground for a considerable distance being fertilised by it. Land so irrigated sells for extraordinary high prices, while otherwise, as dry Karoo, it is worth very little. The farms generally are divided and sub-divided in fractional parts according to their

arable and irrigable capabilities. Their average value now may be stated at £50 per morgen for arable, and £1 for pastures. The one-thirty-sixth part of one farm of 3,000 morgen has been sold for as much as £2,250. The one-eighth part of another (also of 3,000 morgen, 200 morgen being arable and the remainder pasture), recently sold for £5,500; one-thirty-second of a property of like extent lately changed hands for £600; and for one-twenty-eighth of another £600 was offered and declined. The vineyards here are very rich,—yielding one legger of brandy of superior quality from each 1,000 vines. There are also extensive tobacco plantations, ordinarily bearing 15,000 plants, others having 50,000, and some even 100,000; but the manner of preparation of the leaf is still very primitive and might be greatly improved, as well as new qualities introduced. The annual crop now is estimated about 2,000,000 lb. These and various other articles, the produce of the district, are often taken by the growers themselves to a market in the inland or eastern towns, sometimes even as far as the city of Graham's Town. Prior to 1858 there was little interchange between them and the interior towns, as the only means of communication was by tedious roundabout routes, which it took months to travel. Since then a road has been carried through a rift or chasm in the Zwartberg range, known as Meiring's Poort, which opens into Beaufort West and the Midlands. The Poort is nearly sixteen miles in length and the road is constructed along the bed of a stream winding through the magnificent gorge amid massive walls of rocky cliffs whose peaks appear to pierce the sky.

Near Oudtshoorn there have been found some beds of lignite, a few inches in thickness, similar to what occurs in the "Enon conglomerate" at the Sunday's and Bushman's Rivers in Albany. Beneath the con-

glomerate, there is an extensive sandstone formation giving a superior freestone, of which the churches in Oudtshoorn have been constructed,—one of them, the Dutch Reformed Church, although not yet completed, presenting a very handsome appearance. Here, too, along the base of the Zwarteberg, in the Cango Valley, are the celebrated caverns or stalactite grottoes of that name, described and illustrated in Mr. G. Thompson's "Travels." They were visited last year by Sir Henry Barkly, who was accompanied by nearly 300 of the neighbouring residents. The large cave, which is the principal object of interest, is many hundred feet square and fifty or sixty feet high, and decorated with great columns of strangely-moulded stalactite. Three hundred candles scarcely afforded sufficient light throughout it, serving more to make the darkness visible, while the crowd moving about in the dim glare looked very strange and weird. These caves have never been explored to the end although persons have penetrated for more than a mile, and at that distance a subterraneous river is heard rushing under foot. It is said to be very easy to lose oneself in the attempt to penetrate far, but it does not appear that at the farthest point yet reached the air has become pestilential. The inner recesses still remain as a field of adventure for anyone ambitious of going where man has never gone before.

Adjoining Oudtshoorn, but separated from it by the Kamnasie Mountains, is the fine valley of Langekloof, nearly 120 miles in length, and enclosed on the coast side by the range of Outeniqua or the Langebergen. It is studded with valuable farms, which are generally well-suited for cattle and sheep-breeding and a good deal of produce is raised there when the seasons are favourable. No vineyards are cultivated owing to the frosts, the winter being very cold, particularly in the more distant and elevated parts. The Crown

lands in this direction are not numerous being mostly small pieces on the slopes of the mountains between the several farms.

George Town itself is pleasantly situated on the south-east side of the mountains and about seven miles from the sea. It has a population of 2,000. Its spacious streets arranged rectangularly, well watered and shaded with trees, cover an area of at least a square mile. There is a Dutch Reformed Church and Roman Catholic Church with mission churches attached, and an English Church in charge of the Archdeacon of the Province. There is also a Grammar school, whose headmaster is the first colonial M.A.; besides several mission schools, and about three miles from the town an old established missionary institution, Pacaltsdorp. Although naturally one of the most favourably situated spots in the Colony, George has not progressed equally with other places. A recent visitor to it after some years' absence could not help being struck with its comparatively stationary appearance and asked, "was it the shadow of the mountain, or the rank luxuriance of the herbage, or the granite subsoil, or the proximity of the forests and their temptation to see-saw idleness, that offered an explanation of it?" Wagon-making was at one time extensively carried on, but there are few workmen employed in it now. A tobacco manufactory flourished formerly, but was given up owing to the method of making good "cavendish" not being properly understood. Butter and garden produce used to be sent in quantities 300 miles to a Cape Town market, now they are oftentimes scarcely to be had for local consumption. Leather manufacture to a limited extent is still engaged in, valuable tanning barks being easily obtainable from the forests, and a large establishment for the extension of this industry, combined with that of machine boot and shoemaking,

is contemplated at Blanco, two miles from the town. The domestication and breeding of the ostrich, it appears, has lately been the most successful occupation, there being from 600 to 1,000 birds kept in enclosures or herded in the open pastures like sheep. In the other neighbouring districts there are also large numbers, and the "ostrich feather market" is quite a feature at the produce sales at the adjoining port of Mossel Bay.

For small farmers with limited capital, the George coast lands offer a very good prospect. The average price may be considered about £1 per morgen. The land is well suited for oats, barley, rye, Indian corn, tobacco, and garden produce of every kind. Occasionally good crops of wheat have been raised, but on account of the superior quality of that which is grown in the adjoining district of Oudtshoorn few farmers at present like to sow any. There is still a good quantity of Crown lands under the mountains, chiefly forest ground that has been partly cleared of timber, either by the woodman's axe or, worse, owing to the fires which occasionally do so much damage. The soil in these places is excellent, but people, for some cause or other do not occupy it, consequently it is overrun with thorns and briars of luxuriant growth. The Commissioners of the George Municipality have offered to let out for a term of years a large piece on condition of its being cleared and cultivated, but no one takes kindly to the tempting bait. Whether this is to be attributed to the more profitable employment of the labouring population, or want of faith in the productiveness of the soil we know not. At all events it proves there is abundance of room for more hands. About twenty-five years ago, sheep-breeding was attempted but with little success, for although the flocks increased one year the following reduced them. Perseverance and attention on the part of a few enter-

prising men and the introduction of stock adapted to the country have since overcome these early difficulties. The veldt is now greatly improved, and southdown, cheviot, and even merino sheep thrive here and at the Knysna, and other localities along the coast, to an extent that old residents could hardly have expected. During the summer months and in times of drought when the upper Karoo affords little or no herbage, large numbers of cattle are sent to these grass lands and the mountain slopes, where even in the driest seasons good pasture is found.

All around George the country presents a pleasing contrast to the brown heath and bare parched lands of the Droogeveld or Karoo. The first English settlers who made it their home were wont to say that "it was very much like England—only more so." The climate is delightful. Frost is unknown on the coast, and during the hot summer months there are gentle south-east winds and genial showers. The pastures are refreshingly green, and fine streams run from the mountains to the sea. Both here and in the neighbouring district of Knysna there is that combination of mountain, forest, and lake scenery so seldom met in South Africa. Such is the view at the Lakes, a short distance from George; and again from the hills overlooking the basin in which the village of Knysna lies, where the placid waters, the verdant meadows of the islands, the variegated hues of the woods, and the bluff "heads" all combine to form a most charming picture. And besides these, there are the dark glossy evergreen forests, with their giant yellowwood and other trees festooned with rope-like creepers and hoary lichens, and surrounded by tangled brakes or open flowery glades, rising range above range to the distant highlands in the background.

