

# Across The Sahara By Railroad

WHAT THE FRENCH ARE DOING TO OPEN UP  
THE GREATEST DESERT ON EARTH.

(Special Correspondence of The Deseret News by Frank G. Carpenter.)  
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THE railroad is bound to revolutionize the African continent. Already the iron horse, whose breath is smoke and whose eye is fire, is beginning to light up the darker spots of these blackest regions on the globe. The work is rapidly going on in eastern Africa, where they are building a line from the Cape of Good Hope to Cairo. This has been extended from the Mediterranean southward for a distance as great as from the Atlantic to far beyond the Mississippi, and the extension from Cape Town to the north is greater still. The Rhodesia railway system reached the Zambezi river in 1905. During the past year it was extended beyond that point at the rate of almost one mile per day, and it is now at the Broken Hill mines within less than 500 miles of Lake Tanganyika. I expect to go along the greater part of this route before I leave Africa, and will be able to describe the various stages.

From the coasts of both east and west Africa, railroads are being built into the interior, which will bring us to the central and southern parts of the continent. Here in the north, the French colonies have an extensive rail-

Here in Africa the principal railroads may be grouped into three systems. The first embraces the Tunisian-Algerian roads of the Atlas mountains, the second the Egyptian lines, and the third the South African roads, which have a greater mileage than those of the other two systems combined.

THE RAILROADS OF THE ATLAS. In this letter I shall deal only with the railroads of northwestern Africa, and of several which the French are projecting across the Sahara. During the past few months I have traversed nearly every mile of track in the region of the Atlas, and have gone over the roads which are being pushed down into the desert. I am writing these notes at Miskine in the Sahara, at the end of a railroad which takes one almost 200 miles south of the Mediterranean sea, and I have already inspected the military line which goes down into the desert far below this point along the borders of Morocco.

It is generally claimed that the French are not good colonizers, and that they are allowing their vast possessions, scattered here and there over the world outside France, to remain as they were when they obtained them. This is not so as to Africa. The fertile parts of Algeria and Tunisia are covered with railroads. There is a line about as long as from Philadelphia to Chicago running from west to east through Algeria, with branch lines to the north and south, connecting the

Three Roads Already Surveyed and More Than Five Hundred Miles of Track Laid—The Sahara as a Railroad Possibility—The Passenger and Freight Traffic—The Soundan and the Roads which the French are Building to the Niger—Africa Becoming a Railroad Continent—The Railways of the Atlas and how the French Manage Three Thousand Miles of Iron Track in Algeria and Tunisia—Queer Features of Railway Travel—The Plans of the Khedive to Connect the Nile with Tunisia and thus Make a Great Trans Line Clear Across Northern Africa.



A FREIGHT TRAIN OF THE CENTRAL SAHARAS.

Photographed specially for The Deseret News by Frank G. Carpenter.



A SAHARA WATER TANK.

Wrapped With Straw to Prevent Evaporation and Photographed for The Deseret News by Mr. Carpenter.

way system. Egypt is gridironed with tracks, and the Sudan and in the Congo valley.

## AFRICA VERSUS THE WORLD.

In fact, railroad building is now going on in Africa about as fast as in any other part of the world. The continent is increasing its mileage at the rate of over 30 per cent per year, and while it has yet the fewest lines of any of the great divisions of the globe, its means of communication are rapidly growing.

At present the chief railroad continent is North America. It has between 250,000 and 300,000 miles of iron tracks. Next comes Europe with less than 200,000 miles, and after that Asia with something like 100,000. Australia has 16,000 miles of railroad lines, and Africa a little over 15,000. Of all the continents of the world the United States leads in its iron highways. We have more tracks than all Europe, and three times as many as all the continents outside ours.

ports with all parts of the Tell. Algeria alone has now more than 2,000 miles of railroads, and its railway receipts are between \$6,000,000 and \$7,000,000 a year. There is a heavy freight traffic, and the second and third class passenger cars are always well filled. There are sleeping coaches at high rates between Oran and Algiers, and one can go across a great part of north Africa by sleeper.

