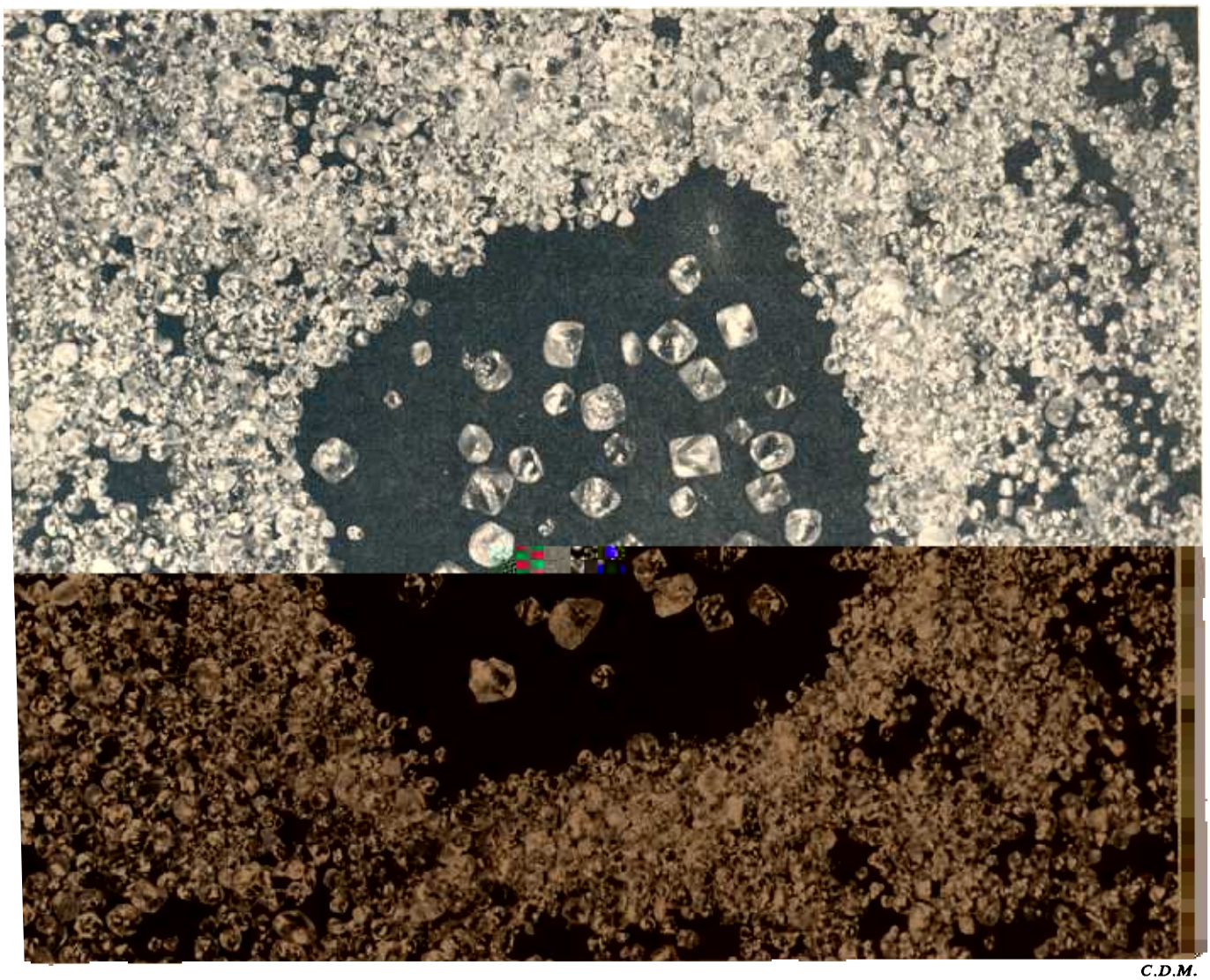
DIAMONDS, DESERT AND DILIGENCE



C.D.M.

A close-up of a portion of a week's output of diamonds from the Consolidated Diamond Mines of S.W.A. Ltd., Oranjemund.