These forests extend along the whole coast line from George to the Zitzikamma, near Humansdorp, for a

distance of 170 miles, with a varying depth of from ten to twenty miles. Within the limits of the settled portions of George and Knysna they run about sixty miles, reaching to Plettenberg's Bay. Some portions of this tract are private property, having been sold by Government in 1846 at an upset price of 5s. to 15s. an acre, but the greater extent belong to the Crown and contain an inexhaustible supply of timber. They afford constant employment to a hardy race of wood-cutters, whose labours are by no means light, owing to the difficulties of bad roads, and getting the trees out of the hill slopes and hollows. A load of timber has often in consequence of this to be conveyed over a part of the country in two portions, the first half being left on the road till the remainder is brought out, when the full load is taken to the Knysna village or to the surrounding district for sale. Some of the smaller farmers are in the habit of taking out a licence to cut down wood during the time their seed is in the ground, and in this manner make up for limited crops; but all kinds of produce having risen so much in price during the last year or two, and the demand for transport into the Interior being on the increase and highly remunerative, there has been less resource to the forests than formerly. For some years to come, however, they will be capable of employing in a variety of ways a considerable population. Persons desirous of embarking in the wood trade will find no difficulty in obtaining forest lands at about 15s. or 20s. per morgen, according to situation and other circumstances.

The system hitherto adopted of working the Crown forests has in the opinion of many been very unsatisfactory, entailing waste and loss, and yielding less advantage to the country than if they were in private hands. A Parliamentary committee inquired into and reported upon the subject last year. They recom-

mended that the portions of the forest lands now being surveyed for sale (chiefly between the George and the Touw River and some pieces adjacent to private property) should be put up at an upset price of 10s. per morgen. That the woodcutting licences should be reduced from £1 10s. to £1, and that a period of not less than six weeks be allowed for working out a licence. That the forests be open the whole year; that the several forest rangers be directed to make themselves acquainted with the proper seasons for felling the several kinds of trees, and that no tree be felled until it has been previously marked by a ranger. They also proposed that villages be laid out for wood-cutters at suitable places, such as "The Poort," midway between Plettenberg's Bay and the Knysna, at Yzernek, on the new line of road from the Knysna to the Interior at "Hoogekraal," and on the western bank of that river between George and the Knysna. The village lots are to be let at a small annual quitrent for a term of twenty-one years, and to consist of about three morgen, with the right to graze twenty head of cattle on the adjoining land.

The Knysna forest was the scene of the Duke of Edinburgh's memorable elephant hunt in 1867, and the published volume of the "Cruise of the *Galatea*" contains a graphic account from the Duke's own pen of his encounter with *Elephans Africanus*, which, he says, looked "a huge monster towering above us, coming on at a tremendous pace, his ears (three times as large as those of the Ceylon elephant) spread out square, like a ship with studding sails on both sides." Mr. Brierly, the artist, who accompanied His Royal Highness, took a great fancy to the beautiful country lying waste here, and considered it a most suitable place for the operations of a land and colonization company with capital. On the return of the *Galatea* from her cruise, Mr. Brierly opened a correspondence

with Mr. Thos. Bain, the Government inspector of roads on the subject, obtaining full details as to the qualities of the native woods and the capabilities of the district, and shortly afterwards instructed that gentleman to purchase provisionally as much land as he could secure at a refusal of six or nine months, the time required to establish a company. Mr. Bain succeeded in securing about 80,000 acres of private property which embraced some of the finest farms in the district, at an average price of 7s. per acre and was in treaty with the Government for about 100,000 acres more of forest and grazing land. A company was provisionally formed among Mr. Brierly's friends, —Mr. Webb of Newstead Abbey, and other wealthy and influential gentlemen being associated with and taking a great interest in it. Before proceeding further, they waited to receive specimens of the different woods which they had ordered, and which were promptly forwarded by Mr. Bain from the Knysna to Cape Town with instructions to be sent on at once by first mail-steamer. Month after month passed and letters came from England to say that the woods had not arrived, and it was not until the following February that after inquiry the box containing the specimens was discovered stowed away in a warehouse at the Table Bay Docks. When at length the specimens reached England they were, after a thorough test, highly approved of, and instructions came out from the Company to get an extension of time from the different owners of land. Unfortunately in the meanwhile land in the Colony advanced and some evil-disposed people advised the parties with whom Mr. Bain had to deal not to extend the time at any price, and this they foolishly adhered to. Mr. Brierly's Company was consequently deprived of the opportunity of carrying out a scheme, which not only might have been profitable to the shareholders, but of incalculable benefit

to the Colony. The intention of the Company, we believe, was to have the land subdivided into a series of hamlets or small ten and five acre farms giving each proprietor a certain portion of forest besides. These lands were to have been sold in England to small capitalists and artisans. Machines for working the timber were to have been found by the Company who arranged to send out portable saw-mills, planing machines, and all sorts of appliances to work the wood in a proper and systematic manner. There are few parts of the Colony where such an enterprise could be carried out with so great a prospect of perfect success as at the Knysna. Land is pretty well at its old value again, so that if these pages chance to meet the eye of any of the gentlemen who took such an interest in the matter a few years ago, the scheme may possibly be revived.

Between Plettenberg's Bay and Zitzikamma there is a tract of magnificent virgin forest extending for fifty-six miles where not an axe has been laid upon a tree. This was explored for the first time in 1868, by Mr. T. Bain and Mr. Harrison, the Crown conservator. They started from Forest Hall, the property of Mr. Newdegate, at Plettenberg's Bay, accompanied by native servants and wood-cutters to enable them to clear their way through the bush. They met with numbers of large game, elephants, buffaloes, boar, panthers, bush and other bucks; and the wild character of the jungle and its denizens at some parts so alarmed the native retainers that it was only by threats they could be induced to go on. They found the country beautifully diversified with forests and glades, abundantly supplied with good grass, and watered by no fewer than twelve rivers. The first of these, the Salt River, is navigable for some distance up for small craft of thirty tons, and might be turned to good account as a place for shipping timber. Many

of the others could be led out over the adjacent lands. They abound in fish of various kinds, and at their mouths and on the coast there are quantities of oysters. The number of elephants among the forests cannot be less than 200, and there are large herds of buffaloes, especially in the "fynbosch" between the Groot and Platbosch Rivers.

Messrs. Bain and Harrison made their way through to the Zitzikamma, and reported that it was impossible to speak too highly of the climate, condition, and resources of the country they had seen, and which, by the path they had cut, and the numerous elephants' tracks, is now tolerably accessible. They strongly urged the construction of a road from Plettenberg's Bay towards Humansdorp, which they estimated could be easily made in three years, with a working party of 350 men, and an average of £800 per annum for plant, gunpowder, and working expenses for the gang. This road, they say, would open up about three hundred and fifty square miles of fine Crown land, upon which there are extensive forests of magnificent timber, and large open flats of excellent soil, capable of being cultivated and irrigated to a great extent from the Coldstream, Harison's, Duthie's, Jerling's, Witklip, and Sanddrift Rivers, which are fine permanent streams, running at high levels, with low banks, and emptying themselves into the sea by a series of cascades,—a feature very different from the characteristic of the Knysna rivers, which invariably have high, precipitous approaches, and very little fall between the sources and their mouths, thus rendering them almost useless for irrigation purposes. By the aid of these streams, most of the timber in the forests could be worked by means of saw-mills and other machinery, which ought to add to the value of those particular localities. Mr. Bain remarks: "In a commercial point of view, if the Government would

spend £20,000 in having the proposed road cut through, the ground rendered accessible by the road is of such a very rich nature, and partly covered with such valuable timber, that I have no hesitation in saying that it would realize at least £100,000 if laid out in farms and small villages."

The coast along the whole of these south-east districts has several available harbours and roadsteads. The Caledon sea-board has such indents as Struy's Bay, Standford's Cove, and Bot River Mouth. Swellendam has Port Beaufort, and the Breede River navigable for upwards of forty miles; George has the safe anchorage of Mossel Bay, besides one or two coves for small craft; and the Knysna (where several vessels have been built) has its own "Feather-bed" harbour, sheltered by its heads, in addition to the roadstead of Plettenberg's Bay. The principal shipping port, however, is that of Mossel Bay, where there is a good lighthouse, an excellent harbour, jetties, warehouses, and other facilities for landing and loading cargoes. It is a regular place of call for the coasting steamers, and has also a considerable direct shipping trade. The statistics of the port show remarkable progress, especially since the mountain-road through Meiring's Poort was opened. In 1858, the total exports were valued at £55,000. In 1873, they amounted to £136,940; while the imports were £129,761, and the customs duties received, £16,227. In 1858, the quantity of wool shipped was 601,981 lb., and in 1873, it reached 2,004,528 lb.