In Tunisia, which is almost as big as the state of Illinois, there are now something like 600 miles of railroads. They are mainly confined to the northern part of the country, although there are some lines running down the coast and inland to the Tunisian government has recently authorized large appropriations for their extensions.

A part of the Algerian system belongs to the government, and another part is in the hands of some of the French railroad companies. This is so of the road from Oran to Algiers,

It belongs to the Paris, Lyons and Mediterranean corporation, and its chief offices are in France. The Sahara lines are largely military, and they could hardly exist without government support.

## RAILWAY TRAVEL IN ALGERIA.

Railway travel in northern Africa is far different from that of the United States. In comparison with us these people are still a century or so behind the times. Express trains do not run more than 15 or 20 miles an hour, and the railroad clocks at the stations are purposely kept five minutes behind every other time in order that passengers may not get left.

The methods of ticket selling and baggage checking are such that one should be at the train at least a quarter of an hour before starting, and he will then have to wait his turn with a crowd of Arab soldiers and others, each of whom consumes at least two minutes at the ticket office and twice that time with the baggage master. If the ticket is a return, the agent figures out a reduction of 30 per cent off the regular fare, and makes a memorandum of the amount on a ledger as well as on the ticket itself. The ordinary tickets are some what like ours, but the "retours" and excursion certificates are of the size of a legal document and quite as imposing.

## BAGGAGE ARRANGEMENTS.

Only about 70 pounds of baggage are allowed free, and everything must be weighed. There is a tax of 2 cents for checking baggage, and the agent registers the weight whether it is below 70 pounds or not. The checks are not made of cardboard or brass, as in our country, they are merely receipts on a thin tough paper so arranged that one-half of each receipt can be given to the passenger and the other doubled up and tied with a string to the baggage.

Most of the natives carry their belongings in bags not unlike coffee sacks, and much of the checked luggage is of that nature. At the depots the poorer Arabs throw their bags over their shoulders and march off with them.

First and second class passengers take numerous valises and bundles into the cars. I am now traveling with nine packages, and they all go into the car. At every stop and start the porters take all my stuff in and out for me, and the rates are so low that the cost of handling is little. Four cents is a big enough fee for one man, and one good lusty Arab can carry my baggage.

## IN THE CARS.

The first and second-class compart-

ments are comfortable. I am traveling first class, and I sometimes have a compartment for myself and son. The cars are divided into little box-like rooms by partitions, which run across from one side to the other. They are usually entered from the sides, and it is not possible to go through a whole train, as in our country. The seats are well cushioned, and as the sides are walled with windows the opportunities for seeing are good. The second and third-class cars are divided up in the same way, and the second class is almost as good as the first.

The third class seats are bare board benches, and they are usually filled with Arabs, Moors and Kabyles, with a sprinkling of private soldiers. The latter receive wages of only about one cent per day and hence cannot travel in luxury.

## EATING ARRANGEMENTS.

Within the past year or so dining cars have been put on some of these Algerian trains. Others stop at the stations for luncheon and dinner, and at every station there is a lunch room, called a buvette.

The usual rate for dinner is about 40 cents, and for that sum one gets an excellent meal with a quart bottle of white or red wine thrown in. Lunches are often put up and brought to the cars at a cost of about 50 cents each. For that one gets two slices of roast beef or a half chicken, several boiled eggs, and also cheese, sweet cakes and fruit. There is always a chief depot manager, a baggage master, a telegraph operator, a ticket seller for checking baggage, and the agent registers the weight whether it is below 70 pounds or not. The checks are not made of cardboard or brass, as in our country, they are merely receipts on a thin tough paper so arranged that one-half of each receipt can be given to the passenger and the other doubled up and tied with a string to the baggage.

## NEW RAILROADS FOR NORTH AFRICA.

The railroads of Algeria and Tunisia at present have a length of almost 3,000 miles. The new lines projected number many thousand miles more, and in the near future the railroad system of this part of the world will probably be several times what it is now. One of the most remarkable of the new schemes is favored by the young khedive of Egypt. His majesty is rich

and he has trouble investing his surplus. He proposes to build a railroad from Egypt to Tripoli which may be extended on around the Gulf of Gabes and thus connect with the railway system of Tunisia.

