

THE DESERT OF SAHARA.

Much attention is now being attracted to the great African desert, Sahara; not altogether through mere motives of curiosity, but chiefly in the interest of science, and with the view to flooding some portions of that region and bringing others into more favorable conditions for cultivation. Two plans for flooding have been suggested, one to let in the waters of the Mediterranean and make a sea of the lower portions; the other is a more gradual but equally sure and more serviceable mode of improvement, by which fresh water may spread its fertilizing influence over a large portion of those now drear and arid plains.

It is well known that even within historic times, Sahara has been a comparatively fertile and populous region. Its ancient fertility was not derived from rivers, but from wells, "spouting wells," they were called then, which from disease or other cause have long since ceased to flow. So that the very existence or even possibility of such wells, anywhere, had been almost or quite forgotten until within a few years, when similar wells, now known as artesian, were found in the Valley of the Seine, from whence their knowledge and use has spread over almost the whole civilized world.

That artesian wells once existed among the oases of the Sahara desert is known from what is said of this region by ancient writers. References in this direction are given by Lieut. Schroeder, U. S. N., in a paper in the last number of the *Popular Science Monthly*, from which we condense a few paragraphs:

Diodoras, a priest of Tarsus, 1,600 years ago spoke of the great oasis, 40 leagues from the Egyptian frontier, which he said was irrigated, not by rains or rivers, but by springs which issue continually from the ground,—not spontaneously, but by great labor on the part of the inhabitants—meaning, of course, artesian wells, bored or in some way sunk by man. Some of these old wells have been discovered within a few years, and found filled with stone valves, by which their flow could be regulated. Some of these wells are spoken of by other ancient writers as being 500 cubits deep. How they were dug will probably ever remain a mystery. Several Arabian writers spoke of them over 1,000 years ago, as then flowing. Ibn Khaldoun referred to them as "spouting wells," and considered them a miraculous fact. Their origin had even then been lost. Modern research has disclosed the sources of supply of these artesian waters, which still exists in numerous localities all along the eastern and northern borders of that great desert region.

Although our knowledge of its geology and hydrography is as yet quite meager, enough is known to determine that immense subterranean sheets of water may be found in many places at a comparatively small depth from the surface; and it is quite certain that if an enterprising and energetic people were planted upon the borders of this desert, in place of the bigoted, lazy Saharan tribes who now roam upon them, the desert would soon again become clothed with verdure, and be made a most productive country. It is a curious but well attested fact that many ancient wells have been filled up by the more recent dwellers, evidently either for the purpose of defence against warlike invasion, or with the view of discouraging the influx of a more energetic and industrious class of people than themselves.

The French have already commenced a system of improvement in the desert back of Algiers. The first artesian well was struck as long ago as June, 1856. Within the next eight years seventy-two successful borings had been completed, the deepest of which is only 364 feet. The supply of water is exceedingly abundant, and of most excellent quality.

Origin of the Desert.

A. M. Largeau in 1874 visited the Valley of the Igharghar, with the intention of branching

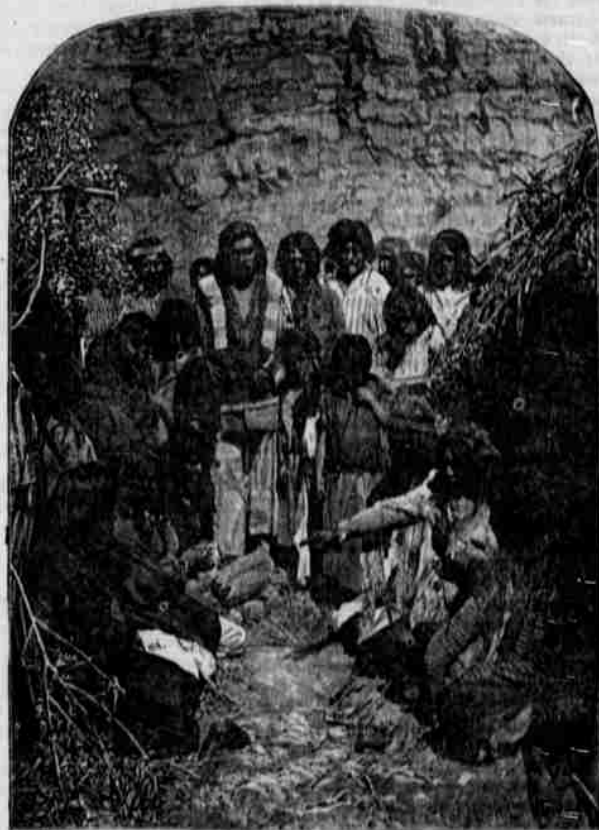
off to Rhadames to study the commerce of that oasis and test the practicability of diverting to Algeria the caravans that come there by the central route from Soodan. He questioned the *chambas* on the causes of the drying of the great Saharan streams, and found that all agreed in saying that these dead rivers once ran full through a country more fertile than the Tell (the region north of the Atlas mountain's crest), but could only explain it by legends more interesting than satisfactory.

M. Largeau gives the following explanation of the change: "It is known that pastoral people have always been great destroyers of forests, for they need large spaces of clear ground to feed the flocks that form their wealth and to promote security against the wild beasts that lurk in forests. Even now the Algerian Arabs are seen firing the woods to enlarge the narrow limits imposed upon them by colonization. So, although the great Saharan streams have not been explored to their sources, yet it

INDIAN GAMBLING.

The engraving on this page shows a phase of aboriginal life which is not often brought forward, and that is the passion for gambling. The means employed for this service of Fortuna are rude and original with the Indians. The excitement attending the playing of the game extends beyond those immediately engaged, for the men, women and even the children gather to watch for the signs of victory. The scene shown in the engraving is laid in Arizona, and is from a photograph taken during Powell's survey of the Colorado river.

FORMATION OF CHARACTER.—If somebody should give me a diamond to carry to Europe, I can know exactly how much would be lost to the world were I to drop it into the sea; but if a seed should be given me, I can only regard it with awe, as concealed within it is the food of



A SQUAD OF INDIANS AT GAMBLING GAMES.

is known that they commence on the bare plateaux that are but the skeletons of heights once wooded and fertile. All accounts of the inhabitants of these regions agree on that point. Consequent upon the destruction of the forests the periodical rains were replaced by rare and short though violent storms, the waters from which, instead of soaking in as in past ages, slip by on the rocky masses, carrying away the rich surface mold, and bring about the drying of the springs, and, as a direct consequence, of the rivers."

SAID an old farmer of the Jersey highlands to his daughter, fresh from boarding-school: "No, Jane, we haint got no napkins, n' we don't eat with no forks n' we do shove n' ther grub, n' we do smack, an' we git our elbows onto ther table; yes, we do all of that; but, Jane, we've got ther pork and beans."

CHARLES LAMB remarked of one of his critics: "The more I think of him, the less I think of him."

untold generations. That is the difference between looking at the truth as a diamond or a seed, as final or germinal. In all training of character, continuity and economy must be supreme. The notion that character is spontaneous is held by most people in the earlier portion of their lives, and is wrong. When they discover this, nine-tenths change to the other extreme. This is wrong, too. Hosts of young men think that their character will form itself and they will necessarily become better as they grow older. Hosts of old men believe that their character is fixed, and that it is impossible for them to become better. Such beliefs are foolish. People are also wrong in thinking that they can put off their bad traits and put on good traits. The old failures cannot thus be transformed, but out of the old habits new can be formed. This is what many a poor creature needs to know. We must make what we are to be out of what we are already.

"No! Algernon dear; I say that the boy shall not be brought up on the bottle. Look at its grandpa's nose!"