VI. THE MIDLAND KAROO DISTRICTS.

The long range of the Zwartebergen, as already mentioned, forms part of the elevated terrace which encloses the central Karoo districts. This terrace runs like a well-defined boundary line trending in a horse-shoe shape from the Bokkeveld Mountains in the west on to the Zuurbergen and almost up to the Great Winterbergen, in the east. Extensive plains stretch inland from it towards the higher plateau of the Nieuwveld and Sneeuwberg range, the main water-shed of the Colony, and beyond there again they slope away to the basin of the Orange River. This portion of the country may be termed the Midland territory. Its total area is estimated at about 80,000 square miles, and it is divided into twelve districts, namely, Beaufort, the settled parts of Fraserburg and Victoria, Prince Albert, Willowmoore, Jansenville, Graaff-Reinet, Murraysburg, Richmond, Hope Town, Colesberg, Middelburg, and Cradock. The total population is returned at 80,000 or little more than one individual to the square mile. Some of the largest and finest flocks in the Colony are pastured here: in 1865 there were as many as 3,617,082 woolled sheep, 940,000 African sheep, 60,000 Angora goats, and 743,000 common goats, besides horses and cattle. The clip of wool at that time was 10,000,000 lb. and has since nearly doubled.

The southern part of this tract has still the same characteristics of soil and vegetation and rarity of permanent waters which made the "Karoo" seem to the early colonists and travellers a sterile wilderness. From its appearance one readily adopts the conclusion that its original condition was an inland sea or

lake, which by the upheaval of the country age after age, became drained off through the cracks and fissures in its south-eastern rim, where now the Gouritz, Gamtoos, and Sunday Rivers flow. The substratum consists of clays, marls, shales, and sandstone, full of fossil reptilia, and denominated by geologists the Dicynodon rocks of the Mesozoic period. It has a surface of dry and often baked red soil on which grow small shrubs or plants of salsolaceous, alkaline and aromatic character, chiefly belonging to the orders Ficoideæ and Compositæ. This herbage constitutes what is considered the prime sheep-walks, and the soil when fertilised by water is of the most productive quality. Herein lies the future riches of the Colony.

The first view of the plains to be had on emerging from the Karoo Poort, beyond Ceres or Hex River, is not very attractive. It is a dreary flat shut in on two sides by mountains, and peppered over with ant hills and small round bushes,—according to Wyley, "bearing a ridiculous resemblance to the scattered tufts of wool upon the head of a Hottentot, which no effort of imagination can convert into a sublime or beautiful object." Further on the plain has more of an undulating billowy character; the surface being diversified by slaty hills and eminences, some of which would appear considerable but for the lofty mountains surrounding them. Throughout this tract, for near 200 miles, there are only a few solitary farms situate at long distances apart. The ground is very stony and there is no great depth of soil. Water, whether from rain or springs is scarce, and the rivers for the greater part of the year, except after thunderstorms, are "dry" or furnish only a few brackish pools. These river-beds, however, are fringed with mimosas and other trees, many of them bearing a parasitical leafless shrub allied to the European mistletoe.

In the early spring, or after a rainfall, travelling over the Karoo and sleeping beneath its starry and dewless skies, is delightful enough, but in the warm months of January or February, when the temperature is ordinarily over 100°, the heat and aridity in the day-time are very trying. Then "barren and brown stretch the stony plains; no sounds of life disturb their sullen solitude: no patch of verdure yields a joy to wearied eyes; no leafy tree its refreshing shade, only the stunted bush or prickly cacti rear their ashy coloured forms as if in mockery of animal wants." This dreary monotonous character of these wastes made a journey over them a few years ago appear a formidable affair. But the establishment of regular and rapid conveyances, by the Inland Transport Company, has lately removed those unfavourable impressions, and now a trip across them is quite an ordinary occurrence. A few years hence there will be a much greater change. The Beaufort Railway will be driven through them,—clearing away the impediments of distance, risk, and expense which now limit traffic with the interior divisions,—supplying articles and wants their inhabitants have hitherto been debarred from,—tapping the rich pastoral wealth in which they abound, and introducing population and stimulating industry to develope resources which are as yet scarcely touched.

Beaufort West, near where the Gamka River comes down from the Nieuwveld hills, is at present the first town of any importance in the Karoo. It presents a pleasant appearance on the plain, with its broad main street lined with shady, fruit-laden trees. It has a handsome town-hall ornamented by a clock and belfry, which chimes the passing hours. There are English, Dutch, and Mission Churches, a banking establishment, a public library, and excellent schools. The mercantile stores are not very numerous, but they

transact a very profitable business. Four of the leading firms during 1873, received 857,000 lb. weight of merchandise from the seaports and sent away 942,879 lb. of wool and other produce, entailing a transport charge amounting to over £7,912. The division of Beaufort West was formerly an extensive one; it included Fraserburg and Victoria West, Prince Albert, and part of Willowmoore, of which it has been dismembered by the formation of these places into separate magisterial districts. It has still an area of about 10,000 square miles, and contains some 219 quitrent and apportioned quitrent farms, and a large extent of Crown lands, of which thirty-two lots are held under annual leases and thirty-three under Act No. 19 of 1864. When it first attracted notice as a pastoral region some thirty years ago, the scarcity of water was found to be the great drawback and in many localities it still continues so, the farms being supplied only by small springs and periodical pools. Several enterprising proprietors, however, set to work to remedy this, and constructed large reservoirs capable of retaining the rainfall, which has no stated season here and is dependant chiefly on the thunderstorms in summer. By such means, places which were formerly useless, or at best only available for a month or six weeks, are now become valuable farms, with permanent stations and comfortable homesteads surrounded by trees and gardens. A great deal of improvement in the same direction may still be effected. There are many so-called "dry rivers" which could be partially dammed up, either at their heads or at their feeders, so as to prevent the water which fills them in rainy seasons from escaping to the sea; and not only rivers but "leegtes," or hollows, which are full of water after rains, and where by damming up a small "poort" or kloof in a suitable situation, large tracts of land could be brought under cultivation. All the irrigation

works hitherto undertaken have been promoted by individuals or municipalities and many of them without any qualified professional assistance. The boldest local effort of any kind was the large dam above the town of Beaufort, which, owing to defective construction and want of proper provision for the escape of flood water, burst its embankment and caused considerable damage to property. It is now in course of re-construction on plans furnished to the Beaufort Municipality by a scientific engineer, Mr. Shaw, who had experience of such works in India. Its superficial area when full will be 137 acres; the gathering ground is sixty square miles; the length of the embankments 500 yards; and it is calculated to contain 500,000,000 gallons.

The sheep-walks of some parts of Beaufort West are considered equal to any in the Colony. The appearance of the pasturage, however, at first sight would puzzle a stranger as to what the flocks feed upon. It is such as might naturally invite the remark of the sarcastic Yankee, that "ground so bad should be fenced in to keep the animals from starving on it." Yet it is surprising to see with what relish the sheep browse and how well they thrive on the succulent shoots of the small shrubs (in appearance something like English thyme or some varieties of heather) which form the herbage of the plains. The schaap bosch or sheep bush (Pentzia Virgata, Less.), an aromatic much-branched rigid little bush, one or two feet high, is the principal and most valuable plant. We observe that it has lately been reproduced in South Australia. Dr. Schombergh, of Adelaide, in one of his recent publication says he received some seed of it from Dr. Hooker with the remark that it was "the most valuable sheep fodder for dry climates," and he has raised about twenty plants which have done remarkably well, proving that the climate there

is well adapted for its growth. The shrub is easily propagated from cuttings, every one of which will grow if planted when the first rains begin to fall. This and other bushes, such as the aar-bosch, ghanna, dagga, and gwarrie, which chiefly form the Karooveldt, will stand a great deal of dry weather and long after the grasses, which are abundant after rain, disappear, they are as wholesome and nutritious as ever. Their roots penetrate the soil to a great depth (fifteen feet or more in some instances) so that they obtain a supply of moisture when the surface is parched with drought. They will also grow and shoot at any season of the year should there be rain, and at times, when the ground becomes thoroughly moistened, it is marvellous to see the transformation effected,—what was a parched brown stubble, "sapless as a worn-out broom," in a few days rushes into vegetation with a rapidity that looks like enchantment, and the surface of the country becomes a beautiful carpet of heath and flowers of every colour and hue. This ability to stand the drought and the operation of the law of "the survivor of the fittest" has established the dominion of the Karoo, and given it its peculiarity of aspect and resources. Many of the shrubs sheep and cattle will consume, even after they are apparently nothing but dried-up twigs, and if there is a good supply of water large flocks of sheep will live on and even do well, long after, to anyone unacquainted with the nature of the veldt, it would be deemed improbable that they could exist. It is for this among other reasons that the storage of water is of such supreme importance here.

