

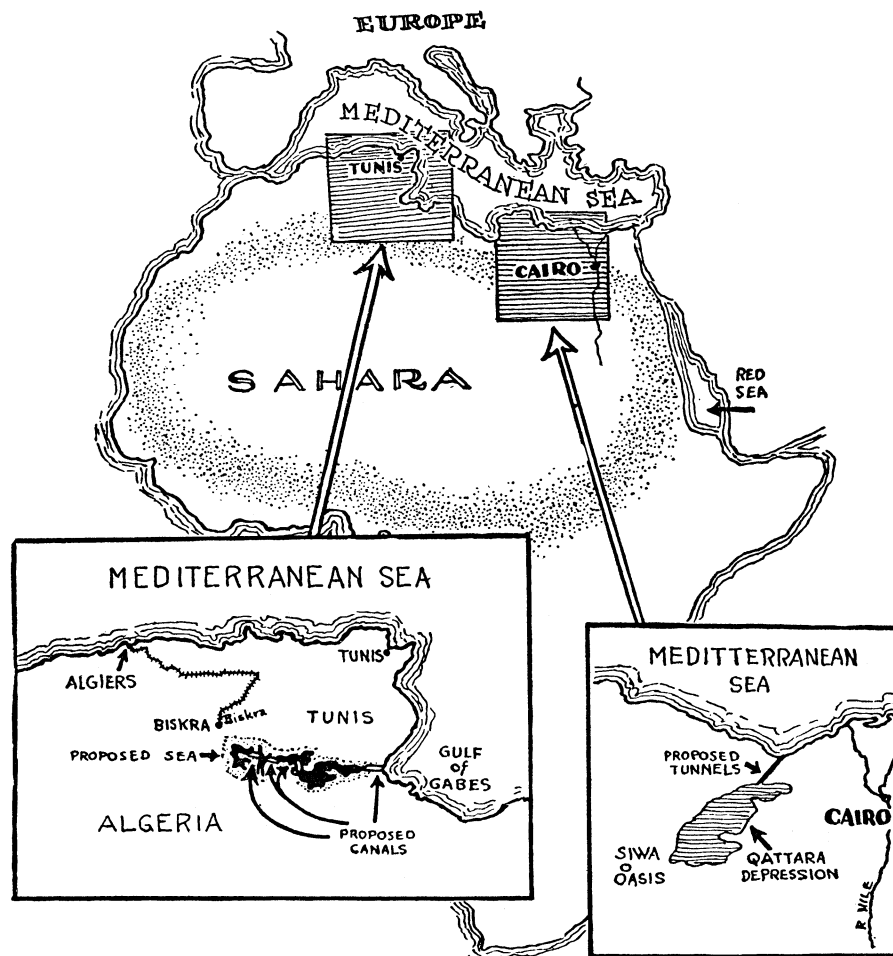
# Plans to Restore the City of Brass

Archæology

By EDWIN E. SLOSSON

The proposal of an American engineer to create an artificial lake in the heart of Tunis draws attention to a desolate spot supposed to have figured largely in legend and romance from the dawn of history and long before. If the reader is not so old as to have forgotten his Arabian Nights he will certainly remember "The City of Brass", how the travelers lost in the desert caught sight of two tall towers of Andalusian brass gleaming like gold in the sun, how they rode around the wall for two days on their camels without finding any gate and how, when finally they surmounted it, they found themselves in a dried-up city. In the market-place the soldiers and salesmen were shriveled to mummies and the stalls were stocked with all sorts of jewels and wares except one thing—food. In the palace under an alabaster cupola on a golden couch lay the sleeping princess but when the vizier attempted to wake her in the usual fairy story way the two bronze statues of slaves swung around and smote him—robot watchmen we should call them. For the wealthy city had been starved out by a seven-year famine such as afflicted the neighboring land of Egypt and there was no Joseph to meet the agricultural crisis with a scheme for the national control of crops and food conservation. So its citizens found that their wealth was valueless, for they could not buy the poorest wheat with their pearls and diamonds though they offered to barter them grain for grain.

But perhaps as you have grown old you have become skeptical. You may doubt the literal truth of the Arabian tale or you may question the verification of its site. Just wait and soon ocular evidence will be presented to you. The German UFA film company has recently taken a feature of "The City of Brass" on the site which it is proposed to flood, west of the Gulf of Gabes. For if you begin to question the correctness of the locale of a motion picture where could you stop? In this case we have the added proof of a Berlin telegram, which we may surmise emanated from the UFA press agent, that Director Wolkoff while shooting the scene found arrow heads and fragments of vases which have been identified by Dr. Paul Borchardt of Munich University as coming from the site of



MAP SHOWING LOCATION of the two proposed inland seas in the Sahara

the famous temple of Poseidon in the lost city of Atlantis 3000 years ago.