Another scheme is to build a line through the Atlas mountains of Morocco to Tangier, the two projects completing a great trunk line from the Nile to the Atlantic. The Morocco scheme cannot be attempted in the present condition of that country, and it is doubtful whether the travel and freight of the region between Tripoli and the Nile would ever make that part of the road pay. The length of this trunk line, all told, would be about as long as from New York to Salt Lake City, and fully two-thirds of it remains to be built. Here in Algeria and Tunisia there are roads running east and west about as far as from New York to Chicago, and in Egypt the khedive has already built something like 60 or 70 miles from the Nile westward.

## ON THE LIBYAN DESERTS.

A part of this route goes along the Mediterranean through the Libyan desert. The khedive has traveled on horseback over this section and was surprised to find that the country has a rich soil and that it once supported a large population. Everywhere he went he saw the remains of the Romans. There were ruined towns and villages and enough stones in them to build a hundred new settlements. Here and there he crossed rich oases, and he has advanced the opinion that his road will pay. The part already built is now doing so, and he has widened the gage to accommodate the traffic. If it should ever be completed to Tunisia, and the Morocco extension made, it would bring Africa within four hours of Europe by way of the Strait of Gibraltar, and there will be a probable connection with Asia by a road which might be built from Cairo to connect with the lines now going south through Damascus and Jerusalem.

## MOROCCO'S RAILWAY POSSIBILITIES.

As to Morocco, that country will eventually form a live field for railroad engineers. It is now in such an unsettled state that the people will have to take hold of it within a short time. Both life and property are unsafe, and it is impossible for foreigners to travel through it. Morocco is one of the richest countries of Africa, and one of the worst gov-

erned and most backward. It has 10 or more million population, and it is said to be far richer than either Algeria or Tunisia. Excepting the French regions of the Desert of Sahara, Morocco is almost as large as those two countries put together, and it has no roads nor any highways of communication except arid paths. It has some large cities, such as Fez, Marrakech and Mekinez, and eight or more coastal ports. The country is such that railroads (read be easily run through it, and I am told that the natural resources would eventually make the roads pay.

One of the first lines to be constructed in Morocco will be from Tangier, the part opposite Gibraltar, to Fez, the capital. The distance is 175 miles, and at present all the freight between the two cities is carried on camels, donkeys and mules. Travelers usually go upon horses, and they must always be accompanied by soldiers or pay a tribute to the tribes along the way. Another scheme is to extend the Western Algerian road, which now goes to Tlemcen, on to Fez. This would connect the chief capital of the sultan with the French colonial railway system and give Morocco access to almost 3,000 miles of railroad communication.

Still another road proposed is that from Mogador to Marrakech and Fez. This would furnish Fez with a short route to the Atlantic ocean. This was the line favored by Si Mehdi el Menebi, the ex-war minister of the sultan. Both the French and the Germans are now after railway concessions in Morocco.

## RAILROADS ACROSS THE SAHARA.

More interesting than any of these schemes are those which are planned to connect the rich regions of the Atlas mountains with the Sudan, that great fertile, healthy belt of North Central Africa. The Sudan runs clear across the continent from the Nile to the Atlantic, and it is wonderfully rich in resources and people. The barrier between the two regions is the great Desert of Sahara, which is as long as from the Mediterranean and as wide as from the Atlantic ocean to the Rockies. It is in this desert that I am now writing. I have ridden for many miles over its rocky wastes of stone and sand, and have climbed the mountains and plateaus which are found here and there in many parts of it.

The Sahara itself is neither level nor low. It has vast plains where the sand stretches out on every side to the horizon, but there are many places where the country is rolling. There are gorges along the beds of dry rivers, there are mighty bluffs of stone and no end of hills and mountains. I am in sight of the chief range of the Atlas at Biskra, and its hills are dryer than the Sahara itself. I rode for several hundred miles along the range which separates Algeria and Morocco. The sands of the desert go to the foothills and pile up there in great masses, while the slopes above are absolutely bare of vegetation and altogether arid. The average level of the Sahara throughout is as high as that of the Blue Ridge mountains in Virginia. There are but few places where it drops to 500 feet above the sea, and only one or two in which it falls below sea level. Lake Chad itself is several hundred feet above the ocean.