The size of the farms throughout the division vary considerably, some measuring as much as 20,000 morgen; but the largest as a rule are not the best. Those in the East and West Nieuwveld range from 4,000 to 6,000 morgen, with one or two exceptions of

10,000 to 13,000 morgen; in the other parts they average from 8,000 to 10,000. The value of farms in the Nieuwveld, eastward of the Zak River and near the Salt River, which are partly agricultural as well as pastoral may be stated at from 2s. 6d. to 10s. or 20s. per morgen, dependent upon the permanent supply of water; while in the Nieuwveld, westward of the Zak River, they vary from 2s. to 15s.; in the eastern Gouph they are about 5s. to 10s.; in the western Gouph under the Nieuwveld Mountains, from 7s. to 10s.; and on the Flats, from 4s. to 7s. per morgen. The estimate of the capability of these pastures for carrying sheep, taking seasons of drought into account, is, on the East and West Nieuwveld, from one to two morgen for one sheep; on the East Gouph from two to three morgen; and on the West Gouph from three to five morgen. Stock thrive well, the dry climate and aromatic herbage being very favourable for them. The increase of lambs when properly cared for appears to be about seventy per cent. The fleeces are of fair weight and good quality. On some places, particularly on the loose dusty ground below and eastward of the Nieuwveld, sheep yield ten lb. of unwashed wool, but on the Nieuwveld where it is hard and stony not more than six lb., and in other parts from five to seven lb. The entire yield is about 5,000 bales per annum.

Some of the largest flockmasters in the Colony are in Beaufort West, one of them being the present Premier, the Hon. Mr. Molteno. The number of woolled sheep on his properties and owned by himself and partners is about 35,000. Mr. D. de Villiers, a neighbouring proprietor, has a flock of 20,000. The flocks generally range from that number down to 1,500. The homesteads are very substantial buildings, occasionally surrounded with cultivated grounds, and as a rule provided with every convenience for carrying on pastoral operations. There are washing pools,

dipping tanks, pens, and roomy clean sheds where the wool is shorn and sorted according to its several qualities or descriptions. Great attention is paid to the getting up of the fleece; and there is none of that admixture of "lamb's wool, dung-locks, and pieces" sometimes tumbled together and packed in a dirty kraal, which is too common among many of the back-country growers. At suitable places throughout the sheep-runs reservoirs have been made, where the flocks are watered without having any distance to travel, and at each of them there are small houses or stations where the superintendents or stockmen with their herds live for weeks together visiting the head station only at intervals, as occasion may require. These superintendents in many cases are young men of good families, who thus acquire a practical knowledge of pastoral pursuits and in a few years are qualified to take the charge of other farms or lease lands on their own account. The rearing of cattle is not much followed in the district, as it is mainly occupied by sheep, but there are some good horses and mules bred, especially on the West Nieuwveld, where an old resident, Mr. Rose, has for many years past reared some valuable stock. Angora goats have been tried, and there are now some thousands pastured, but the veldt being found more suitable for merinos, the former are being discontinued. The ordinary Cape goats thrive everywhere and are most prolific.

Behind Beaufort, the Nieuwveld Mountains present a bold escarpment, distinctly showing the horizontal strata of sandstone and shale, sometimes capped by sheets of trap or basalt, whose *debris* enriches the soil of the adjacent plains. These mountains are considered to correspond with the coal-bearing rocks of the Stormbergen in the Border districts, and thin layers of coal have been found in them,

at the farm of Mr. Vivvier, Leeuw River, and other places between there and Fraserburg. Hitherto the seams have not been of sufficient thickness to be of use, and the quality chiefly anthracitic, probably owing to the proximity of the greenstone dykes which are very numerous. But westward towards the Komsberg, where these dykes are not so common, workable coal is reported to exist, and as the country becomes occupied favourable spots may be opened up which may prove of permanent value. Two or three years ago, the civil commissioner of Beaufort forwarded to Government some samples of quicksilver said to have been found in a fountain known as Winderagers Fontein, on the Karoo Flats below the West Nieuwveld. The opinion of some scientific men who examined the samples was that the mercury had been extracted from a barometer or obtained from a chemist's shop. On application for further specimens it was ascertained that the owner of the place had at the suggestion of some person blasted the rock through which it was supposed the mercury came, and afterwards no trace of it could be detected. The property however, was lately purchased by a Port Elizabeth firm who are now endeavouring to ascertain its mineral character. The fountain, or fountains, for there are three or four of them within a radius of a few miles, are highly charged with sulphuretted hydrogen bubbling up as bright metallic-looking drops in the water. A miner who was for some months past at work opening up the ground behind one of these springs, found the formation to be that of the ordinary Karoo dicynodon beds with layers of argillaceous shale and crystallized calcareous spar; but there was no trace of cinnabar; and his further operations were stopped by the augmented flow of water which of itself, however, has added considerably to the value of the farm for ordinary agricultural

purposes. Some of the sandstones of the Nieuwveld and Roggeveld form excellent building materials, and are frequently used as such. Their great value arises from their points being exactly at right angles to each other and to the planes of the flags. As these stones occur of all dimensions they require no dressing, but can be laid down just as they are taken from the quarry.

On the plateau of the Nieuwveld, 100 miles distant from Beaufort West, the town of Fraserburg is situated. It has a great many neat and comfortable dwellings, a well-built Dutch Church, spacious public offices, and a town-house; and a commencement has been made with tree-planting which in course of time will add considerably to its appearance. In the portion of the district known as the Roggeveld, there is also a small church village, named Sutherland, and to the north-west again, near the Zak River, there is a Rhenish Mission village, Amandelboom, where a mixed body of natives, Hottentots, Bushmen, and Bastards, have cultivated grounds and extensive commonage lands granted to them by Government. At both these places in fair seasons grain crops are raised but the other parts of the district are wholly pastoral. The census of 1865 showed that the sheep in possession of the farmers was almost universally of the old fat tail breed. There were upwards of 400,000 Cape and only 81,432 merino, and the quantity of wool produced was returned at 213,000 lb. Since then there has been a great advance in wool-growing, the clip of 1873 having increased to fully 3,000 bales or 1,500,000 lb. The production, however, is still in its infancy as compared with the capabilities of the district which has millions of acres unoccupied and unalienated. As fast as surveys have been completed these lands have been readily leased for long periods, or at once converted into quitrent properties; and where formerly