If you are so skeptical as to doubt both movie directors and Arabian romancers you may go back to Plato and read for yourself that:

"Here, too, was Poseidon's own temple of a stadium in length and half a stadium in width and of proportionate height, having a sort of barbaric splendor. All the outside of the temple, with the exception of the pinnacles, they covered with silver, and the pinnacles with gold. In the interior of the temple the roof was of ivory, adorned everywhere with gold and silver and brass. In the temple they placed statues of gold: there was the god himself standing in a chariot with six winged horses, and of such size that he touched the roof of the building with his head; around him there were a hundred Nereids riding on dolphins."

But there are skeptics among the Greeks as Critias, who tells the story, adduces documentary evidence. He

says he has the original writing from his great-grandfather Dropidas as it was taken down by Solon when it was told him by a priest of Sais, Egypt. The island of Atlantis, he said, was overthrown by an earthquake and sank into the sea nine thousand years before, leaving a shallow place to mark the site of the vanished kingdom.

Locating the lost land of Atlantis has been a favorite guessing game with archaeologists ever since, and is still as popular as ever. About forty years ago an American lawyer, Ignatius Donnelly, took a hand in the game with a book that purported to prove that the Egyptian and Aztec civilization had a common root in a continent once existing in the middle of the Atlantic.

The present vogue is to locate Atlantis in the salt swamps of Tunis. To be sure, Plato says definitely it was an island lying in the ocean beyond the Pillars of Hercules which have been as- (Turn to next page)

## City of Brass—Continued



SHIPS OF THE DESERT

sumed to be the Strait of Gibraltar. It is then rather startling to be told now that Atlantis was in the desert of Sahara west of Gibraltar. But to an enthusiastic archaeologist such discrepancies do not deter. Dr. Borchartt locates here not only Atlantis but also the golden gardens of the Hesperides and the city of Troy. The site of this job lot of legends was, he says, destroyed by an earthquake in 1250 B. C. Professor M. L. Joleaud of the Paris Sorbonne advances a similar theory, although he does not mention the German scholar, and tries to substantiate the idea by evidence from prehistoric rock drawings of North Africa.

The modern novel reader and movie fan have become familiar with this region since Hichens started the fashion of desert romances with "The Garden of Allah" and since the tourist can reach Biskra by rail from Algiers or Tunis. About fifty miles southwest of Biskra starts a series of salt lakes and marshes extending from Algeria westward across Tunis, almost to the Gulf of Gabes. A large part of this area is below the level of the Mediterranean and many engineers in the last sixty years have suggested the possibility of letting in the sea by canals. Colonel Francois Roudaire advocated from 1870 to the time of his death in 1885 a scheme for "flooding the Sahara" at this point, and his project was pronounced feasible by the most famous of French engineers, Count Ferdinand de Lesseps, who constructed the Suez Canal and started the Panama Canal. It was calculated that a cut could be made through the ridge, 13 miles wide and 150 feet high, that separates the Gulf of Gabes from the nearest salt lake, Shat el Jerid, at a cost of \$30,000,000 and the labor of five years, and this would open up an artificial lake of 31,000 square miles with an average depth of 78 feet.

The project which is now being urged upon the French Government by the New York engineer, Dwight Braman, provides for cutting three

canals, two of fourteen miles and one of four, which, it is estimated, will create an inland lake of some 47,000 square miles, or nearly the size of New York State. This would be deep enough to bring ocean steamships into the heart of the desert and is expected to relieve the aridness of the surrounding region, which is very fertile wherever there is water enough. The sea water, being salt, could not be used for irrigation, but it is hoped that it would raise the water level of the soil moisture and perhaps also increase the rainfall by cooling the atmosphere by evaporation from such a large lake. It is further proposed to irrigate the region north of the new lake by utilizing the winter rainfall on the Aures mountains which now runs off northward into the sea or southward into the desert.

A similar scheme for extending the sea into the Sahara has been recently projected on the British side. Dr. John Ball, Director of the Desert Surveys of Egypt, has found that the Qattara Spring, 130 miles west of Cairo, is in a depression which at one point is 440 feet below the level of the sea. He proposes to run a tunnel through the ridge to the Mediterranean and so not only open an inland sea 200 miles long and 75 miles wide, but also provide water power of 150,000 horsepower perpetually. But it is best to leave the explanation of the advantages to the promoter himself:

"None could fail to appreciate the value to Egypt of being able to obtain this great amount of power from a natural source within her own territory, and at no great distance from a populous district. Instead of depending on foreign fuel for the running of our irrigation and drainage machinery, of our railways, trams and factories, and for illuminating our towns, all this could be done over the whole of the Delta by part of the power obtained from this natural source; the remaining part being utilized for the reclamation of the 2,000,000 acres of waste land in the north

of the Delta, which the Ministry of Public Works is supplying with irrigation water and schemes for drainage.

