

Mrs. David Carlson
62 Grove St.
Fitchburg, Mass.

CSF

ISLAMIC SICILY

prison, arsenal and council chambers. Beyond the four gates lay the *fondaks*—caravansaries—and the merchants' quarters. There were oil vendors, money changers, grocers, tailors, armorers, coppersmiths and corn sellers. It was a meeting place for traders from every clime—Greeks, Sicilians, Lombards, Arabs, Berbers, Persians and Tartars. Palermo was no small city even then.

"I can well believe it," murmured Roger. "Many of the arts we enjoy today must have existed there."

"Indeed, oh King. Arab Sicily 200 years ago abounded in exquisite carving and metal work, costly vases of gem-like glass, silken veils and hangings woven with gold, engraved bronze censers, precious carpets, and books ornamented in rich color. Our beautiful Arab inscriptions curled feather-like about the tops of palaces, halls, trays, caskets, bottles, jars, and even gems. We had a university where the best of Arab medicine was taught. We had poets and the music of flutes and tambourines. And our celebrations were lit by torches like branched trees of yellow wax hung with flowers of fire. Our system of government and land tenure was so successful that your folk have permitted much of it to remain, and our language, too, continues, besides French, Latin and Greek. Your father when he conquered us changed much, but you have preserved more."

King Roger smiled at his praise and touched Idrisi's hand. "Come," he said. "Let us look at the new ceiling."

Together the two friends ascended the marble steps toward the half-finished Cappella Palatina. Already complete was the Western basilican nave with pointed Saracen arches, the gleaming mosaic of the dome above. White Parian marble, gray granite and deep red porphyry rose up everywhere, decorated with scenes from the Old and New Testament and various Christian symbols.

But high overhead soared the marvelous Moorish ceiling. Craning their necks to look upward, Idrisi and the King could see the little figures of turbaned artists high on the scaffolding. Busy servants ran about below, ready to serve the needs of those above.

The vast honey-colored, coffered vault hung there like a vision from the *Arabian Nights*. It combined carving, painting and gilding. A design of interlocked stars enclosed a

double row of rosettes with eight concave petals in wood over which white linen had been stretched for painting in tempera. Everywhere exquisite figures were colored in white, black, green, buff, blue, and Oriental vermillion. There were houris and winged genii, gazelles and antelopes. Here two gentlemen sat cross-legged in front of a tent playing chess. Others jostled, hunted, or played the flute. A lady rode an elephant. Camels bore sumptuous litters and bright-costumed riders. Tall white birds with stiff appletree tails mingled with dragons that terminated in luxuriant scrolls.

"Magnificent," breathed Idrisi. "It is the true spirit of Islamic art reproduced here in this Christian church on this Western island."

"It is beautiful," said Roger. "A gift from your people to all the world."

Both men bowed before it silently. Overhead the carvers chipped away, the painters and gilders wielded their brushes. Below, on the temporary plank flooring, the servants and artists' helpers walked warily, lest drops of gold or vermillion spatter down.

King Roger and his royal geographer both died in 1154, and after that the Moorish influence in Sicily declined. But left behind were varied treasures. These treasures spread from there and also from Spain to permeate and become a part of Western life. The Arabs brought to Sicily cotton, sugar cane, oranges, lemons, *paste* (macaroni), peanuts and many drugs. They introduced silk weaving and Moorish styles in pottery, embroidery, brilliant jewels and fine dress. From them came the pointed arch and other decorative motifs, many details of fountain construction and design; some say the windmill, the use of the olive as food, and the game of chess. They brought many words into the Italian language, such as *carciofo*, artichoke, and *petronciana*, vegetable marrow. Other words also passed into English. Idrisi's geography book is said to have inspired the Christian navigators who began the great age of discovery. And even today donkey carts wind through the fields of Sicily, through the stone lanes of its cities, decorated with humble arabesques, just as King Roger II and the royal geographer Idrisi beheld them 800 years ago. ■



"MARHABA"
(Hello)

ARAMCO WORLD

JANUARY 1963 • VOL. 14 • NO. 1

FRONT COVER

Tommy Clapp, a first-grader at Dhahran School, Dhahran, Saudi Arabia greets a Saudi Arab friend with "Marhaba." That's the way "hello" sounds when it's said in Arabic. Tommy's father, Thomas B. Clapp, is an Aramco employee who teaches sixth grade at the Dhahran School.

SAY IT IN ARABIC3

"No sooner said than done" could very well apply to the American children who are learning Arabic by speaking it in Aramco schools in Saudi Arabia.

RED SEA8

Here's the story of a high-adventure waterway whose role in 1963 is no less exciting than her long history as a highway for traders and soldiers.

THE MIDDLE EAST IN OLD PRINTS 11

Before the camera was invented, it was up to artists and engravers to take armchair travelers on picture journeys to far-off lands.

THE FIRST DAY OF THE WORLD16

Folktales that explained just how the earth started spinning passed from father to son among ancient peoples.

SEVEN WELLS OF DAMMAM18

It took a lot of faith in the future for pioneer oil men in Saudi Arabia to keep right on drilling when their first six wells yielded practically no oil.

ISLAMIC SICILY 22

There's an Italian island in the sunny Mediterranean that retains much of its proud Muslim past.

PICTURE CREDITS: Front cover, Pages 4 & 6—Aramco photos by B. H. Moody. Pages 2, 3, & 5—Aramco photos by Ali Khalifa. Pages 8 & 9—Aramco photo by V. K. Antony. Pages 11, 12, 13, 14 (bottom) & 15—The Old Print Shop. Pages 10, 14 (top) & 23—The Bettmann Archive, Inc. Page 18—Aramco photo. Pages 19 & 21—Aramco photos by Max Steineke. Page 22—Italian State Tourist Office.

A publication of the Arabian American Oil Company — A Corporation
505 Park Avenue, New York 22, New York
T. C. Barger, President; J. J. Johnston, Secretary; E. G. Voss, Treasurer
Issued by the Public Relations Department, T. O. Phillips, Manager



"Meen hee-ye?" (Who is she?) Houda Sukkari asks third-graders. "Hee-ye Connie" (She is Connie) they reply. Question and answer are in Arabic on board.

*American youngsters who attend
Aramco schools in Saudi Arabia start
right out in the first grade to*

*Say it
in Arabic*

AT THE BEGINNING of the present school year several hundred American children of grade school age crossed a threshold of understanding. They started to study Arabic—now spoken by nearly eighty million people — as a second language. Unlike several voluntary experiments that preceded it, the present Arabic program is part of the youngsters' regular curriculum.

The children are students in the grade schools of Ras Tanura, Abqaiq, and Dhahran, the American oil communities in eastern Saudi Arabia. They are learning the language of their host country. Arabic, according to the *Encyclopedia Britannica*, was the third in a succession of tongues to reign as a "world" language of religion and commerce. The first, Hellenistic Greek, gave way to Church Latin which in turn bowed to Arabic during the high tide of Islam. French, then English, succeeded Arabic on the international tradeways.

However, the American school children in Saudi Arabia are unconcerned with the past or present role of Arabic in world affairs. They simply barge into the daily problem of

trying to master strange sounds, some of which are not to be heard in their own language. Like Arab children, the American youngsters are learning Arabic by speaking it; writing will come later. This new classroom encounter tests the mettle and imagination of children and teachers alike.

Last October, a visitor to Dhahran was invited to observe the restive progress of the youngsters. Allowing for the apprehension of the observer, who had years ago forgotten that boys and girls in a classroom scorn repose in the same degree that nature abhors a vacuum, the following is a fair report on the building of one fragile bridge of understanding between the West and the Middle East. As a minimal courtesy the names of the children have been changed. Another condition should be underscored: the phonetic approximations of the trial-run conversations do not follow any particular system. . . .