'n Gedeelte van die diamante wat in 'n week uitgehaal is deur die Consolidated Diamond Mines van S.W.A. Bpk., Oranjemund, van naby gesien.

Diese Nahaufnahme zeigt einen Teil einer Wochenproduktion an Diamanten von den Consolidated Diamond Mines of S.W.A. Ltd., Oranjemund.

EVERY week in the Windhoek newspapers there appear advertisements which read more or less as follows:—

"In the estate of the late John Smith of London eing at the time of his death neither ordinarily resident ithin the Territory of South West Africa nor the owner

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of any property therein save and except the following shares in companies chargeable with duty:—

"500 The Consolidated Diamond Mines of South West Africa Limited. 7½% cumulative preference shares —Certificates Nos. so and so."

Glancing idly at this advertisement one wonders whether John Smith really bought his shares as an investment pure and simple, or whether he was not influenced by some hidden streak of romance. Did he not picture his shares as a passport to a new and exciting world—a world of sand and scrub where glittering precious diamonds are painfully wrested from tons of shifting desert sands?

John Smith, in his semi-detached London house topped by a television aerial, is indeed a pioneer. For his money is used to open up the desert of South West Africa and to extract the diamonds that lie buried there and help bring prosperity to the Territory.

In the 1957 *South West Africa Annual* the life story of August Stauch, who was the first white man to be concerned with diamonds in S.W.A., was detailed. Now, with the help of a magnificent booklet entitled "Diamonds from the Desert" published by Consolidated Diamond Mines the story of how diamonds are mined can be told.

POPULAR FALLACY

The first and most important fact to bear in mind is that it is not possible to go along the beach and play football with diamonds lying around there. It is a popular fallacy that if one can only get into the "Sperr-

C.D.M.

Tournadozers and Tournapull scrapers clearing overburden to expose a potential area at C.D.M.

Tournadozers en Tournapull skrapers verwyder die bogrond om potensiele diamantgrond op Oranjemund bloot te lê.

„Tournadozers" und „Tournapull"-Erdbewegungsmaschinen legen ein mögliches Schürfgebiet der C.D.M. frei.

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gebiet," or forbidden area, one can stuff one's pockets with diamonds and retire on the proceeds.

On the contrary, it is only a large concern with tremendous financial resources which can afford to move the eighty million parts of sand required to uncover one part of diamonds, or to be exact a carat of diamonds weighing one hundred and fortieth of an ounce necessitates the shifting of no less than twenty tons of sand and gravel. The area which the C.D.M. works stretches inland from the coast of South West Africa north of the Orange River. In this arid part of the world nature seems determined not to give up her treasures.

Climatic conditions are severe. The area is almost waterless with an annual rainfall of as little as 2.5 inches. The poor shrub and succulents live on moisture brought by night mists which may last until noon of the [illegible] day [illegible] C.D.M. [illegible] ost modern [illegible] equipment [illegible] have overcome most of the desert's difficulties [illegible] reader may wonder how diamonds came to [illegible] this desert stretch of coast. There are two [illegible] s. One advanced by two distinguished geologists [illegible] and Merensky, is that the gems were washed [illegible] g the shore from a volcanic kimberlite pipe from [illegible] of the sea which formed a current carrying them [illegible] istances and distributing the diamonds over [illegible] of miles. The other, and more generally accepted [illegible] is that the gems originated in the interior of [illegible] Africa and were carried by rivers to the sea [illegible] en concentrated by the waves upon the beaches [illegible] the following millions of years the sea receded. During [illegible] sand blown by the wind covered the diamonds and [illegible]

[illegible]