"The use of this power would not be restricted to the above-mentioned purposes, but would also make it possible to create new factories and to make Lower Egypt gradually depend on native industries, the development of which is at present mainly obstructed by the high cost of motive power."

The singular feature of this project for getting power for Egypt from turbines in the Libyan desert is that no provision need be made for running off the water that will pour continuously through the tunnel from the sea above. It is figured that the sun will suck it up from the surface of a lake of such size as fast as it can come in.

The Dead Sea is also one of the sub-sea-level places of the earth and here, too, is the possibility of getting perpetual power by running in water from the Mediterranean as fast as it evaporates. With such artificial water power, the Palestinian desert might indeed be made to blossom as the rose and the new industries of the Zionists would be relieved of their handicap of the lack of coal.

Whether the creation or expansion of such artificial inland lakes in Palestine, Libya or Algeria would materially alleviate the climate of the vicinity and promote agriculture is quite problematical. The water would, of course, be continually getting saltier until, in the course of time, it would be reduced by evaporation to a great salt bed, convenient, indeed, as a source of chemicals, but not good for much else.

It was formerly supposed that a large part of the Sahara Desert was below the level of the sea, so if once the northern dyke were broken through the waters would rush in and form a second Mediterranean, opening up the heart of the Dark Continent to the (*Turn to next page*)

## City of Brass—*Continued*

commerce of the world. One of the curiosities of geographical literature is the book entitled "Flooding the Sahara," by Donald MacKenzie, in 1877. He had heard from the Arabs that the "Great Hollow," called by them El Juf, included 60,000 square miles of the Western Sahara was 200 feet below sea level. He urged the British Government to occupy that strip of the Atlantic coast, above Cape Juby, lying between the French possessions and Morocco, and establish here a great seaport at the entrance of an inland sea which would open up the interior of Africa to British trade. The Lord Mayor of London described the scheme in one of the public meetings in these words:

"The distance from the coast to Timbuctoo across the desert is eight hundred miles; and in the event of the sand-barrier, five or six miles in extent, being removed, there would be uninterrupted access to the heart of Africa, and the commerce of Europe and America would be largely developed, besides effecting, what is more important, the abolition of the slave-trade and opening a way to the introduction of Christianity among the African tribes."

When the flooding of the Sahara was first proposed the fear was expressed that the creation of such a great inland sea might divert the Gulf Stream into the Straits of Gibraltar and so leave the British Isles as cold as Labrador, which is in the same latitude. But this alarm was allayed and the scheme collapsed when a better knowledge of land levels showed that most of the Sahara was over six hundred feet above sea level, much of it above 1,600, and it would take a lot of pumping to keep it wet.

Readers who know their Ibsen will remember that it was one of the get-rich-quick schemes of that prince of promoters, Peer Gynt, when he found himself cast away on the sandy shore of North Africa:

The sea's to the west; it lies piled up behind me,  
Dammed out from the desert by a sloping ridge.  
Dammed out? Then I could—? The ridge is narrow.  
Dammed out? It wants but a gap, a canal—  
Like a flood of life would the waters rush  
In through the channel, and fill the desert!  
Soon would the whole of yon red-hot grave  
Spread forth, a breezy and rippling sea.  
The oases would rise in the midst, like islands;

Atlas would tower in green cliffs on the north;  
Sailing-ships would, like stray birds on the wing,  
Skim to the south, on the caravans' track.  
Life-giving breezes would scatter the choking  
Vapours, and dew would distil from the clouds.  
People would build themselves town on town,  
And grass would grow green round the swaying palm-trees.  
The southland, behind the Sahara's wall,  
Would make a new seaboard for civilization.  
Steam would set Timbuctoo's factories spinning;  
Bornu would be colonized apace;  
The naturalist would pass safely through Habes  
In his railway-car to the Upper Nile.  
In the midst of my sea, on a fat oasis,  
I will replant the Norwegian race;  
The Dalesman's blood is next door to royal!  
Arabic crossing will do the rest.  
Skirting a bay, on a shelving stand,  
I'll build the chief city, Peeropolis.  
The world is decrepit! Now comes the turn  
Of Gyntiania, my virgin land!