"Meen George?" (Who is George?)

Nawal Abdi, a young Lebanese graduate of the American University of Beirut, scanned the classroom and waited for

Say it in Arabic

an answer. The first graders shuffled their feet and twisted in their seats. The teacher leaned forward, rested her hands on her knees, and tried again.

"Meen George?"

One boy turned in his seat and started to point. The others rapidly joined him, their small fingers rising and falling jerkily.

"Hoo-wee George!" they called out. (He is George.)

George sat with most of the back of his hand pressed into his mouth. His eyes darted around the room through the arrow-flight of pointing fingers. He caught sight of Bob and started to giggle appreciatively. Bob had his head down between his knees under the desk. His hair was inches from the floor.

"Marhaba," Miss Abdi said. Her voice was brisk and cheerful. "Marhaba." (Hello.)

This time there was no pause. The word for "hello" had become familiar.

"Marhaba, Miss Abdi," the class replied. The children piped the answer in a burst of energy. In the silence that followed, the sound of shuffling feet rose in volume.

"Adele!" Miss Abdi called.

Adele had furtively raised her desk top a few inches and removed a book, a ruler and a pencil.

"Please close the desk," Miss Abdi said, "and put everything back."

Adele put each article back, one at a time.

"Shook-rah." (Thank you.)

"Shook-rah," Adele repeated after the teacher.

"No, no. I say 'shook-rah' to you. That is 'thank you.' Now close the desk for good. Kah-lahss." (It's all over.)

"Tighyib?" (Meaning fine or O.K.)

By this time, Bob, the born cliff-hanger, had changed his position. His head was now hanging into the aisle. Inch by inch he came closer to the floor.

"Kaif ill-hall, Fred?" Miss Abdi asked, several aisles away. (How are you, Fred?)

"Muh-nee-uh," Fred answered softly.

"Kaif ill-hall, Fred?" Miss Abdi asked again. "And this time don't tell your arm, tell me. Tighyib?"

Fred dropped his arm. "Muh-nee-uh," he said. The answer was firm and confident.

"Tighyib." Miss Abdi smiled and turned toward another young pupil.

Along one wall of the room were hung Halloween cut-outs: big pumpkin faces and ominous black cats. Along another wall were ranged crayon drawings all with the same title—"My Family." High in one corner of the room was the Saudi Arabian flag bearing in flowing Arabic calligraphy the Muslim testament of faith: "There is no god but God; Muhammad is the messenger of God."

Miss Abdi caught Tommy's roving eye.

"Inta maw-juwd, Tommy?" she asked. (Are you present?)

"Na-ahm, ana maw-juwd," Tommy said quickly. (Yes, I am present.)

While Tommy was declaring his presence, Miss Abdi noticed something strange. Adele had both hands raised behind her head. They were working at a hidden project.

"Adele!"

The hands dropped. In one of them Adele held a pair of scissors she had covertly taken from the desk. She was cutting her hair.

"But I thought you agreed," Miss Abdi said. "Now put everything in the desk. Everything. Kah-lahss." Miss Abdi waited patiently.

"Shook-rah, Adele," she said. (Thank you.)

"Shook-rah," Adele repeated absent-mindedly. Someone snickered softly.

"Meen inta?" (Who are you?) Miss Abdi pressed on, pointing toward Helen.

"Kaif . . . uh . . . kaif . . .," Helen said tentatively. She held her lower lip with thumb and curved forefinger. Her eyes searched Miss Abdi's face for a clue.

"La," Miss Abdi said gently. (No.)

Helen tried again. "Ana Helen." (I am Helen.)

"Tighyib."

Ten minutes had passed. The shuffling of feet, sounding dimly like an old vaudeville sand dance, came and went in small waves of restlessness. By this time, Bob had the top of his head firmly planted in the aisle. He mumbled happily to himself, "Ana Helen, ana Helen."

The bridge of understanding had lengthened several handspans. The underpinning of patience secured the slight but significant advance.

Twenty minutes later Miss Abdi was teaching a group of second grade students. Their regular teacher, Fatat Sukkari, was absent. Her illness offered a natural subject for their conversation.

"Wain Miss Sukkari? Hee-ee maw-juwda?" (Where is Miss Sukkari? Is she present?)

"La," the class replied. (No.)

"Laish hee-ee feel-moo-stash-fa?" Miss Abdi asked. (Why is she in the hospital?)



"Wahad, itnayn, falahti, arba-a" (One, two, three, four). Even at recess time the American youngsters practice their new language.

Out of the discussion grew a new sentence: "Hee-ee mar-ee-dah." (She is sick.)

The next day there would be no Arabic class.

"Book-rah?" Miss Abdi asked. (See you tomorrow?)

"Book-rah," the children answered automatically.

"La," Miss Abdi said. (No.) "There will not be Arabic tomorrow. So, ah-shoo-fahk ba-ad book-rah. I will see you the day after tomorrow. Ah-shoo-fahk ba-ad book-rah," she said again.

"Ah-shoo-fahk ba-ad book-rah," several of the children said in unison.

"Again," Miss Abdi said.

This time most of the class tried the new sentence.

The first grade and second grade students had come a long way since the opening session of Arabic. But, their kindergarten colleagues had faltered momentarily. After several weeks they had given way to the fidgets and the classes had been dropped. Another attempt will be made in the near future to overcome the extremely limited concentration of the five-year-olds.

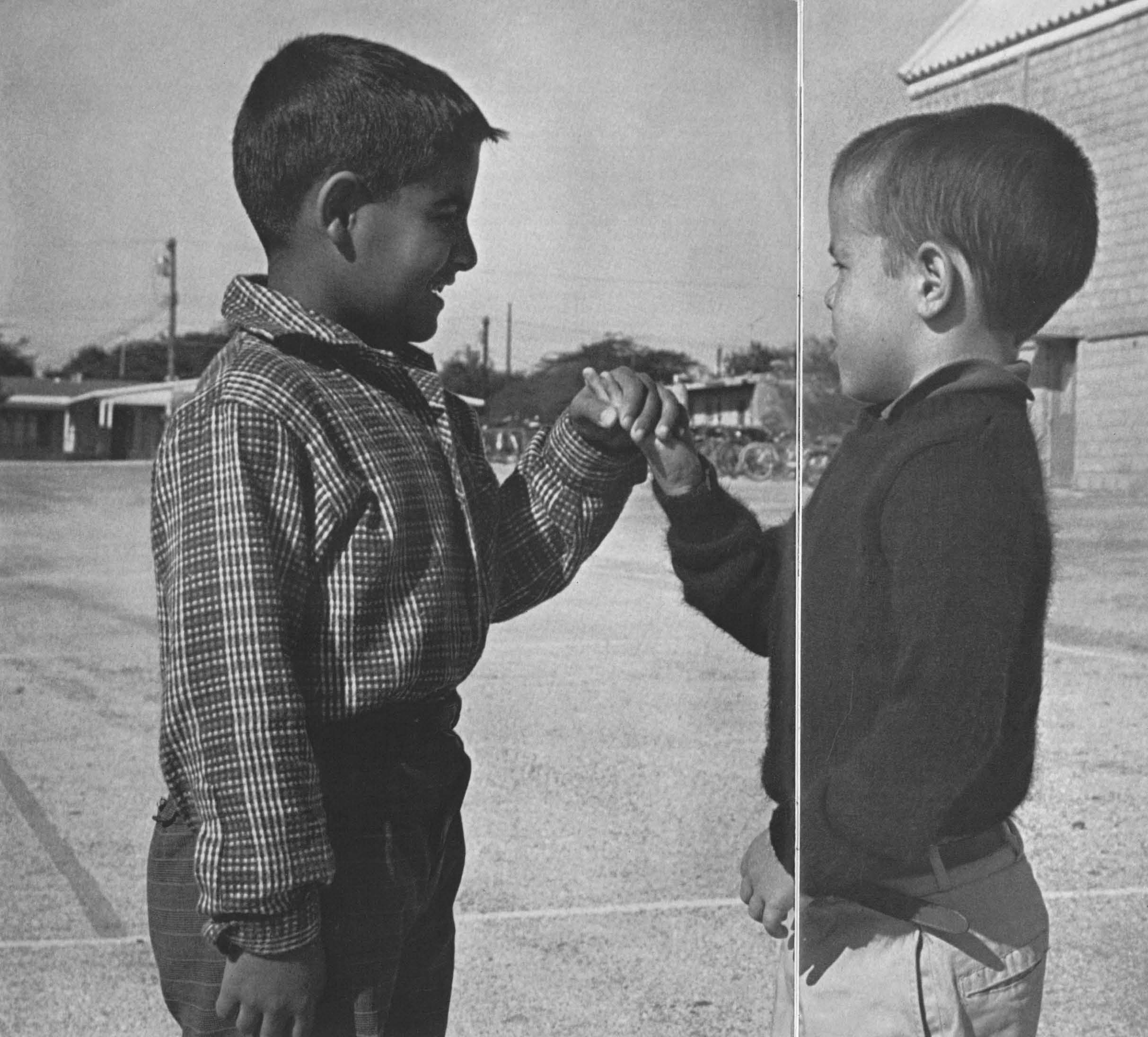
The introduction of Arabic into the grade schools maintained by the Arabian American Oil Company (Aramco) in Saudi Arabia is based upon a decision made in 1961:

"Arabic will be a regular part of the curriculum in grades kindergarten through 6. Initially it will be taught to all students through grade 3 and optional in grades 4 through 9. Each year after the first year the program will move up one grade from the third until it is included in the regular curriculum through grade 6. It will continue as an elective in grades 7, 8, and 9."

The classroom method is simple: listen and speak. No



Houda Sukkari leads trio of her third-graders in the German song "Oh, Tannenbaum," sung in Arabic, while (at left) Fatat Sukkari, Houda's sister, reads in Arabic to her first-graders.



Say it in Arabic

written materials are prepared as yet. When the time comes for the American children to learn to read and write their new second language, they will go directly into the Arabic alphabet, vocabulary and grammar. They will thus learn the language much as Arab children do. No translations and no transliterations will be used.

The children will learn the speech of an educated Arab. They will learn to read and write classical Arabic, the language that evolved from the ancient bardic poetry of the desert and which was fixed in permanent written form by the Koran, the sacred scripture of the Muslim faith.

Previously voluntary classes in Arabic in the Aramco schools had bogged down partly because of a lack of trained teachers who understood the problems of teaching a second language to grade school children. Dr. Habib Kurani of the American University of Beirut in Lebanon helped select the first group of four young Lebanese women who have inaugurated the present Arabic classes in Abqaiq, Ras Tanura and Dhahran. The teachers—Nawal Abdi, Olga Khoury, and Houda and Fatat Sukkari, who are sisters—all met the rather special requirements. All had training in linguistics, the science of language. Their academic background provides the new venture professional continuity from grade to grade. This continuity is essential to the success of the program.

Parents who wish to keep abreast of the experience of their children in the classrooms can borrow tape recordings of actual class sessions. Several parents have been puzzled by a development that hadn't been anticipated. The new sounds the youngsters are learning make marvelous raw material for ultra-mysterious nonsense words, an old schoolyard delight. Some of the children wasted no time in palming off newly-minted words on their unsuspecting parents.

Down the hall from the room where American first-graders are learning Arabic another group of youngsters also studies the language. However, the latter children have a real advantage: Arabic is their native tongue. Their parents work for Aramco and speak English, but they want their children to have a good grounding in Arabic as well as in their other studies, which are, of course, taught in English. Several gifted American children are already able to move down the hall to study Arabic with their Arab neighbors.

The Arabic program has lengthened the school day, but there is as yet no homework. However, the children *are* encouraged to try out their new language outside the classroom. "We call it 'natural homework,'" one of the school administrators remarked. The phrase is an apt one for a novel effort in understanding—it defines the middleground where "the twain shall meet." ■

There's no better place to test out newly learned Arabic words than the school playyard. "Khalna, nil-ab" (Let's play), Tommy Clapp tells his friend Nassir Rayyis.

Like a bustling superhighway, this
Middle Eastern sea-road
serves the world's traffic today
just as she did in
the days of the Phoenicians