In the lower part of the central Sahara, on the upper edge of which I am now writing, there is a plateau extending from northwest to southeast, which is on the average more than 2,000 feet high, and upon it there is a mountain range which rises in places to almost 10,000 feet. The mountains are so high that they are crowned with snow in the winter.

In the western Sahara the country is almost equally rough, and there is much rolling land in the Desert of Libya, at the east.

## A POOR PLACE FOR A RAILWAY.

In addition to its rolling character, the desert offers many obstacles to a railroad building. One is the long stretches over which the track must go without water, and another is the enormous cost of hauling fuel. At Colomb Bechar, the terminus of the road which the French are building southward toward Timbuktu, coal is now worth \$20 a ton, and unless mines can be found along the line of the route, a cheaper fuel must be obtained or the extension abandoned. The stations are present are chiefly at the oases; but even there the lines which supply the water tanks are wrapped with straw to retard evaporation and every means is used to increase the water supply.

The Sahara itself can furnish but little support for a railroad. It is peppered with oases, but the fertile spots are far apart, and it is only in such regions as the Fezzan, Twat and Tanfret, where there are a large number of oases together, that there will be many passengers or much freight. The Sahara has, as I told, about 80,000 square miles of oases, but these are scattered over a region larger than European

and many of them are inaccessible except to camels. The freight of the desert is chiefly made up of dates, grain, alfalfa, grass. Some tobacco and cotton are raised in the southern Sahara, but not enough to form a freight item; and the salt mines, which here supply a part of the caravan loads, would not make a great traffic.

## THE SOUDAN.

The Sudan, at the south of the Sahara, is far different. It has an enormous population of native blacks. No one knows how many there are, but the probability is that they number between 50,000,000 and 100,000,000 souls. There are something like 25,000,000 in Nigeria alone, and the French and German provinces contain many millions more. There are big towns there, such as Kuka and Kano, which are now oases in addition to being cities once, and which would be great again if a railroad could be built to them.

At present the caravan trade is failing off. The trains of 1,000 or more camels, guarded by soldiers, which used to make surveys of the Sahara with perhaps \$500,000 worth of goods, consisting of ivory, gold dust and slaves, have dwindled to trains containing 100 camels or less, and the caravan trade diminishes every year. It still carries some European merchandise, goods from Tripoli, Tunisia and Algeria, but most of the goods for the west of Africa by steamer and are taken by railroad and rivers to the head waters of the Niger.

## THE ROUTE TO TIMBUKTU.

Indeed, one can now go from the United States by steam vessel to Senegal, and thence by train and steamer to Timbuktu. That city is not far from the Niger, and is the terminus of the caravan routes from Tripoli, Morocco and Algeria. It is 1,000 miles almost directly south of Colomb Bechar, the end of the Western Algerian road into the Sahara, and the French have miles farther to extend it. If this is completed it will give the vast Niger system direct railroad connection with the Mediterranean.

The Niger is navigable over a large part of its course. It is as large as the Mississippi proper, and its basin is one-third the size of the whole United States. The French are building several other sections in addition to the one which connects Senegal with Timbuktu, to reach that river. One of these is through French Guinea, another through the Senegal valley, and a third goes inland from the river coast. Altogether they will unite the Atlantic with the Niger, and if the Colomb Bechar road is extended to Timbuktu may become the Chicago of the Sudan.

## ROADS TO KUKA AND KANO.

Another railroad center will be at Kuka. That city lies on Lake Chad, perhaps 1,000 miles farther eastward. The surveys have been made to extend the Biskra road to that point, but so far less than 200 miles have been built, and almost all of this would be less than 1,700 miles, and the road would parallel the Biskra line until it reached the center of the desert. I do not mean to say that any of these roads will soon be completed. They are all dependent on water, cheap fuel and other conditions. The Biskra and the Colomb Bechar roads have already been built far down into the sands, but their extensions are yet uncertain. The French surveys have gone carefully over the two routes, and they have furnished not only surveys, but working plans and probable cost of operation.