Here the poet has anticipated the engineer, for "Peer Gynt" was written in 1867.

But geological exploration has exploded the old idea that the desert was merely the dried bed of an ancient sea which might be again filled if only the barrier were once broken, though the projects for filling the known depressions near the north coast seem feasible.

However fanciful may be the legends of the Atlantis and the City of Brass, it is certain that the region hereabouts, now largely given over to the sands of the Sahara, was once the seat of a high civilization. To the east of the Gulf of Gabes, which it is proposed to make the entrance of the artificial lake, lies Tripoli, the "Land of the Three Cities," as the Latin name implies, which once rivaled Egypt in fertility and wealth, while to the north lies Carthage, which formerly disputed with Rome the supremacy of the world. The Phoenician city is estimated to have had a population of from seven hundred thousand to a million before its destruction by Roman power. After its conquest the Romans built many cities along the coast and to a considerable distance inland. One of them, Tacape, stood on the site of the present town of Gabes, and the Arabs have used the pillars and carved stones from its ruins for building material. Gabes, the prospective port, (*Turn to next page*)

## Blood Influences Drug

*Physiology*

The effect of a dose of medicine depends not merely on the chemical makeup of the medicine itself but on the chemical state of the blood in our bodies when we take it. This is indicated by the experiments of Dr. William Salant, of the University of Georgia Medical School, performed partly at the Cold Spring Harbor Biological Station on Long Island.

The blood of all warm-blooded animals is normally slightly alkaline. When Dr. Salant injected doses of the drug ergotamin into experimental animals whose blood alkalinity had been artificially reduced, a marked depression in their blood pressure resulted. It was possible to restore the pressure to normal or even to increase it beyond that point, simply by controlling the degree of alkalinity of the blood.

The effects of a drug depend not only on the alkalinity of the blood but also on the particular balance of certain elements. Dr. Salant has found that the concentrations of calcium and potassium in the blood are of especial significance in this respect. If the blood is lacking in calcium, adrenalin, a powerful stimulant and energy-releasing secretion, can not produce results. Even a considerable reduction in the calcium content inhibits the action of adrenalin, unless the potassium present is correspondingly reduced.

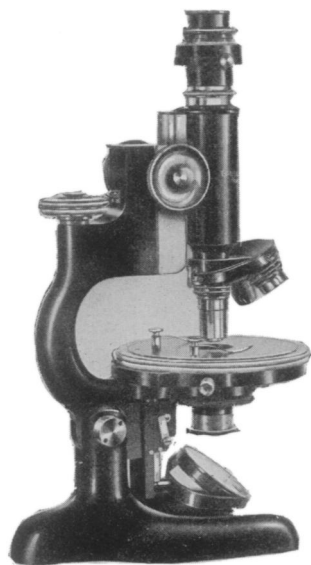
If much potassium is present, the poisonous effects of nicotin are greatly increased; and in the presence of an excess of potassium the usually stimulating adrenalin reverses its behavior and becomes a depressant.

The toxicity of mercury is greatly increased by reducing the calcium concentration in the blood. But if the calcium content is increased the resistance to this poison, and also to arsenic, is correspondingly increased. This point may eventually become one of importance in medical practice, because both mercury and arsenic, though poisonous, are widely used in medicine, especially in the treatment of syphilis. The diet of the patient, insofar as it affects the potassium and calcium content of his body fluids, becomes a matter of concern in the light of Dr. Salant's researches. It is recognized that the average American diet is very low in calcium.

*Science News-Letter, December 15, 1928*

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## City of Brass—Cont'd

has now 20,000 population, supported mainly by the dates and olives grown in the rich oasis which is watered by a stream only twenty miles long.

Inland from Gabes and separated by a low ridge that can be easily cut by a canal is "The Lake of the Palm Trees," or Shat el Jerid, as the Arabs call it, merely a mud flat encrusted with salt and gypsum most of the year, but sometimes in winter wet up by the rains or covered with a few feet of water. Beyond lie similar salt lakes, or "shats," which it is planned to connect by canals since their beds are below the sea level.

Why the country once so flourishing should now be so desolate is a disputed question. Some lay it to the increasing aridity of the climate. Others say it is due to volcanic disturbance of level. Others ascribe it to "the blight of Islam." The land itself bears evidence that it was once well watered, for it is furrowed by deep valleys and dried-up watercourses. That the region is volcanic is shown by the hot springs of salt and fresh water in the adjacent hills.

The next and more important question is how the land can be restored to prosperity, and that is why the French colonial authorities lend an eager ear to such proposals as those of Colonel Roudaire and Mr. Braman.

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