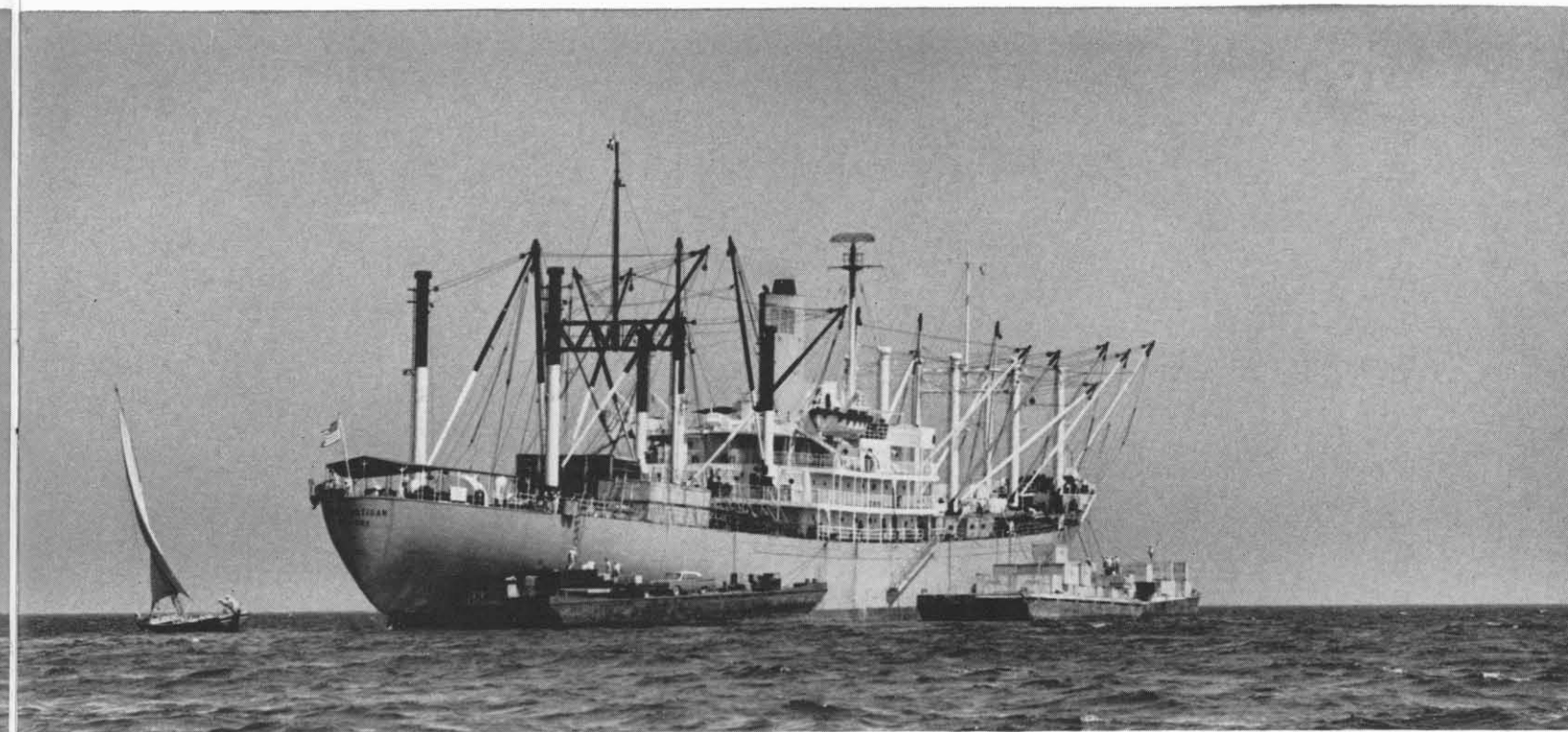
Egypt

Saudi Arabia

RED SEA

Sudan

Ethiopia



Off Jiddah, Saudi Arabia, a freighter, dhows, barges and passenger liner on the horizon demonstrate the variety of shipping on the Red Sea.

A GREAT BLACK oil tanker, a thousand feet long, moves imperiously up a Red Sea shipping lane. Not far away an Arabian fishing dhow trawls for the large blue fish which abound there. Because the sea lanes are narrow and the traffic is as heavy as that on Fifth Avenue at high noon, an American naval ship, capable of 35 knots, idles along at ten knots an hour. There are yet other ships on this watery thoroughfare. To the east, pleasure steamers cruise serenely along the coast, their passengers lining the rails to enjoy the view of flat tablelands set unbelievably close to the shore. And to the north and south, freighters, holds stuffed with the world's goods, wait patiently for the sea lanes to clear.

Such a scene is by no means rare on the Red Sea. It is, in fact, a scene that recurs day after day, *every* day. Neither is it a scene born in the twentieth century. Compared to the Red Sea's long, long history as a commercial highway, the great Atlantic and Pacific shipping lanes are but youngsters. For four thousand years, and some say longer, the Red Sea has seen history made on her waters and along her shores. Today, far from being a relic, she is as vital as ever to world trade and transportation.

The Red Sea was born as a rift in the African continent millions of years ago. Raging fire tore through the earth's crust, and when the cataclysmic upheaval was silenced, the Red Sea had come into being. Like a finger pointing straight at the Mediterranean, she begins at the Strait of Bab-el-Mandab, near what is today the Aden Protectorate, and ends 1,200 miles to the north-northeast at the Isthmus of Suez. Her waters wash the shores of Saudi Arabia and Yemen on

the east and Ethiopia, the Sudan and Egypt on the west. Through the Strait of Bab-el-Mandab Red Sea traffic reaches southward to all the ports of the Orient; through the Suez Canal at the northern tip, her trade sails to all the wharves of the Mediterranean, Europe and North America.

Free-flowing trade has always carried new civilizations with it, and the Red Sea has played a significant role in helping to bring together the world's cultures. Back in the days when Solomon was encouraging Hiram of Tyre to use the Red Sea as a trading route, the Queen of Sheba made her own use of the waterway. She not only visited Solomon, as familiar tales relate, but, according to a less familiar story, she smuggled many of his great treasures back to her own country on the Arabian Peninsula, sending her soldiers over the Red Sea with the loot.

But long before the days of the fabled Queen of Sheba, the Red Sea was being traversed by traders, adventurers and conquerors. The Phoenicians, as long ago as the twelfth century B.C., developed extensive trade routes up and down the coasts, establishing a base at what is now the port city of Jiddah, Saudi Arabia. Their course radiated also to India and Europe, and, in addition to the many material benefits they brought with them, they can be given much of the credit for diffusing various forms of alphabetic script. They used alphabetic writing in their colonies in North Africa and also spread the use of pictographs of Egyptian writing and the cuneiform script used in Syria. Thus the Red Sea helped bring written language to new peoples.

Centuries after the Phoenicians Cyrus the Great came

RED SEA

from Persia through the Arabian Sea and up the Red Sea to hew out the largest empire the world had known to that time. In the sixth century B.C. Cyrus and his successors—Cambyses, Darius and Xerxes—conquered the region extending from India to Asia Minor and Egypt. The Red Sea served as one of their roads of conquest.

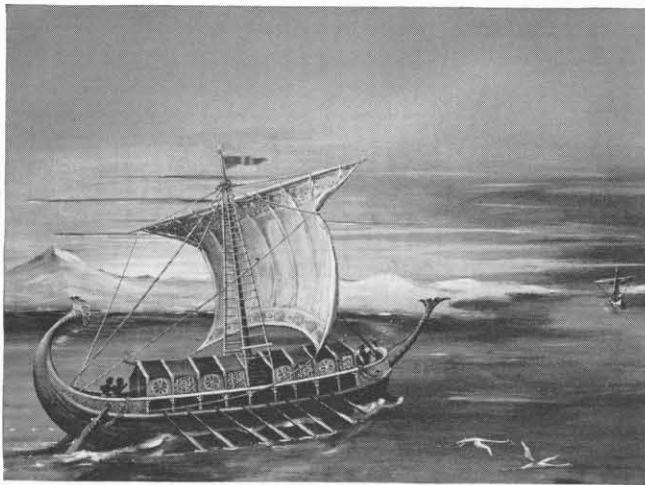
But within the Persian victory lay the seeds of defeat. Not content with what they held, the Persians attempted to extend their empire through southeast Europe. The Greeks not only threw them back, but, under Alexander, pushed on to take over all the territory the Persians had held. Greek culture won a foothold in the Middle East, and, under the reign of the Seleucids, held sway in Syria, and, with the Ptolemys, in Egypt.

Commerce was the life of Hellenistic economy. It made the great fortunes, built the great cities, and diffused Greek culture. A route to India then—as it was to be centuries later—was of crucial importance. One of the most traveled routes was that which ran across the Indian Ocean to Aden, then through the Red Sea to Suez and onward to Alexandria. It was for control for this vital route that the Seleucid and Ptolemaic dynasties fought—so fiercely, in fact, that weakened and exhausted, they were easy prey to the conquering Roman legions.

History relates that the soldiers of Mark Antony were tempted to turn and run when they thought they saw ships sailing across the desert. Cleopatra was indeed a sorceress! Quite the contrary. The Queen of Egypt, bottled up at Alexandria, was trying to get her fleet across the canal which had been cut from the Nile to the Red Sea. Had she succeeded, history might have been changed.

A waterway directly from the Nile to the Red Sea had been an old Egyptian dream. In 600 B.C. Pharaoh Necho built a canal from the Nile near Heliopolis to the Red Sea near Suez, but the shifting sands of the desert choked it up. Darius I rebuilt it, with the same results. The luck of Ptolemy II, Cleopatra's ancestor, was no better. His canal was also inundated by the desert.

Access to the Red Sea has always been of paramount



Phoenician merchant galley, 7th century B.C., crossing the Red Sea.

importance to those who lived near it. There is a belief that it was once wide open, at what is now the Isthmus of Suez. The legend is that Moses, looking for a path away from Egypt, found a high, narrow neck at this spot. Others say it was Moses who raised the narrow neck of land, which remained after he had crossed over it. At any rate, fossil finds prove the sea was once open at this point.

The Biblical reference to the Red Sea as being “turned to blood and the fish that was in the river died; and the river stank, and the Egyptians could not drink of the water of the river,” is amply substantiated. Similar reports are found in the Iliad, the works of the historian Tacitus and in the logs of a number of navigators who sailed the Red Sea during the sixteenth century and later.