there were only nomadic squatters, there are now numbers of comfortable homesteads along the various springs or wells. The periodic droughts which occur, —such as the one of last year when for twelve months or more no rain fell,—make a permanent water supply almost indispensable. Fortunately the formation of the country in many places is such as to render this practicable. The stony ridges which intersect the flats or level plains along Fraserburg and Victoria are naturally suited for blocking up and retaining water. These ridges are mostly trap dykes, often resembling walls or rows of beacons of loosely-piled boulders. They cross the horizontal beds of sand and shale vertically or nearly so, acting as so many drains. In some instances a number of smaller dykes are crossed by one large one. When this large one has been cut through, a spring occurs. Generally by sinking alongside these dykes, even when there is no indication on the surface, water is obtained. Some of them drain very extensive areas, and the springs and water over many arid portions of the Colony may be traced to their immediate influence. Mr. Dunn, in his geological notes, has called attention to the water bearing influences of these dykes, and says:—"The water usually met with by sinking on these 'drains' and in the springs, is of good quality, though frequently hard, from the presence of lime. Brackish or saline springs are not common. Nature has also made it easy to follow the course of the dykes, for the larger are frequently marked by a low ridge of dark colour traversing the country, while the smaller ones and those covered with soil are rendered conspicuous by the 'Karree Doorn' and other tall bushes growing along their course. It has been found that by opening out a drain from the dykes at a lower level than that at which the water is known to stand, a permanent small stream may sometimes be obtained." Many of

these sub-surface water-courses are known to the farmers as "aars" or arteries, and from the vegetation above them are almost as legible as footpaths, and Bushmen and other natives say they "can trace where they are by the burrowing of the king ant-eater (aard-vaark), the meercat, or even the field mouse." Mr. Alston, a resident in this part of the country, recently gave to the public his opinion that the too free opening of these wells and springs will ultimately tend towards an exhaustive system of sub-drainage which must affect the character of the grazing ground, and render large tracts of it worthless. He observes:—"We have in these high districts no surplus moisture in the soil, and our aim should be rather to increase than to diminish the quantity, and to keep what we can as near the surface as possible, both for the sustenance of the herbage and the certain effect it would have in inducing a greater rainfall. By adopting the system of supplying our wants by storing surplus water in good reservoirs—and to the making of these dams, time being given, there is no practical limit—it would be found that sheep and cattle would be kept in better condition by the use of the fresh water, and by its being accessible at all times, that the labour of the flockmaster would be greatly lessened, and that the cost of the work would not be more than the capital represented by the present yearly outlay incurred in the drawing of water from the wells. Respecting the labour of the flockmaster, I will endeavour to illustrate my meaning by considering what may be effected by changing the direction of a given amount of labour. During two months of the present year I had occasion to supply 500 sheep and forty-five oxen with water drawn from a well ten feet deep, and found that an average of ten tons per day was wanted. I will assume, however, that it is required to lift fifteen tons of water to a height of six

feet, that this must be repeated for fifty days in each year, and take the accumulation of five years' labour. The result is 3,750 tons of water lifted to a height of six feet, and the equivalent to this in lifting earth into a dam wall would provide for the collection of 100,000 tons of water, or about twenty-seven times as much as would be lifted from wells at the assumed rate during the five years. Allowing a very ample margin for evaporation, infiltration, and the possibility of not always getting suitable sites for storage, I am of opinion that in all cases farmers would find dams more economical than wells in the matter of labour alone; and that with respect to improvement in the producing power of their farms there is no plan that offers such certain advantages as the keeping possession of surface water, whether it be stored in dams for future use or forced into the ground where it falls."

Victoria West is distant about 100 miles north from Beaufort. The town is alongside one of the hilly ridges, which there, even more than in Fraserburg, diversify the plains. It has a commodious and well-built Dutch Church, a Mission Chapel, a pretty Episcopalian Church, and the foundations of a Roman Catholic one, and, what is not often seen in the country, a neatly kept, enclosed, and planted cemetry, laid out by the Dutch Church minister. The houses are substantial and many of them, such as the parsonage with its trim garden, appear very comfortable. There is a bank, a public library, schools, hotel, and some nine business establishments, indicating a pretty extensive and prosperous trade. The population scarcely number 1,000, black and white; but the place has quite a bustling appearance when the surrounding farmers visit the town, which they usually do for the stated religious services held there. Few districts have made more marked progress than this. It was only formed in 1857 and the first sale of crown

lands took place in 1859. Then there were only one or two hundred bales of wool brought into the town. In 1865 the production was 1,000,000 lb.; now it is 4,000,000 lb., or above 10,000 bales per annum, and other produce of the division has likewise increased. The number of farms then occupied was 149; now the number is 350, and large tracts of land still remain to be surveyed and leased. The revenue to the Crown rose at the same time from £6,000 in 1865 to £16,000 in 1870. In the condition of the people there has been a noticeable improvement materially and intellectually, the comforts and luxuries of life being enjoyed and education fairly appreciated. The farms are generally of large extent, ranging from 4,000 to as many as 30,000 morgen, owing to the distance apart of the permanent waters. The opening of springs and construction of dams have greatly increased their capabilities. On an average there are at least three or four reservoirs on each farm, the value of each of them averaging from £100 to £200. Some places have fountains which never fail and are often strengthened by the dams above them; the farmers in such cases are enabled to raise crops, and from 100 to 600 bushels of grain are annually obtained. The value of superior land now may be stated at 10s. to 15s. per morgen, and inferior spots may be had as low as 1s. or 1s. 6d. a morgen. Flocks of sheep range from 500 to 8,000, but there are instances of larger ones being pastured, as at the farm Pampoenkraal, purchased from Government a couple of years ago for £10,000, where as many as fifteen or sixteen thousand sheep are grazed, besides 150 oxen and 200 or 300 mules and horses. Generally the pasture is excellent, carrying one sheep to the morgen; yet here as in other places, it is said, overstocking is beginning to tell upon its condition, the sweet grasses and shrubs which were once high and plentiful being dwarfed or giving place

to bush of inferior description. In the northern part of the division, which is now being gradually occupied, the pasturage is as good as can be desired, and new comers who have settled there are doing well, especially when improvements have been made. One portion lying between Carnarvon and Prieska, and extending about fifty miles in diameter, presents a peculiar appearance, which has obtained for it the name of the "Kaijan bult." Its surface is red Karoo soil, resting upon a calcareous crust, in which boulders, rocks, and pebbles of various shapes and kinds, including agates, jaspers, chalcedony, cats-eye, white and coloured quartz, and porphyry, are embedded. This is the formation which Mr. Dunn in his geological map of the Colony has described as a "glacial conglomerate." There is an extension of it, he says, a few miles north-east of Beaufort and at different places westward as far as the Haartebeeste River.

The wise and liberal policy of the Land Leasing Act of 1864 has been strikingly exhibited in these three districts of Beaufort, Fraserburg, and Victoria. Since 1867 over 3,000,000 of morgen, or about 10,000 square miles, have been leased for periods of twenty-one years, to the direct and very material benefit of the country as well as of the general and divisional revenues. The extent of ground thus leased from 1867 to 1872 was:—In Fraserburg, 1,383,890 morgen at a total yearly rental of £6,614; in Victoria West, 1,077,326 morgen, giving a rental of £5,471; and in Beaufort West, 856,654 morgen, at a rental of £3,574.

The district of Prince Albert lies to the right of Beaufort West, along the base of the Zwarteberg range. It covers an area of about 4,000 square miles. A great part of it forms what is known as the "Gouph," commonly presenting a dry baked surface strewn with stones, but when well-watered deserving its Hottentot synonym—"fat" or "rich." This is seen in the great

productiveness of the Zwarteberg ward, where the farms are irrigated, and yield wheat and grain of all sorts, wine of excellent quality, brandy, tobacco, raisins, walnuts, oranges, apples, pears, and figs. So also, in the town of Prince Albert, which is plentifully watered, land sells as high as at any town near the metropolis, while the average value of the outlying portions of the district, where there are no streams, is very low. These latter localities, however, are good for ostrich-farming, providing a wide range for the birds, who require little attention save in watching occasionally where the female chooses her nest, and while the process of incubation goes on. At the present time there are over 800 birds domesticated in this district, two or three farms alone having about 100 birds each, and scarcely a single one being without a pair or more of them. There are also many birds in their wild state still roaming in some parts, and these often form the object of considerable emulation between farmers, each one striving to vie with his neighbour in the number running on his property, and especially the number of broods taken; for although the Legislature has wisely discountenanced, by heavy penalties, the destruction of wild ostriches, it does not prohibit the taking of young birds when found by the owner on his land. The time was when this part of the country was overrun by ostriches, when flocks of fifty or sixty could be seen scampering with distended wings over the vast plains, on the approach of the traveller; and men scarcely fifty years old relate how in their youth they found nests of fifty or more eggs, (accumulated through several females fraternizing together), which they carried home in bags strung across pack-horses. But at that time the value of the eggs for artificial hatching was not known, and it continued to be generally believed that the ostrich was incapable of being domesticated until the late Mr. Kinnear, of

Beaufort, demonstrated the contrary, and showed by the number of young birds he so successfully reared that ostrich-farming could be turned to a very profitable account. The principal part of the district however is pastoral, numerous flocks of sheep and goats running on the various farms, and wool is at present the staple article of export. A wool-washing establishment has been in operation for some time at Klaarstroom, at the northern entrance of Meiring's Poort. The average quantity washed has been 200 bales a month, dependent upon the water supply, but steam machinery is now being erected there for the purpose of carrying on the industry on a larger scale.