[illegible] 1884 [illegible] Bismarck proclaimed [illegible] Africa a German protectorate, prospectors [illegible] volcanic pipes of "blue ground" [illegible] two [illegible] iles south of Windhoek in the Gibeon district [illegible] ty years passed without reward. It was almost [illegible] ce that in April, 1908, the alluvial deposits [illegible] st were found. A Cape Coloured working on the [illegible] ways picked up stones which eventually got into the [illegible] ds of a railway official named Stauch. Stauch the [illegible] valuable finds, and a diamond rush began. Be- [illegible] made [illegible] 1908 and 1914 the output of diamonds [illegible] [illegible] more than five million carats [illegible] [illegible] companies [illegible] figure of 3,800% [illegible] from a mere [illegible] % to the [illegible] [illegible] carats. [illegible] in 1913 production amounted to 1,57[illegible]

war practically brought diamond-mining to a standstill, but after General Botha's invasion the South African Government permitted nine companies to resume work at the end of 1915. From the beginning mining had been rather haphazard. There were many small producers with primitive methods and often inadequate resources. One man saw the answer to this problem. He saw how these diffuse efforts could be canalized and the diamond industry as a whole be made to benefit. He had the necessary acumen and experience and had developed various ideas about the conduct of the diamond industry which the great Cecil Rhodes had preached and practised. His name was Ernest Oppenheimer.

In 1917 Sir Ernest was chairman of the new organization called Anglo-American Corporation South Africa Ltd., then operating two gold mines on the Rand, but he knew the diamond coast and its potentialities. He had visited the "Sperrgebiet" in 1914 and had moved from Luderitz through Kolmanskop past Elizabeth Bay down to Pomona and so to Bogenfels.

[illegible]

The Hon. [illegible] South African [illegible] and the first [illegible] Minister of the Union, was [illegible] with negotiations for the amalgamation of [illegible] mining interests. In February, 1920, matters were satisfactorily concluded and the Consolidated Diamond Mines of South West Africa Ltd. came into being. German companies sold their assets to C.D.M. for £3,675,000 and these included plant and equipment on the fields and railways with locomotives and rolling-stock serving Bogenfels. C.D.M. obtained mining rights for 50 years from January 1st, 1921, consisting of a 60-mile-wide strip stretching 220 miles from the mouth of the Orange River to a point a little north of Luderitz Bay. Later these rights were extended for a further twenty years.

The law required the new producers to deliver their entire production to a central authority, the Diamond Board of S.W.A., representing the mandatory power and the producers, which was responsible for selling or arranging the sale of diamonds. The central selling organization in London handled the sale of South African diamonds overseas.

UPS AND DOWNS

From 1920 the diamond industry underwent a series of ups and downs. In the middle of 1920, for instance, Russia sold diamonds wholesale to accumulate capital after the revolution, and the demand for diamonds fell so much that work in S.W.A. was curtailed. At the end of 1922 a recovery began and C.D.M. paid its first dividend of 12½% at the end of 1925. In 1926 and 1927, however, newly discovered fields at Lichtenberg in the Transvaal and Alexander Bay, just south

