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16 Water in the Sahara

GARRY HOGG

Mr. Garry Hogg is the author of more than forty books, most of which deal with human effort and success in various parts of the world. He lives in an old building in Sussex, England, which he and his wife are changing into a trouble-free home. He likes long-distance walking, climbing and photography.

The piece below is taken from his book Engineering Magic (1966). He describes in this part of the book the ideas that are being considered to provide the Sahara desert with water and so change it to a more pleasant land.

Petrologists—experts in the study of mineral-bearing rocks—have for some time now held the belief that deep down beneath the Sahara there lay enormous untapped sources of oil, minerals, and natural gas. After months, even years, of surveying, charting and analysing various possible sites in the desert, the order was given to haul drill-rigs to some of the sites and put the theories to the test.

Oil-well-sinking equipment is heavy as well as complex, and involves the combined efforts of big gangs of men. These men must work in shadeless temperatures so great that a risk even more dangerous than that of sunstroke is what is called dehydration. To avoid drying up, they must absorb throughout the day great quantities of water—the one element so hard to find in the desert. On average, every man must drink not less than 2½ to 3 gallons of this rare and vital fluid every day. This means that an oil-rig site must be kept permanently supplied with many hundreds of gallons.

The most elaborate measures are taken to ensure a constant supply. If there is a reliable source of supply not too far from the site, then a pipeline may be laid. Some of these pipelines have extended over 15 miles of desert; truly a 'life-line'. Where the source of supply is too remote from the site for a pipeline, a fleet of water-tankers must be brought into operation. These must be capable of travelling over miles of camel track or even stretches of trackless desert. Their reliability as machines must be absolute; their drivers and crews must be dedicated men who will permit nothing to stop them from delivering their precious cargo.

It is hardly surprising that the firms who sent out the oil-rig teams soon decided to take steps that would ensure an adequate supply of fresh water on each site where they were operating. They had drilling tackle designed for deep drilling; they had experts to handle the equipment. So, though their main objective was oil, they drilled first for that other precious commodity, fresh water.

Some of the results of this drilling were spectacular. At a site named Sidi Mahdi, near Touggourt, a drill tapped a supply of water at a depth just short of 6,000 feet—more than a mile down below the blazing sand on which the derrick was mounted. The flow of water released when the drill was withdrawn was so tremendous that they used the term 'gusher', ordinarily reserved for an oil strike of outstanding volume. From that reservoir a mile and more below the surface, cold water leapt high into the air at the fantastic rate of 4,800 gallons a minute.

This, it is true, was something of a record flow. But borings on other sites in various parts of the desert produced water that burst from the ground under great pressure at the rate of 500, 600, 700 gallons per minute. That was enough and to spare for the drill-rig crews and the teams of experts visiting the sites.

More important, of course: it proved to the geologists and others that their theory of a great natural reservoir of fresh water beneath the desert was not just fancy, but fact.

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1 Held the belief: thought, believed.

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EXERCISES

COMPREHENSION

1. What is the work of a petrologist?
2. Why were drill-rigs sent into the Sahara?
3. What is dehydration, and what difficulties does it cause in the desert?
4. Mention two ways in which water may be taken to a drill-rig in the Sahara.
5. Why must a water-tanker be entirely reliable?
6. What was the first objective of the men who were drilling in the desert?
7. How deep down was the water at Sidi Mahdi?
8. What is a gusher? Why was this word used when the water at Sidi Mahdi was found?
9. How many gallons of water per second flowed out of the ground at Sidi Mahdi?
10. How many gallons of water per second flowed out of the desert in other places?

COMPOSITION

Describe an area of desert which has been developed after the discovery of water below the surface.

LANGUAGE

1. Fill each space with one of the words in the list in its right form:
   - chart; analyse; complex; gang; vital; permanent; remote; cargo; site; outstanding.
   - (a) After the chemist had —— the powder, he knew that it was dangerous.
   - (b) That oil well is in a —— place, about three hundred miles across the desert.
   - (c) The professor is an —— scientist who has made a lot of valuable discoveries.
   - (d) The men were building a new hotel on a —— near the main road.
   - (e) The machinery is ——, and we need an expert to operate it.

(f) The ship’s captain was studying a —— of the area.
(g) The two ships were carrying different ——.
(h) It was —— for the travellers to find water on the next day: if they did not, they would probably die.
(i) Several —— of men set out into the desert to drill for water and oil.
(j) We shall have to use temporary offices until the —— ones are ready.

2. A geologist is someone who studies the earth (Greek geo- = earth).
   What are the following?
   - (a) telegraphist; (b) balloonist; (c) cyclist; (d) violinist; (e) typist.

3. Put other words in the places of those italicized below, but without changing the meaning. The words that you need are the following:
   - under; dependable; different; sufficient; chief; astonishing; action; allow; burning; liquid.
   - (a) An adequate supply of fresh water.
   - (b) The results were spectacular.
   - (c) The blazing sand.
   - (d) In various parts of the desert.
   - (e) Beneath the Sahara.
   - (f) Vital fluid.
   - (g) A reliable source.
   - (h) They will permit nothing to stop them.
   - (i) Take steps that would ensure an adequate supply.
   - (j) Main objective.

4. A trackless desert = a desert without tracks or roads.
   Write phrases to express the following in a shorter way:
   - (a) A desert without water.
   - (b) A machine which makes no noise.
   - (c) An object which has no value.
   - (d) Work which has no end.
   - (e) Without weight (in outer space).
   - (f) Calculations of no use.
   - (g) Talk without any aim.
   - (h) A pit with no bottom.
(i) Telegraphy without wires.
(j) A night without a moon.

5. *Depth* is the noun formed from *deep*.
   What are the nouns from the following? Use each noun in a sentence of your own.
   (a) high; (b) long; (c) wide; (d) strong; (e) broad.

6. Complete the following sentences suitably:
   (a) The pressure of the steam was so great . . .
   (b) We had enough money and to spare after . . .
   (c) Fishing tackle is used when . . .
   (d) We shall need a lot of equipment if . . .
   (e) There is an untapped source of oil . . .
   (f) A sponge can absorb . . .
   (g) Surveyors are men who . . .
   (h) It is risky to . . .
   (i) A cargo ship carries . . .
   (j) To bore a hole in the ground, we . . .

7. Give suitable opposites to the following words and use each opposite in a sentence:
   (a) elaborate; (b) permanent; (c) enormous; (d) adequate; (e) natural.