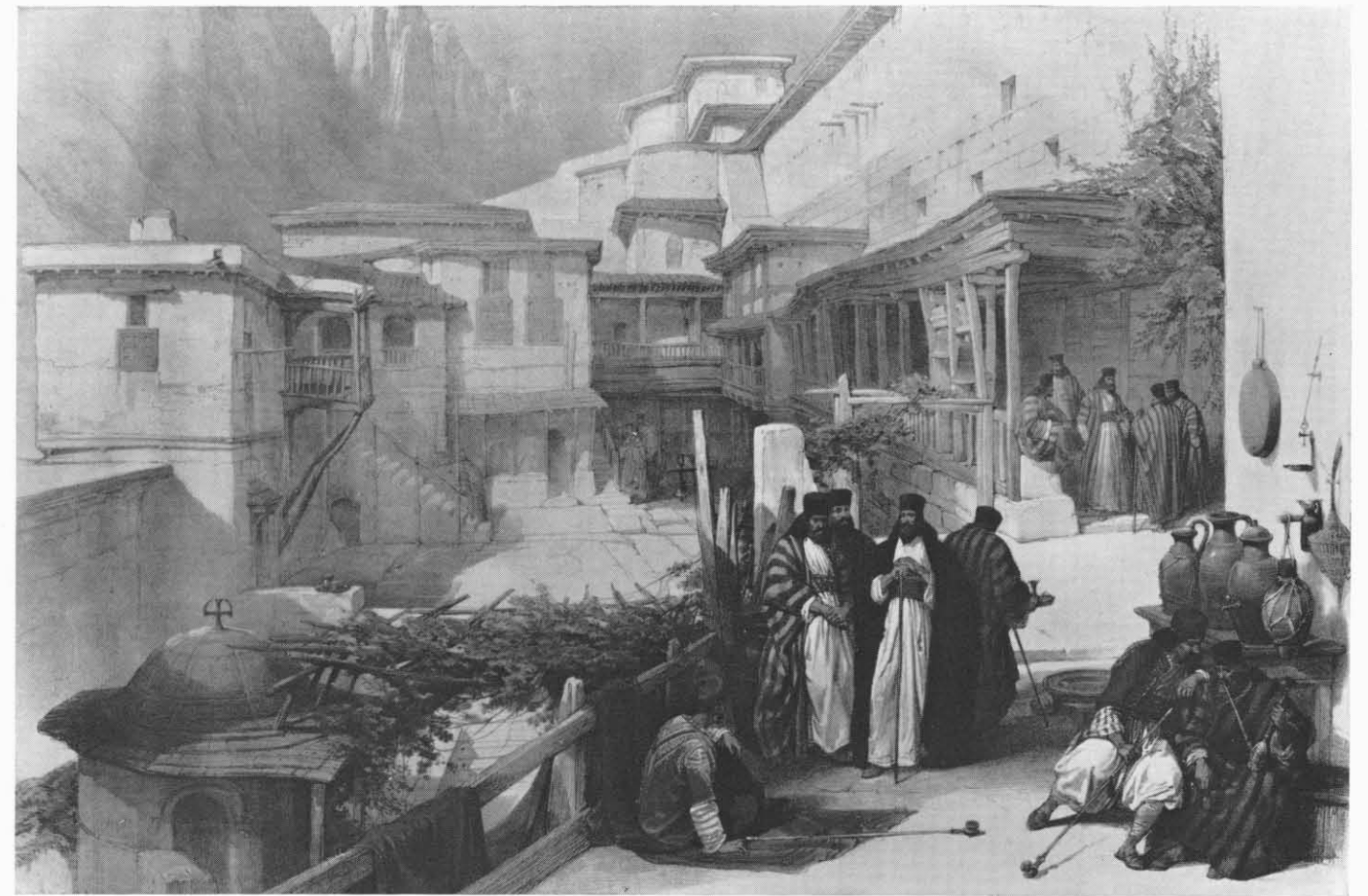
Such discoloration is found in many seas but is particularly common in the Red Sea. All waters contain plankton, living organisms, both plant and animal, ranging from microscopic bacteria to creatures as large as jellyfish. The organisms carry colored granules, frequently red, in their bodies. In shallow waters and coastal areas decomposing plankton floats near the surface, thus casting a red hue. Who first called it the “Red Sea” is long forgotten but the Persians, Greeks, and the Arabs, in their own language, gave it the same name.

The Red Sea is narrow, no wider than two hundred miles at its maximum. At the Strait of Bab-el-Mandeb only fourteen and a half miles of water separate its shores. Both shores, east and west, are low mostly sandy tracts, though sometimes swampy, varying in width from ten to thirty miles and suddenly rising into lofty tableland. The sea itself is partially filled in by coral-workings, which, extending in parallel lines at a short distance from either coast, have subdivided the sea into three different channels. There are also rocky islets that with the coral reefs, make navigation tricky. Particularly when the water is discolored, navigation has to be managed now by the most modern steamship exactly as it was by the triremes of the ancient Romans—by eye.

Some sailors claim that the water itself lights their way. They are referring to the bio-luminescence seen at night—a glow from those tiny water creatures which gleam so that the bow of a ship four miles away can be made out.

The bustling Red Sea might yet wind up with traffic lights. With about 80 ships, on an average day, churning her waters through the 1,200 miles of her length, she keeps her position as a major waterway. The extensive pearl fisheries are still supplying treasures from her depths, not at all interfered with by the telegraph cable that runs along the sea floor from Suez down to the island of Perim. Jiddah, the chief trading port of the Red Sea, located sixty miles west of Mecca, is a thriving, active city. In the great days of Arab trading, when the hardy dhows brought the spices, silks and jewels of India up the Red Sea, Jiddah was a world trade center. Today, freighters from around the world still tie up at her docks.

For a body of water which began life as a rift in a continent, the Red Sea has made an almost inestimable contribution to the life of her surrounding shores and the world. ■



Published in London in 1810, this engraving treated “stay-at-home” travelers to a quiet afternoon scene in Jordan, near Jerusalem.

The Middle East in Old Prints

An armchair tour of the old Middle East through artists' eyes

THE GREAT passenger liners and aircraft of the twentieth century have made journeys to faraway lands almost commonplace. It wasn't always like that. There was a time, not too long ago, when the intercontinental traveler was indeed a rare fellow. But many of those who stayed at home were avid armchair travelers, whose wanderlust fed on the printed word and pictures furnished by the adventurous few who actually visited distant lands. This was, of course, before the days of photography, and the pictures came from the hand of an artist, rather than the lens of a camera. One of the most popular forms of travel artwork was the print.

Woodcuts, which began appearing in the fourteenth century, were the earliest method of making prints. Called

relief prints, woodcuts were made by cutting around the image so that the portion to be inked for printing remained raised. Early woodcut artists used soft wood and simple knives. As artists became more skilled, the effects they sought dictated harder wood, which in turn led to the invention of the burin or graver, a small tool made of tempered steel with the graving end ground to a sharp, oblique point.

Sometime around 1450 goldsmiths developed the technique of engraving on metal. No doubt the reason it fell to the goldsmiths to evolve this art was their familiarity with niello work, a method of filling in incised designs on metal to produce ornamental effects.