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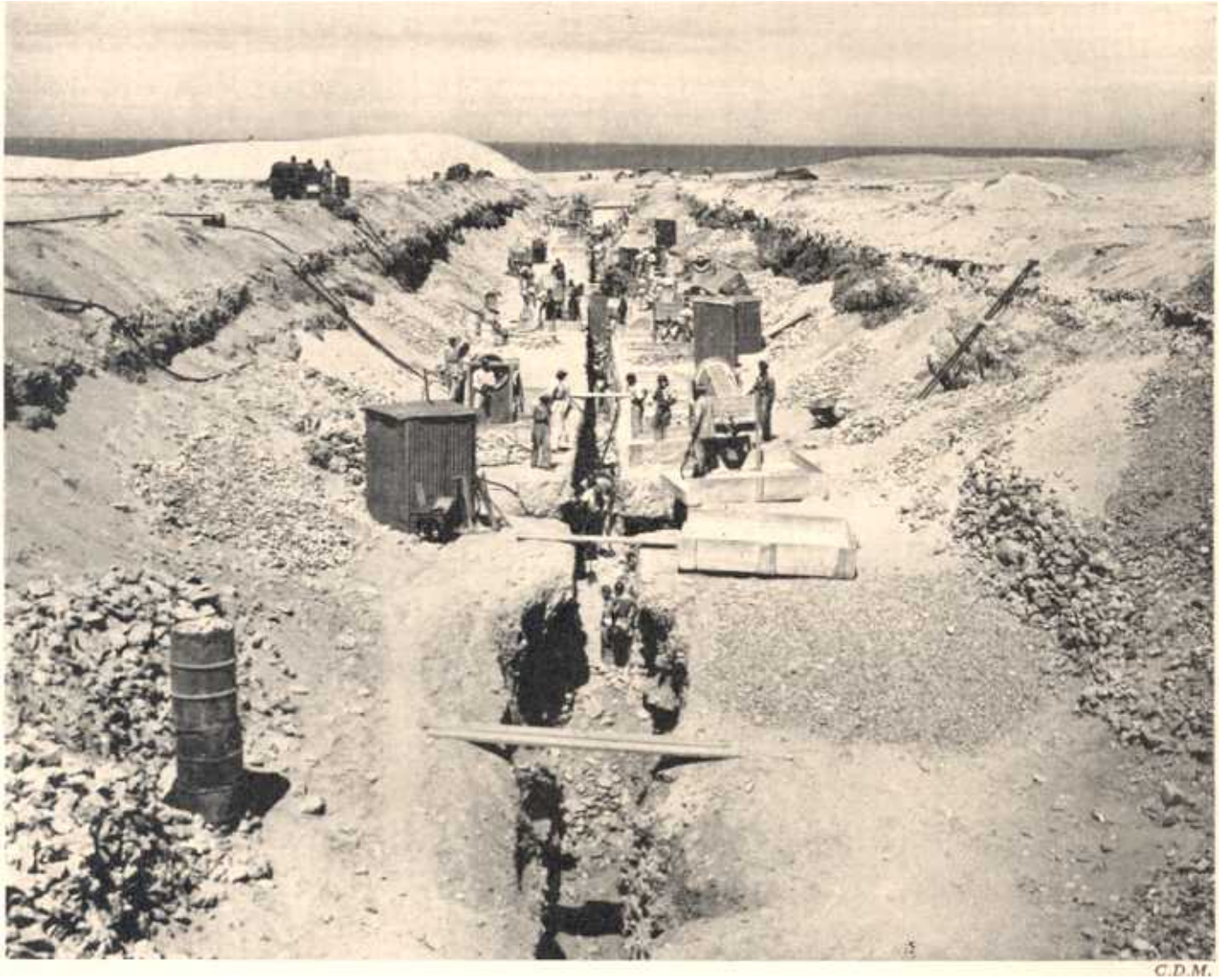

C.D.M.

A view of some C.D.M. prospecting trenches in the "Sperrgebiet." They are usually dug 1,500 feet apart over the full width of the terraces at right angles to the shore line.

'n Gesig oor party van C.D.M. se prospekteerslote in die „Sperrgebiet." Hulle word gewoonlik 1,500 voet van mekaar gegrawe oor die volle wydte van die terrasse en reghoekig met die kuslyn.

Ansicht einiger Schürfgräben der C.D.M. im „Sperrgebiet." Gewöhnlich werden sie in Abständen von 1500 Fuss über die ganze Breite der Terrassen im rechten Winkel zur Küstenlinie gegraben.

of the Orange River in Namaqualand, threw huge quantities of diamonds on to the market, causing such dislocation that the Union Government was obliged to pass the Precious Stones Act to regulate production. Again C.D.M. had to scale down operations. At the same time, though, it directed its attention to geological formations north of the Orange River and in 1928 found diamond-bearing ravine terraces only a few hundred

gressively less important as the riches of its sands were exhausted and the mining of the marine terraces in the south was intensified. And here operations have continued until the present day.

Such is the demand for gem stones that all efforts are being directed towards expanding production. Intensive prospecting operations along the coastal strip have, during the last few years, greatly increased re-

[illegible] virtually brought C.D.M. to a standstill from 1932 [illegible]

TREACHEROUS TERRAIN

Mining the diamonds along the coast is a difficult work calling for much skill in overcoming problems seldom encountered elsewhere in the world. Ponderous [illegible] the northern part of the concession area beca

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earth-moving equipment specially adapted to local conditions is used to remove the huge quantities of sand. Before actual mining is started extensive sampling of ground is carried out. Initially, prospecting trenches are dug at intervals of about 1,500 feet and these extend over the full width of the terraces at right angles to the shore line. Many thousands of tons of sand have to be removed to expose a strip upwards of five metres wide at the top of the gravels.