It is estimated that it will require about \$20,000 per kilometer, or six-tenths of a mile, to construct any of these roads through the desert, and that the earnings will be about \$2,000 per kilometer. The running expenses of one train a day would be a little over \$1,000 per kilometer, and on these estimates the roads might pay. The cost of the fuel, however, is such that the running expenses are probably greatly underestimated, and the same is true of the cost of building the roads. The average cost per mile of railroad construction in Europe is almost \$100,000, and the average cost per mile for the rest of the world is almost \$20,000. It is difficult to see how a trunk line through the Desert of Sahara could be constructed at a less cost than the average rate for the rest of the world.

FRANK G. CARPENTER.

## WANDAMERE

M. I. A. Day, May 21st.

## MOST PAMPERED PUSS ON EARTH.

(Continued from page thirteen.)

of the male cats are most complete, for I have given them every attention possible. Each married cat has his separate sleeping apartments, closed with wire and with a run attached. Close at hand is a large square grass run, and in this each gentleman takes his daily but solitary exercise. One of the stringent rules of the catery is that no two males shall ever be left together, for if they were it would be the united Greek meets Greek. I do not wish it to be understood that the gentlemen cats are forced to lead solitary existences, for they have their recreation days for lady visitors, who seem to open their eyes in astonishment at the luxurious arrangements provided for guests.

## GREAT PRIZE WINNER.

The woman who gets more glory out of cats is Lady Decies who has a catery at Bournemouth on Sea. She has won more prizes at cat shows than any other individual exhibitor. Several of her cats are valued at \$5,000 each, which is a good deal more than the average British workman can earn in a lifetime. She has no children of her own, but her devotion to cats is not all selfish. She has established a home for stray cats where vagrant creatures are sheltered and given an easy exit from this world by means of a lethal chamber, in case they are not reclaimed or provided with a home elsewhere.

Among other prominent cat devotees who have not been convinced of the error of their ways are Lady Duchess of Marlborough, the Duchess of Wellington, Viscountess Mairland and many other leading lights of society. There seems little likelihood that the cat cult will decline in England. For one reason because there is money in it. For another because its leaders don't care a hang what religious teachers and professors of morality may say about them or their faith.

ELLIS ELLSEN.

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## RUSSIA'S NOTED PRIEST. SAINT OR CHARLATAN?

(Continued on page fourteen.)

an, Matrona, popularly called Parphy. In addition to the Imperial mantle she was accustomed to wear, who had appeared at Kronstadt and enjoyed the patronage of Father John. She had been granted a little with his grandson, a child of 12, Igor Chemichuk. He took me into the drawing room, where she showed me a great portrait of the czar. He put his little hand together and looked up at the painting as if it were the icon of some holy saint. "Oh," he said, "he is so good, he is almost an angel!"

ENTERS A DENIAL. Father John was somewhat reticent on the subject. "She never called herself the Mother of God," he said shortly.

When he was obliged to go out to visit a sick person he kissed me affectionately and uttered a few gracious words as his valet helped him into a magnificent shawl of costly fur. I remained to chat a little with his grandson, a child of 12, Igor Chemichuk. He took me into the drawing room, where she showed me a great portrait of the czar. He put his little hand together and looked up at the painting as if it were the icon of some holy saint. "Oh," he said, "he is so good, he is almost an angel!"

Then he showed me Father John's bedroom, a pleasant room with many beds in silver on the walls; behind a screen was the life bed of the revered priest, spread with an elegant quilt of pale blue silk; and hanging on walls and screens were many, perhaps 30, icons. They were presents from the devout, some were of black brocade, one or two of sky blue silk wadded for use in winter, and on a mantle of gray silk glittered the star of St. Alexander Nevsky, a high order conferred by the emperor.

"All Russia loves him," said the boy, "every day we receive heaps of telegrams and letters from all parts of the country asking for his intercessions." And as I left the little fellow called after me: "Tell the Americans that all Russia loves him." His voice came to me faintly, I reached the bottom of the stairs: "All Russia loves him, please tell the Americans."

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