than her people consume, and their surplus finds a ready output through the mills of Cape Colony and the Free State. It would be misleading while writing of the resources of this midland grain belt to omit a reference to the unseasonable rains often prevailing through the harvest months, to the frequent hail storms, to the seasons of drouth, and to the occasional ravages of locusts. After all these drawbacks have been carefully considered, one must believe that while anything approaching present prices prevails, an abundant balance on the right side will invariably reward the careful, hard-work-Free Staters.

On Christmas day I was in Bloemfontein, the seat of Government for the Orange Free State, a city of some 5,000 people, 290 miles from the coast. It is built on a plain sheltered by hills rising to about 300 feet from the surrounding general level. With its altitude of 4,500 feet it should be a desirable residential section, but, unfortunately, owing to the lack of proper sanitary measures, typhoid fever, diphtheria, and similar diseases are prevalent. The town is well laid out, and has many good buildings, the principal of which are, of course, the Government buildings, the Governor's residence, &c., but there are as well good churches, handsome private residences, and substantial business blocks. With its advantages of situation, and otherwise, under proper municipal administration, Bloemfontein would doubtless expand into a considerable town, but just now it seems all but lifeless. The fencing of the south and east of the Orange Free State has practically driven its game away, but in the country between Bloemfontein and Johannesburg the beautiful springboks may still be seen, even from the train, in large numbers. Other bucks as well are abundant, and away from the line of railway during the open season the shooting must be magnificent.

The day after Christmas I arrived at Johannesburg after accomplishing the journey from Bloemfontein very comfortably on one of the well appointed trains of the government railroad. The land in the north-eastern part of the Free State and in the Transvaal is better adapted to grazing than to the raising of cereals. The country is treeless, bare for the most part even of small bushes. Many sections are unquestionably fertile, and if water in abundance could be had they would produce good grain and fruit, but it is not regular, coming not often in quiet showers, but usually in terrific downpours of short duration. On account of the hard baked surface of the ground but a small percentage of this water is absorbed, the most of it rushing to the "sluits," or water courses in the small valleys. When, however, this rush of water is checked and conserved in properly constructed dams it may be led at will over the fertile land to the very best results. The trouble at the present time is that individual farmers have not enough capital to warrant their undertaking the construction and maintenance of dams of any considerable extent, and they must usually be content with reservoirs, large enough to furnish for themselves, their cattle and their flocks, sufficient drinking water. If a denser population is eventually secured to South Africa, and if the farms are divided into 100 or 150 acre holdings, small communities might then for their mutual benefit construct dams sufficiently extensive to furnish water for the irrigation of their lands.

Some idea may be formed of the possibilities of the reservoir system if I bring to your notice the dam at a flour mill it was my pleasure to visit. The mill has a capacity of 150 barrels in twenty-four hours. The dam backs the water up a distance of five miles, and furnishes power enough to keep the mill running night and day to its full capacity, and it must be remembered that this water is simply the arrest of rain water which through falling so rapidly the ground is unable to absorb.

Wheat is grown in a very small way in the Rusten district east of Pretoria, and tobacco also just south of this wheat section.

It is very doubtful, however, if in the near future the Transvaal will, except in a very limited way, become an agricultural country. She depends at present almost altogether on her vast mineral resources. Almost every mineral known in commerce has been found in its hills, but its gold in great abundance has all but entirely monopolized the attention of the fast increasing population.

Although the precious metal is found at intervals throughout the Transvaal, it is at and near Johannesburg that the richest and most easily worked mines exist. The district is known as the Witwatersrand. The main reef extends from east to west, a distance more or less of 30 miles, and along this are scattered the works of the various mining companies. Johannesburg is about midway in this distance on the southern edge of the gold fields, and adjacent to the richest mines. In 1886, when gold was first discovered, a few poor miners' huts were scattered along the richest part of the reef, the owners then unaware that about them would quickly spring the largest city in South Africa. The situation, exposed and bleak in the extreme, the ground fit hardly for grazing, had so little value ten years ago, that the large farms changed hands for the most trifling considerations, a few pounds ready money, sometimes for a score or two of cattle. Much as I had read of this city, much as I had been led to expect through talking with travellers whom I had met in my journey, I was altogether unprepared to find Johannesburg enjoying the advantages, comforts, even the luxuries of the cities of our oldest countries. Its growth has been unprecedented. At first hundreds of miles from the sea, or from any railway, the rush to the fields once started swiftly poured in. The buildings, necessarily temporary structures in the early times, have given way to the grand business blocks of to-day. Johannesburg with a population of more than 40,000 people, besides being the largest city in South Africa, is well and regularly laid out. Here streets are wide and well kept, the business places and public buildings large and substantial, her homes commodious and comfortable, while many of them are costly in the extreme. Some of the streets are well shaded with eucalyptus and other quick growing trees, while around many of her private homes, fine garden shrubs and shade trees have sprung up. Large plantations of blue gums and similar trees cover the near hillsides. Tramways, electric lights, pure water, good hotels, the necessary adjuncts of modern cities, are not wanting. The very numerous mines, some of them within five or six minutes' walk of the post office, are equipped with the finest machinery the world can produce.

In Europe, in America even, such a growth would seem marvellous, but there literally away from all the world, one cannot comprehend it even when the actual gold output is known, for Johannesburg had her railway completed but eighteen months before my visit (Dec. 1894.) Previous to that time her building material, her provisions, and her heavy machinery, had crawled along in transport wagons drawn by oxen through a rough, roadless country. The cost of transport ranged from 6c. to 2c. per lb. The Boers reaped enormous profits through "transport riding" before the railroads were completed.

Perhaps the subjoined figures of the actual quantity in ozs. of the gold produced on the Rand between 1887-1894 may not prove uninteresting:

1887	34,897 ozs.
1888	230,917 ozs.
1889	379,733 ozs.
1890	491,801 ozs.
1891	729,213 ozs.
1892	1,210,903 ozs.
1893	1,478,473 ozs.
1894	2,024,164 ozs.

or say an increase from $593,249.00 in 1887 to $34,410,788.00 in 1894.

It seems impossible that Johannesburg will not have a vigorous and healthy growth through many years to come. Conservative people estimate that at the present rate of production, the reef adjacent to Johannesburg will not be exhausted in thirty years. As before stated this reef runs from east to west. Its general tendency is toward the south at an average angle of forty-five degrees. It is not only very regular, but it is clearly defined. In some of the workings the reef has been followed to a depth of more than 1,000 feet. The main reef is a conglomerate mass of soft stone, and harder quartz like gravel. The upper or hanging wall, and the lower or foot wall, both richly gold bearing, are composed of a formation dull grey in color resembling soft sand stone. The reef and walls might not be inaptly illustrated through holding a book in the hands at an angle of 45 degrees. The upper cover would represent the hanging wall, the lower cover the foot wall, and the centre of the book the conglomerate mass of the main reef.

I had the pleasure of going down two celebrated mines, the "Salisbury" and the "Robinson," and of visiting the stamping mills and cyanide works of the "Crown Reef" mine.

The greater part of the work underground is done by Kafirs, under the direction of white men, and consists largely in the first instance of drilling holes for the blasts of dynamite or giant powder, and subsequent to the explosion of collecting ore and sending it to the mouth of the mine in cars drawn above the surface by machinery, which, being automatically dumped, are again sent underground. The hanging and foot walls vary in thickness from a few inches to two or even three feet, while the main reef varies from eighteen inches to eight or ten feet, and in places it is even more.

The ore when taken to the surface is sorted