The town of Prince Albert is situate along the Zwarteberg, at the end of a deep valley formed by a break in the range. It enjoys a delicious climate at all seasons of the year. In summer it is almost perpetually fanned by a cool south-easter which, rising from the sea on the south-east coast comes sweeping over the mountain ridges as a moderate invigorating breeze. In winter the temperature is far from severe and while rain falls freely on the mountains, under which the town shelters, it enjoys clear sunshine and bracing air. At the same time from its comparative elevation, it commands a wide view over the broad flats bounded only in the north-east by the Blue Nieuwveld range, some eighty miles distant. A strong stream of the coolest and purest water descending the valley runs through the town and makes it wear that green and fresh appearance which delights the traveller after crossing the dry Karoo. The salubriousness of the climate, little known hitherto on account of the remoteness of the place, needs only to be brought into public notice in order to render it, when once a railway shall have been established, a general resort for those in search of health.

The inland position of the district and its isolation from the high road and channels of traffic have hitherto proved a great disadvantage to it. Intercourse with more advanced districts has thereby been checked and education and social improvements retarded. The consequence of this state of things is seen in the more than ordinary ignorance that prevails among the people, and the total absence of anything like comfort in the dwellings of the farmers, often little better than mud huts. The inhabitants of the Gouph especially, born and bred in a region destitute of vegetation and accustomed to the privations endured by several generations, seem to have grown callous with regard to the comforts of life. The increased transport to the up-country and the Diamond-fields has lately however effected a marked change and improvement amongst some of them. Not only has it opened a lucrative market for produce of all kinds, but as travelling is no longer confined to the "smouse" or "togtganger," it has begun to bring the isolated farmer in contact with better informed classes, affording him the opportunity of inquiring and learning about other matters than those that within his limited sphere engross his attention.

The new district of Willowmoore adjoins Prince Albert to the eastward. The seat of magistracy is a small but rising village along the Groot River. It is on one of the main lines of communication from Swellendam, Riversdale, and George to Graaff-Reinet and the Free State; through it also passes the road from Prince Albert and Meiring's Poort to Port Elizabeth; and from Oudtshoorn and the Oliphant's River Valley to Somerset East. It is equi-distant from George, Oudtshoorn, and Beaufort, about 100 miles, from Graaff-Reinet 110 miles, and from Port Elizabeth 160 miles. The Groot River rises in the plateau beyond Murraysburg, where it is known as

the Buffel River; afterwards it receives the name of the Kareiga, forming the boundary of Beaufort and Graaff-Reinet; about eighteen miles from Willowmoore it changes to the Groot River and as such passes through the Winterhoek range about five or six miles west of the Cockscomb Mountain, after which it is joined by the Kouga, and is known as the Gamtoos, entering the sea in St. Francis Bay. Several fish resembling the grey mullet are found in this, as well as in many of the river-beds of the Karoo, occupying the "zekoegatten" or permanent water holes in the driest season.

Many of the farms in the Willowmoore district are agricultural, those lying near the Zwarteberg range, along the Groot River, and in the Baviaan's Kloof producing corn, wine, and fruit of every description. The two last mentioned places are worthy of special notice. A few years back there was nothing to be seen along the course of the Groot River save innumerable mimosas; but now by the energy and industry of a few men, dams have been constructed, and large fields (one of them producing upwards of 3,000 bushels of grain) are irrigated by water which previously was allowed to run unused to the sea. The Baviaan's Kloof is a very fertile valley about fifty miles in length; it is occupied by twelve farms, and is entirely surrounded by mountains, a continuation of the Great Winterhoek range. At the western end and throughout it there is an accessible road, but at the eastern extremity the outlet is very difficult, and those who are bold enough to attempt it have to perform acrobatic feats which would astonish anyone uninitiated in ox-wagon travelling. The greater part of the district, however, is pastoral, being good Karoo veldt, not of the ordinary interminable flat character, but broken by mountains and small hills. Since the leasing of the Crown lands for long periods, great

improvements have been going on, water being stored and wells opened, and several farmers have gone to the expense of erecting pumps driven by wind to raise water for their flocks, and these are found to answer well. Willowmoore is a Dutch Reformed Church centre and an excellent place for trade, a large quantity of wool and other produce changing hands in the village and being then forwarded to Port Elizabeth, the only sea-port with which it has trade communication, for although Mossel Bay is quite as near, the road to it is much heavier, and the market there is not considered so good. When the Port Elizabeth and Graaff-Reinet railway is completed, this section of the country will be an important feeder to it.

Eastward of Willowmoore we come to the new district of Jansenville on the Sunday's River. It is in the centre of the country known as the Ruggens, lying between Uitenhage, Somerset, and Graaff-Reinet. Its extent is about 1,500 square miles. It comprises twelve freehold farms, in extent 15,947 morgen; 118 quitrent farms, in extent 297,563 morgen; thirty-one pieces of land, leased under Act 19 of 1864, in extent 23,827 morgen; and twenty-nine pieces of Crown land, leased annually, in extent 97,370 morgen. To the north there is good grazing for all kinds of stock on the undulating Karoo flats; on the east, there is a low range of hills, through which the Riet and Vogel Rivers flow, where a good deal of the prickly euphorbia or norsedoorn is intermixed with the herbage; on the south it is bounded by the Klein Winterhoek range, covered with bush and grass well adapted for cattle. There are not many farms with permanent springs, but most of them have large dams. The principal sheep-farmers are Messrs. Hobson, Biggs, and Berrington, whose flocks are large, noted for purity of breed, and free from disease. Their farms adjoin each other, on the property originally

belonging to the late Mr. W. C. Hobson, and together form a very extensive sheep-walk. Towards the Zuurberg, Messrs. A. C. Stewart, & Co. have fine lands where angora and also ostrich-farming is conducted under the management of Mr. Featherstone. A good amount of cultivation is carried on along the Sunday's River, the soil being deep and rich, producing abundant crops of wheat, maize, and forage—one farm alone yielding sixty-three tons of oathay, and 1,500 bushels of mealies. Vineyards and orchards when planted also do well. Many of the farmers, however, have lately engaged in the transport trade between Port Elizabeth and Graaff-Reinet, which has been for a time more immediately remunerative. The village of Jansenville at present consists of only a few houses, but a large extent of arable land has been laid out in erven fenced with quince hedges and planted with trees. The presence of a magistrate and his establishment, the opening of a second-class school and a public library, and the services of a Dutch Church already established here, is likely to attract more population and effect a great improvement in the place, while the completion of the new bridge across the Sunday's River will in a few months bring the inland traffic (about 100 wagons a day) directly through the village and give a considerable impetus to trade.