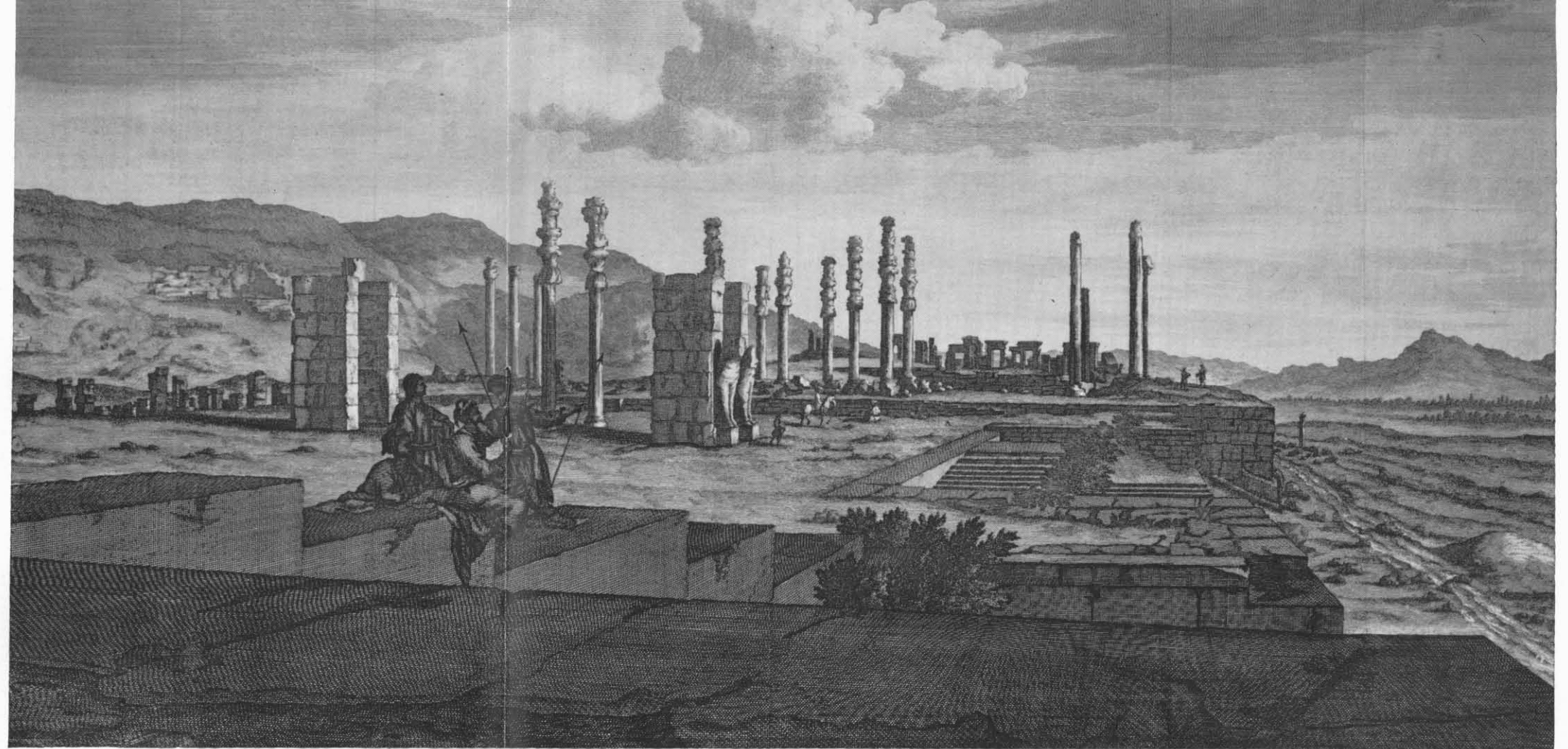
Both line engraving and etching, which became popular

The Middle East in Old Prints

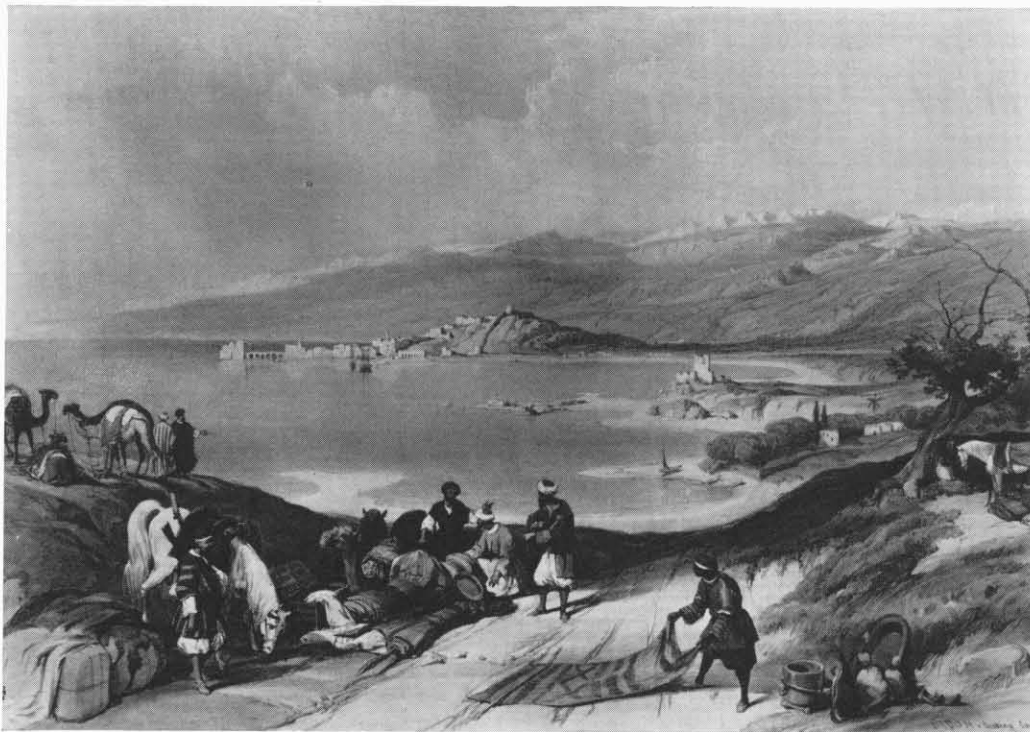
about 400 years ago, are called intaglio printing, meaning that the lines to be duplicated are cut below the surface. In etching, however, acid, rather than a burin, is used to eat into the metal plate. To control the spread of acid, the metal plate is varnished and a needle is used to scratch the lines through the varnish as far as the surface of the metal. The acid then eats into only the exposed metal.

The third method of engraving — lithography — is known as “surface printing” because the areas to be reproduced are level with the surface, neither raised nor lowered. Lithography was introduced in the 1800’s and quickly became a popular method of duplicating artwork. In previous techniques, it was common for the artist to supply the engraver with sketches from which to work. Rarely did one find a good artist who was an equally skilled engraver. In lithography, however, the artist drew directly on the stone, and little of his artistry was lost in the technical transfer from stone to paper.