A trench is then dug in the gravels and sampling is carried out down to bedrock. Once the diamond con- [illegible] [illegible] ... is considered this can be done profitably.

The quantity of sand which has to be removed to uncover the diamondiferous gravels in a mining area is around 2,000,000 tons for an area a thousand feet square and 25 feet deep. Once the overlying lime of sand has been removed—and dumped elsewhere—the gravels are extracted by mechanical shovels which load them into small rail-mounted trucks or heavy rubber-tyred dump trucks for transportation to field-screening plants. Thus to avoid transporting and treating the necessary amounts of gravel at the central plant, gravels are screened in the field on small plants each of which serve a group of mining places.

All gravel larger than the biggest diamond to be expected in a particular area is screened, and after passing over a picking belt is dumped. Similarly all sand material smaller than the smallest diamond to be expected in an area is dumped or pumped into the sea. The intermediate-sized material which amounts to about one-fifth of the gravels mined is then taken by rail to the central treatment and recovery plant.

Sometimes hand-shovelling has to be resorted to in gullies and crevices as the bedrock under the gravels is often uneven due to the action of the sea countless years ago. In all cases the bedrock is finally picked by hand and swept with brooms since the diamonds tend to concentrate in the lower gravels of the terraces. Occasionally the gravels are cemented together. This conglomerate may have a high diamond content and it is sorted and delivered to a central crushing plant there to be concentrated.

SELF-SUFFICIENT

At Oranjemund there are fully equipped modern workshops so that the area is completely self-sufficient as regards maintenance. In addition to normal maintenance precautions have to be taken against corrosion of ferrous materials due to the moist salt-laden sea air. Unless regular painting is undertaken trucks, engines, jeeps, cars, electric motors, machinery and plant would soon deteriorate. Wind-blown sand also serves to damage defective coats of paint.

The lack of noise in Oranjemund often surprises visitors. The huge rotary belt excavators, the big conveyor belts and locomotives are mostly powered by electricity. In the fields, however, there is the noise of the huge Tournadozers and Tournapulls to be heard.

Electric power for the plant, houses, offices, compound, hospitals, club and streets is generated in a central power station at Oranjemund and transmitted to localities scattered over a distance of more than 30 miles. It is the largest privately owned diesel power station of its kind in Southern Africa with an output capacity of 10,000 kw.

Many problems have had to be surmounted and solved in the matter of the power transmitting system. Chief among these, perhaps, was how to distribute adequate power over considerable distances to the massive equipment employed in stripping and dumping the sand overburden. The machines are mounted "crawler tractors"—most of them old Sherman tank chassis—and are constantly on the move. This problem is solved by the installation of high-tension transmission lines and by placing the necessary transformers and low-tension feeders over the entire mining area.

ALLUVIAL DIAMONDS

South West African diamonds are alluvial as opposed to those found in kimberlite types or blue ground. These have a peculiar quality. Their surface is such that they do not normally stick to grease. Special steps have to be taken to ensure that they do stick to the grease tables.

High-voltage charges of electricity are used to separate smaller diamonds from their gravels. The equipment used is the electro static separator which works on [illegible] ... gravels ... [illegible] ... with a high-voltage charge ... and the gravels ... thus being separated.

The diamonds recovered from the tables and separator are still accompanied by small quantities of gravel and finally have to sorted by hand. To ensure that no diamonds are lost the tailings or waste products are systematically tested. At suitable intervals the diamonds recovered are sorted, counted and weighed. With the C.D.M. 98% of the diamonds recovered are gem stones, only a minute proportion being industrial diamonds.

After the precious gleanings of the desert wastes have been sorted, counted and weighed, they go on the first stage of their long journey to the jewellers of the world, where they will flash and glitter as cut brilliants.