North of this tract of country, we have the division of Graaff-Reinet stretching up to the heights of the Camdeboo and Sneeuwberg Mountain range. It is the oldest of the inland divisions, having been first occupied by the early colonists about a century ago. Its area then was fully 50,000 square miles, but it has been reduced by the creation of new districts on all sides around it, until now it scarcely comprises 6,000 miles with a population of about 15,000. It has always been celebrated as an agricultural as well as a pastoral

region, although latterly, owing to the profitable return of the pursuit, special attention has been given to the improvement and increase of fine woolled sheep. The clip of wool in 1865 was 1,233,325 lb. The extent of ground then under cultivation was a little over 6,000 acres, and yielded 44,000 bushels of wheat besides other grain; of dried fruits 115,000 lb.; of wine 20,000 gallons and an equal quantity of brandy. The pasturage is greatly diversified and suitable for all descriptions of stock, the highlands abounding with grass, and the valleys or glens rich in "gebroken veld" and alluvial soil capable of growing anything, while the plains are covered with Karoo bush, ghanna, spek-boom, wild granaat, gwarrie, and other shrubs, suitable as food for sheep and goats. Formerly and before land became as valuable as it now is, it was the custom of most well-to-do farmers to possess at least one summer and one winter farm. The horses and cattle were generally kept in the "grass plaats" all the year round, to which in summer were sent all the small stock or "klein vee," which thrive better by being kept during the winter months in the lower warm Karoo farms. Some of the more successful and wealthy still possess such an extent of land and suitable conveniences, but by far the greater part of the farmers have now single farms only. These vary in size from 2,000 morgen to 10,000. The largest extent of land held by any one proprietor is about 60,000 morgen, while a few hold grants of 20,000 morgen.

Up to 1838, the division was peopled almost entirely by the early colonists of Dutch, French, and German extraction, who bred Cape sheep, horses, and cattle. The only parties who had introduced merino rams to their flocks up to that time were the late Wm. Smit, who then lived on the Rhenosterberg, near where Middelburg now is, and the late Barend Burger, of

Achter Sneeuwberg, now Murraysburg. Not more than 10,000 or 15,000 lb. of wool was then produced in the whole wide-spread district. For a short time previous there had been a considerable exodus of the old inhabitants to beyond the Orange River. These in some instances abandoned their farms entirely; others sold them for whatever they could obtain for them. Many a farm was then parted with for a wagon or span of oxen, and in one instance a place worth more than £5,000 was sold for an old bull which died a few days after. Tempted by the low price at which land was procurable, the families of the Southeys and Rubidges, together with their numerous family connections, from Albany, made extensive purchases of farms and settled in this division, while the late Mr. Fred. Leisching, and Mr. Watermeyer from the neighbourhood of Cape Town did the same. These brought with them numerous flocks of merino sheep of the best kind which they greatly improved from year to year by importations from Europe. The older inhabitants seeing the new comers successful followed their example until now the merino sheep, being found infinitely more profitable than either the Cape sheep, or horses or cattle, has nearly displaced them all.

The value of a farm here depends much upon the quality of its herbage, the strength and permanency of its fountains, the nature of the improvements that have been made upon it in the form of dams, buildings, homestead, &c., as well as its extent of arable land and proximity to a market. The best farms are worth at present from 20s. to 30s. a morgen and others from 10s. to 20s. per morgen. Among the most noticeable properties may be mentioned those of Messrs. Parkes Brothers, "Wheatlands," in the lower part of the division, where the desert has been turned into a fruitful garden, yielding wine,

brandy, and grain, as well as handsome returns in wool and increase of stock. Another example of the successful application of industry and intelligence is "Wellwood," the sheep-farming establishment of Mr. Charles Rubidge, who has by many years of unremitting care and attention and the judicious selection of rams from the best European flocks succeeded in bringing his sheep to great perfection, and obtained quite a colonial reputation as a breeder.* Mr. Alfred Rubidge's farm "Portlock" and Mr. Watermeyer's "Colonies Plaats" as well as "Bloemhoff," now owned by Messrs. Southey, Mr. le Roux's, Mr. Nickerk's, Mr. Brook's "Goliath's Kraal," Mr. A. Watermeyer's "Letskraal" and Mrs. Meintjes', Fontein Plaats, near Tantjesberg, may also be mentioned as among the most superior farms. The land as well as the stock is chiefly owned by the occupiers. There is very little tenant occupation. Arable lands are sometimes given on the halves, as it is called, the owner giving only the land and taking half the crops, but this is not done to any great extent. The yield of the soil as a rule is very abundant, varying from twenty to 120 fold, or even more with irrigation. The storing of water for this purpose has had some but far from sufficient attention paid to it. The Messrs. Parkes, at Wheatlands, and a few others have constructed large reservoirs, but there are many other suitable spots in the division where by an outlay of a few thousand pounds great bodies of water could be conserved, and small lakes formed which might be used to irrigate extensive tracts of arable land. Such spots may be found immediately above the town of Graaff-Reinet and at Mr. Booysen's farm, a little lower down the Sunday's River. These works,

* Mr. Rubidge drafts from his ordinary flock all ewes that do not yield at least ten lb. of wool. In his better flock a yield of twelve lb. is the test for admittance. One animal on his place gave the exceptional yield of twenty-five lb. of wool.

however, are hardly likely to be undertaken by single capitalists, but would richly repay a Company if judiciously carried out. Numbers of the ordinary dams or reservoirs have been constructed by the farmers themselves. The dams are simply earth embankments thrown up across shallow valleys, the earth being taken from the inner side, thus scarping a hollow for the water to be stored in. The length of the embankments vary from twenty or thirty yards to 1,000 yards, with a height of from four to twenty-four feet, giving as much as twenty feet depth of water in the largest.

A great deal of attention has lately been paid to the breeding of angora goats. They thrive admirably everywhere, but the most suitable part for them is the lower Zwart Ruggens. Spekboom and other shrubs which goats thrive best on are there found in the greatest abundance, and are of such a succulent nature that the stock can do well without water for a week at a time. Messrs. Evans and Rex, of Riet Fontein, have by far the largest flocks of these beautiful creatures of any one in the district. Mr. Rabie, of Camdeboo, Mr. Walter Rubidge, of Roodeberg, Mr. Blom, and Mr. Ziervogel have also given attention to them with successful results.

The town of Graaff-Reinet is the oldest and one of the largest in the inland districts. It is situate at the base of the hilly range where the Sunday's River leaves the Sneeuwberg Mountains for the plains. These hills rise behind it to a height of 1,000 or 1,500 feet. The summit of one of them, the Spandeau Kop, has a rough resemblance to a haystack, and adjoining it there is a ridge of loosely-piled trap rock with pillars of columnar basalt, standing out in bold relief to the height of 300 or 400 feet, having a very picturesque effect. This spot is known by the name of the Valley of Desolation. At the foot

of these hills the river sweeps round and forms a bend about a mile across, and in this bend the town is laid out, an abundant supply of water being distributed through it by several channels from the bed of the stream. The streets are wide and many of them are planted with rows of trees on each side. Formerly oranges and lemons were the principal trees, and their evergreen foliage and golden fruit were a peculiar feature of the town, but most of them succumbed to a scaly disease, which a few years ago attacked orange trees everywhere in the Colony, and now their place is supplied by rosy oleanders, accacias, blue-gums, cypresses, and Kafirbooms. The principal buildings are the Dutch Reformed Church, with its clock tower and spire, a handsome English Church, the Government Offices now in course of reconstruction, the town-hall, the college, masonic lodge, the Free Protestant Church, and the Public Library. Three well conducted newspapers are published in the town; three banks are in full operation, and its market is second only to Port Elizabeth. There are several large, and comfortable private buildings and stores of modern style, but the houses generally are of the old-fashioned type, with thatched roofs, gables and stoeps, or raised terraces, the usual form of dwelling of the old colonists. Nearly all have vineyards, gardens, or orchards, or some spot of greenery attached to them. These give the town a very pleasing appearance, and its marked antithesis to the surrounding arid Karoo plains obtained for it long ago the appropriate title of the "Gem of the Desert." A quantity of fruit and brandy is raised by the possessors of the vineyards and gardens; and there are several steam and water-mills and other local industries; but the trade of the place is principally maintained by its being the commercial centre for many of the surroundings districts. The traffic between it and the port of Algoa Bay (160 miles

distant) is very considerable. A year or two ago, it was estimated at 20,000,000 lb. of produce dispatched, and 18,000,000 lb. of goods received. This gives employment to a great number of carriers, but oftentimes the means of transport has proved quite inadequate to the traffic. The necessity of obtaining railway communication with Algoa Bay was mooted long ago, and a strenuous effort in its behalf was made in Parliament by Mr. Probart and others in 1858, but it was only last year that the Legislature finally authorized the construction of this midland line, at an estimated cost of £940,000.