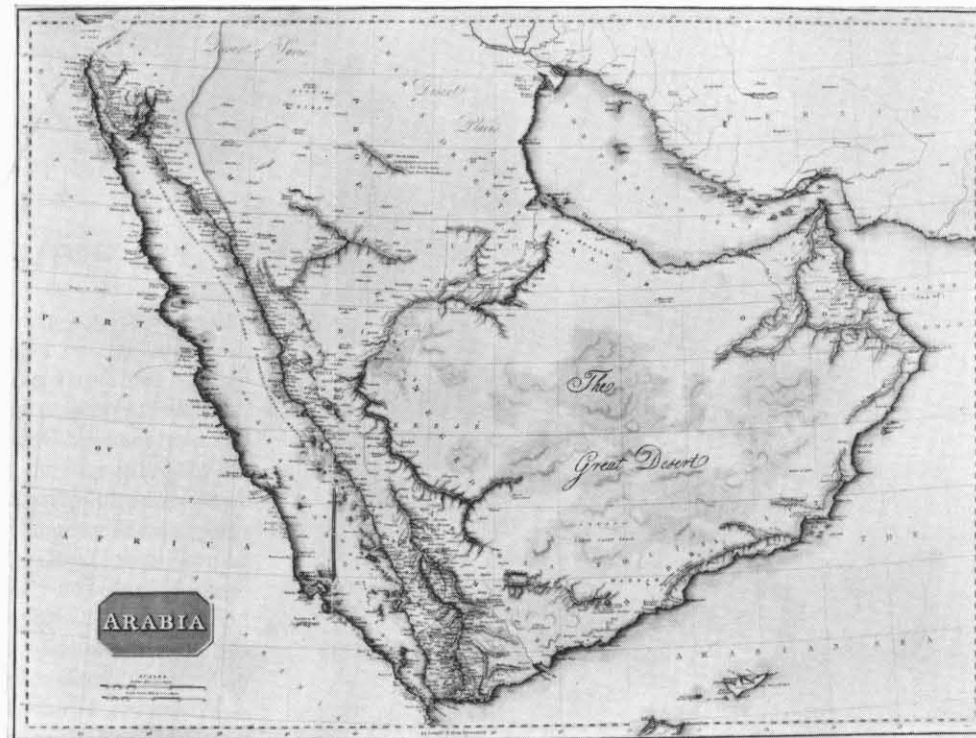
Lithography is based on three principles: the strong adhesion of greasy substances to certain types of stone, the ease with which the stone absorbs water, and the resistance of grease to water. The picture is traced onto the stone with greasy crayons or pencils. Water is then poured over the surface and remains in the areas not covered with grease. An inked roller is passed over the stone, and the ink clings to the greased portions, permitting the paper to receive an impression only of these sections.



Early 19th-century engraving depicts the ruins of Persepolis, capital of the vast Persian Empire, which was destroyed by Alexander the Great around 330 B.C.



“Sidon looking toward Lebanon” is one of a series of lithograph prints made in London in 1843 from paintings by David Roberts, a Scottish artist who had traveled extensively through the Middle East.



What was termed “The Great Desert” on this hand-colored map engraved in London in 1813 today is called the Rub’ al-Khali (Empty Quarter) of Saudi Arabia. Maps were popular with early print-makers.

Although engraving techniques were constantly improved, engraved prints could not compete with photographic processes that were rapidly perfected after the 1850’s. But before their demise, toward the end of the nineteenth century, prints were the primary medium of introducing armchair travelers to the little-known lands beyond their frontiers.

Just the names of some of those distant places conjured exotic images. One of the most popular subjects for scenic prints was the Middle East—an area known to many people only in the visions evoked by books such as *The Arabian Nights*. Thus the Muslim lands became favorite spots of sojourn for armchair voyagers.

What prints of this era sometimes lacked in accuracy, they gained in charm. Some of the finest impressions of the Levant were done by David Roberts. A Scottish painter born in Edinburgh in 1796, Roberts first made his mark in art through his scenic designs for the Royal Theatre in Edinburgh and the Drury Lane Theatre and Covent Garden in London. As a result of these successes, he became a member of the Society of British Artists.

About this time, he began his world wanderings in search of interesting subjects for his oil and water-color landscapes. His first visit to the Continent spurred a series of sketches

The Middle East in Old Prints

of the Gothic ruins of old Normandy towns, which in turn brought him membership in the Royal Academy.

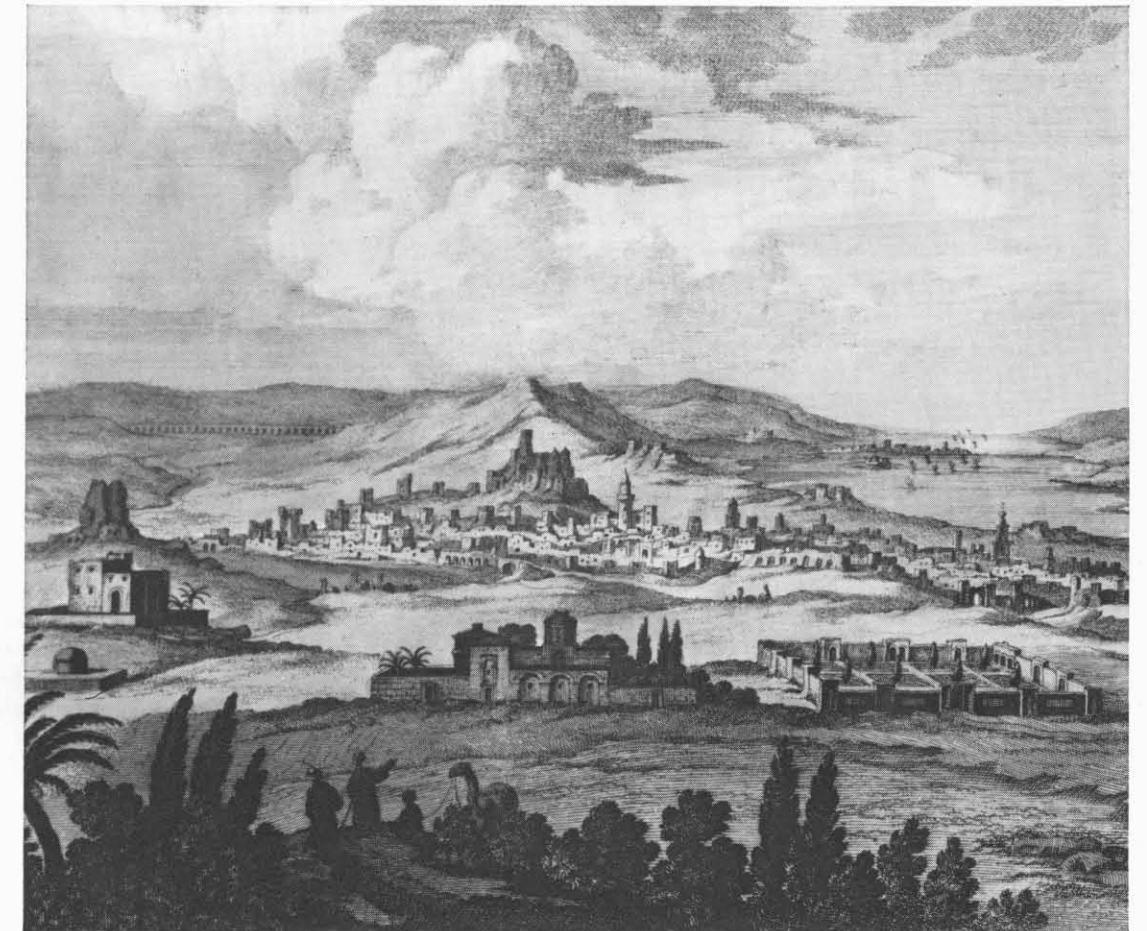
In 1838 Roberts traveled through Syria and Egypt. This tour of the Middle East resulted in a reversal of style. Whereas his pictures of western Europe had been Dutch in feeling — broad in treatment and luminous in color — his scenes of the Middle East were delicate, fine-lined and subdued in hue. Upon his return, he published a lithographed, two-volume set of prints called *Sketches in the Holy Land and Syria*.

Art historians suggest that the strength of David Roberts' work rises from his gift for artistic composition, architectural effect and drawing of detail. His creations today are as popular as when they first appeared. Of course, in his own day, Roberts' prints of Muslim lands won popularity not only for their beauty but because they offered armchair travelers a chance to journey, at least in their minds, to the distant lands of the Middle East. ■



Seventeenth-century French print by Abraham Bosse pictures engravers in a Paris shop working on metal plates with their sharp, steel burins.