First stop is Kimberley, South Africa's diamond

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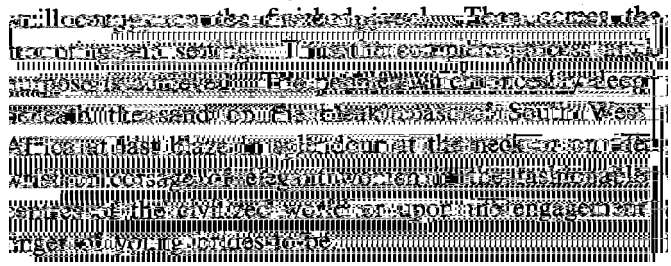
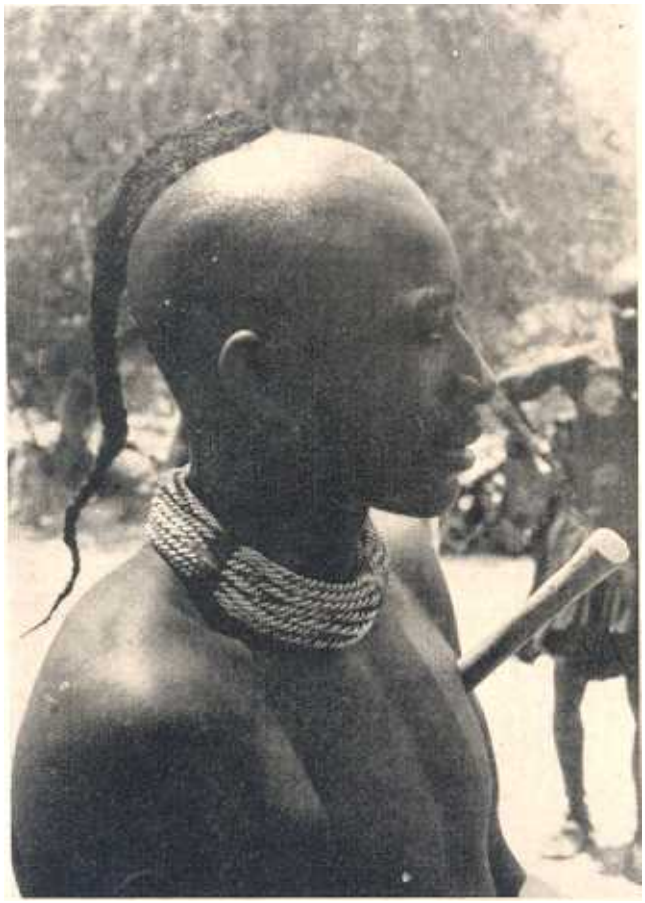
city. Here at the Consolidated Building of the Diamond Producers Association, where the stones are heavily guarded, the diamonds are once more sorted, Then they are parcelled and sent to the Diamond Company at Kimberley House.

From here they go to London to the company's offices. To this city come dealers and lapidaries from all over the world. Europe takes the lion's share, closely followed by buyers from the United States. London dealers buy steadily, but a fair proportion of diamonds is now going to Israel, where the art of precious-stone cutting has flourished since the war. Dealers from Australia and Canada are also well represented. Now the trained lapidary is employed to turn the rather dull pebbles into objects of glistening fire and light. Angles of cleavage are painstakingly studied. The microscopically exact slant of a facet has to be perfectly achieved, the almost loving polishing must take place.

TO THE ATELIERS

Then it is returned to the jeweller, to the ateliers of the great houses—Cartier, Boucheron, Tiffany, Von Cleef and Arpels, Janesich and their like—the brilliants are committed. Designs are drawn, first on paper, and then, if approved, on wax. The diamonds are pressed into the wax so that they fall exactly into the places they





E. von Koenen

This unmarried Himba in the Kaokoveld looks more like a Red Indian brave than a Native of S.W.A.

Hierdie ongetroude Himba in die Kaokoveld lyk meer na 'n dapper Rooihuid as na 'n naturel van S.W.A.

Dieser unverheiratete Himba im Kaokofeld sieht eher wie ein kriegerischer Indianer als wie ein Südwester Eingeborener aus.

E. von Koenen

The Rua Kana Falls on the Kunene River.
Die Rua Kana watervalle op die Kunenerivier.
Die Rua-Kana-Fälle des Kunene.

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