On the plain close to Graaff-Reinet there is a spring known as Kruidfontein, issuing out of the horizontal sandy shale, and impregnated with hydrosulphuric acid gas. An excellent hotel and bath-rooms have been erected on the spot, and it is a favourite place of recreation for the inhabitants. On some of the farms on this plain, the cactus or prickly pear is becoming a source of trouble, the plants springing up so thickly together that nothing else can grow between them. One variety commonly known as the "Kaalblad" has few thorns on its leaves and during drought cattle thrive well upon it; but generally the innumerable thorns of the ordinary kind lodge in the mouths of the animals and cause such injuries that many die therefrom. When the plant has not too great a hold on the soil it may be eradicated, as has been done by Mr. Walter Rubidge, Mr. Booysen, and some others at a cost of several hundred pounds to each.

The town of Aberdeen is situated about thirty-six miles westward from Graaff-Reinet, in the flat country at the foot of the Camdeboo range of mountains. It is a thriving place and has a considerable trade with the wealthy farmers of the Camdeboo, and supplies the wants of those occupying the low country of the Zwart Ruggens and Kariega. A periodical court is

held there monthly by the magistrate of Graaff-Reinet. Until lately there were vast tracts of Crown land in the neighbourhood most of which, however, are now leased, though there is a considerable extent still available for the same purpose. The features of the country and the nature of the soil are both favourable for the construction of dams, and all this Government land at present yielding nothing will ere long be occupied and made richly productive, as when provided with water it is a most excellent sheep pasture. Ostrich-breeding is very successfully carried on, especially by Mr. Rabie, of Camdeboo, and Mr. Gardner, of Aberdeen, as well as Mr. Jan Booysen, of Klipdrift.

On the north-western spurs of the Sneeuwberg, about fifty miles distant from Graaff-Reinet, is the division of Murraysburg, formed out of portions of Graaff-Reinet, Richmond, and Beaufort. The village from which it takes its name was commenced in 1855, by the purchase of a farm and the sale therefrom of building lots for the purpose of raising funds for the erection of a church. It is another of the many instances which may be given showing the possibility of transforming the desert into a smiling garden. Where formerly there was only the Boer farm-house of old fashioned type, there is now a very pretty country village with luxuriant orchards and cozy cottages, neat houses and stores, a handsome church and a most comfortable hotel. The extreme length of the district is about sixty-six miles, the breadth about forty-five; and there are many rich sheep and cattle farms throughout it, the pasturage being generally sweet Karoo. Many of the homesteads are equal in appearance to any in the western districts, having large comfortable houses and out-buildings surrounded by fruit trees and magnificent oaks, with running streams of water and extensive corn lands. The

sheep kraals are generally on the sloping ground, adjoining the homestead, and are universally enclosed by walls of dried cattle manure, cut in squares and built up in the same way as turf or peat. The fine farm of "Vleiplaats," the property of the Hon. Mr. Burger, within half an hour's ride of Murraysburg is one of these places well worth a visit. Mr. Burger's merino sheep number over 20,000, of which there are always ten to twelve thousand under his own observation on this farm. He is also a horse-breeder, and has now a considerable stud, including some excellent stock recently acquired from the Berg River and Caledon breeders in the West.

The plateau of the Sneeuwbergen consists of a series of mountains known as the Oudeberg, Goliath's Kraal, Amandel Hoogte, Naudesberg, Zuurfontein, and other heights extending for nearly fifty miles behind Graaff-Reinet. Its highest point is the Spitzkop, or Compassberg, on the water-shed dividing the feeders of the Sunday's River, running south-east, and the Zekoe running north. Its height is given by Wyley as 7,800, although Hall and others have put it down at 8,500. The view from the summit is remarkably fine and for extent there is scarcely anything to compare with it in the Colony as its sharp peak overlaps the neighbouring mountains nearly 1,000 feet. Mr. Wyley says:—"The ascent of the peaked portion is a little difficult. The south-western face is a vertical wall. The north-east side which is formed by a large greenstone dyke intersects this at an angle of about 50°. The intersection is a sharp edge the lowest portion of which is to the north-west, the side on which the mountain is ascended. To make matters worse, this sharp edge has been shattered into large fragments for a depth of several yards so that the ascent is as it were on the top of a dyke or wall of loose stones, said stones, however,

being often a yard or two in diameter and so poised on each other touching only at the angles that they would appear as if a strong breeze would send them down by the run. The upper part forming the mountain is solid and is several yards in breadth. On its highest point a small pile of stones is erected."

Passing the Sneeuwbergen we are in the undulating country extending to the banks of the Orange River. This is divided into the districts of Richmond, Hope Town, and Colesberg. Throughout it greenstone dykes dispute the ground with the shale and sandstone; the herbage still continuing of the Karoo character, but mixed with varieties of sweet grass in greater or less profusion. Richmond lies about seventy-five miles north from Graaff-Reinet; the town which was established in 1843 is now one of considerable size and importance, and there is a good deal of trade in the products of the district, chiefly wool, mohair, skins, and ostrich feathers. It is next to Graaff-Reinet as an inland centre. There is a large Dutch Reformed and Mission Church, a very successful school, a library, bank, masonic lodge, a newspaper office, and hotels. The houses are interspersed with gardens and there are a number of trees planted about the place. The total number of farms in the division is 400, averaging from 8,000 to 12,000 morgen, although there are some of 20,000 morgen and upwards. Of these only about 100 possess arable lands worth mentioning, having about 1,600 to 1,700 morgen, or about 3,400 acres under cultivation. The other 300 farms cannot bring under cultivation more than a few acres each, and everywhere irrigation has to be adopted. Wheat, barley, and oats are the chief crops, and the average yield is from thirty to thirty-five fold. The best agricultural places are in the wards of Uitvlugt and Middle Wyk, and with a few exceptions in South Winterveld. The division con-

tains some very good sheepwalks, many of those along the branches of the Zekoe River having extensive vleys which are covered with short sweet grass, even during severe droughts. Luipard's Vley, formerly Mr. Mellersh's farm and now Mr. Perie's, is one of these, and the fine property of Messrs. Sieberhagen is another. The number of woolled sheep in 1865 was returned as 420,400 and of Cape sheep 97,000. The clip of wool then was 1,316,899 lb.; but its production has greatly increased, being now estimated at 6,000 or 7,000 bales. The flocks generally range from 1,500 to 8,000; and the fleeces give about 4 lb. The largest land owners are the Messrs. Kock, whose flocks of sheep number fully 20,000; W. C., P. and J. van de Merwe, N. J. S. van de Merwe, J. H. Viljoen, J. H. Visser, J. J. van Zyl, D. P. van der Merwe, R. Botha, Eckard, and Pirie. No great complaints are made of the pasturage wearing out, although many farms are said to be overstocked, and in some places the "bitter bush" has displaced the sweeter Karoo varieties. The latter circumstance, however, is not regarded as very objectionable by many farmers, as there are instances where sheep becoming accustomed to the bush are in as good condition as on the sweeter pastures. Cattle and horse-breeding have for some years past been comparatively neglected, but a few residents are again resuming stud-keeping, and high prices have been paid for imported entire horses. Large troops of goats are still found, and ostriches are common. The inhabitants of the division are, as a rule, an intelligent, opulent class. This may be seen in their comfortable residences and the superior character of their flocks and appliances for getting up their clips of wool, as well as in the many well-built reservoirs which are to met with. The population of the town and division is estimated at 10,000 white and coloured.