View of Tunis on North African coast done by Pieter Schenck in Amsterdam, 1702. Schenck was one of few artists who did his own engraving.



All prints, except above, from Old Print Shop, New York.



Eighteenth-century engraving on steel depicts trading ships on the Dardanelles channel, at a point where the Middle East meets Europe.




Forerunner of today's motor lodges, caravansaries in the old Middle East, such as this one at Borgas, Turkey, offered overnight accommodations to caravan-drivers and their animals.

fanciful folktales from many a land tell all about the

FIRST DAY OF THE WORLD

This is Akitu, the New Year Festival, a time to hear of what we are . . . from the opening of an annual festival, Mesopotamia, before 2500 B.C.

 AN ANCIENT CUSTOM apparently common to many primitive peoples on all continents, was the gathering on tribal New Year's days to recall the beginning of things. Rejoicing and pageantry marked these colorful meetings, held the first day of each year to commemorate what was to those ancient peoples the universe's first "New Year's Day."


The idea may have originated with the Mesopotamians, whose *Enuma elish* has been called the oldest "creation story" in the world. Conceived in the form of an epic poem, the *Enuma elish* pre-dated the ancient Sumerians by several centuries. These amazing Middle Easterners kept the poem alive until it was eventually written down in Akkadian cuneiform.

The poem begins by envisaging the primordial state (in terms of the Mesopotamian environment) as chaos:

*When above no sky had yet
been mentioned
And below no earth was named,
No reed hut had been matted,
No marsh land had appeared . . .*

Its central character is Marduk, the patron god of Babylon, who came into possession of "the tablets of destiny" through which he was able to devise mankind and the universe. The *Enuma* reaches its climax when Marduk takes "a female being" from the "waters of nothingness" and splits her in two parts, "like a shellfish." With one of the two halves, Marduk creates heaven. With the other, he makes earth.

As Marduk's story was chanted by a priest, a company of Mesopotamian youths acted it out in elaborate detail. When the ceremony was finished, the crowd became silent in the hope of hearing Marduk himself speak. It was believed that if Marduk was pleased, his voice would be heard decreeing the destiny of the state for the ensuing year.

 The creation story told at the start of each new year by the ancient Jicarilla Apache, who dwelt in what is now New Mexico, was not as formal as that of the Mesopotamians. This simple Indian tale relates that in the beginning "there were only Grandfather and Dog." As Grandfather created the earth and its various features, Dog followed him, helping with some of the smaller details.

Dog was very happy in this, but when earth was finished

the creator had bad news for him. "Someday soon," he told Dog, "I shall have to live far away."

"Then," said Dog, "will you make me a companion?" Grandfather nodded and began to make Man.


"He's wonderful," said Dog when Grandfather finished the first human.

Man was taught that same day to walk and talk. "What else?" said Grandfather.

Grandfather thought a moment. Then he knew what was missing. "Laugh," he said. Man laughed.

Dog was happy when the man laughed. He jumped up at him and then ran off a few paces. Then he ran back and jumped up on the man again. He kept jumping the way all dogs do when they are full of love and delight.


"Now, you are fit to live," said Grandfather, departing.

 In the fifth century B.C., Anixamander stated that "Earth swings free, held in its place by nothing." One day, thousands of miles and years away, the story of "Mawu" would contradict the Greek philosopher.

The people of Dahomey in West Africa believe that Mawu is the creatrix and mother of all. She is also the moon. When Mawu created the universe, she rode on the back of Aido Hwedo, "the great rainbow serpent," who was so big he was able to encircle the sky.

Every morning, wherever the two had spent the night, mountains stood. But when the world was finished, Mawu and the great serpent realized that many geographical features were too large. The earth itself was so heavy Mawu saw that it would surely topple. "Coil around the earth and steady it," she ordered the serpent. "Bear its weight."

Aido Hwedo, say the back-country Dahomey, encircles the earth even today. To keep from slipping and perhaps dropping the earth, he holds the tip of his tail in his teeth. Once in awhile the tremendous task makes him uncomfortable. Then, he shifts a bit to ease himself, and there is an earthquake in the world.


 The Melanesian peoples of the Banks Islands, northeast of Australia, believed that during the world's first days the total population consisted of 12 brothers. One of them, "Qat," started making things—stones, plants—whatever he thought up. At the outset, the earth basked in neither darkness nor light. His brothers didn't like the earth this way and complained to Qat.

Eons passed and then Qat got an idea. He would make the sun. The brothers in time came to enjoy the bright rays of the sun. One day, the brothers saw the sun moving


to the west. "It is departing! Can't you make it come back?" they cried.

"This is night," said Qat. "Lie down and keep quiet."


The brothers lay down, and in the dark they felt strange and dreamy. Their eyes grew heavy and finally closed. "Are we dying?" asked the brothers. "This is sleep," said Qat. Thus, according to the Banks Islanders of the last century, man came to obtain night and day.

 The concept of brothers, some of whom held supernatural powers, is actually widespread throughout the Pacific. Certain of the Polynesian tribes trace ancestries today back to brothers such as "Maui," "Limo" and "Tane."


In the first days, according to the Polynesians, there was only darkness and void. Then, light was born, growing from a flicker to full daylight. One by one, the brothers appeared: Maui, who produced the Pacific islands by fishing them up from the bottom of the sea with his hook and line; Limo, who noosed the sun and forced it to go slower, making the day "longer even than night"; a third brother stole fire and brought it to earth, but it is Tane the Polynesians identify with best, for he was the brother who made mankind. To do this, Tane first moulded a woman-figure out of earth. She was called "Woman-pile-of-sand," and she married a sand-man to eventually become the mother of all Polynesians.


 When Ferdinand Magellan sailed through the archipelago of islands at the southern tip of South America in 1520, he was fascinated by the number of outdoor fires the inhabitants kept burning. From these, he gave the islands their name, Tierra del Fuego (Land of Fire) and sailed on. No one knows if the explorer's visit coincided with local New Year's festivities, but it may have. The first peoples there built countless fires the first few days of each year in honor of the powerful god whom they believed to own the world.

Tierra del Fuego natives referred to this god only as "that one there above." They thought he lived far away, but whoever ate meat late at night threw a small piece out of his hut, saying, "This is for 'that one there above.'"

 Creation stories in the northern hemisphere contrast with those of Tierra del Fuego and other southern lands, in that the creator was often an animal. Among these have been eagles, ducks and fish. The early Finns, for example, believed the world was formed

when a beautiful teal landed on the primordial waters and laid seven eggs. Six of the eggs were golden, the seventh iron. All but the last egg sank to the bottom of the water and were forgotten. The iron egg, however, broke open, and from its lower shell the solid parts of the earth were formed. From the upper shell the sky arched itself over sea and land. The yolk slipped into the sky and became the sun. From its white the moon and stars were formed.

 The small Eskimo village of Unisak sets on a cape which juts out into the waters of Bering Strait from the Chuckchee Peninsula, Siberia. Eskimos there say that "Raven and his wife" created the world. The pair made Unisak from the bill of an eider-duck, then Alaska out of a long knife. The island of Imalik, situated between Siberia and North America, was made by Raven and his mate from the button which fastens a knife scabbard around a man's hip.

 Scholars have found that most of the heroes in stories of the world's first days were happy gods. The happiest of them all, perhaps, must have been "Old Man Madumda," father and protector of early California's Pomo Indians.

The Pomos believed that Old Man Madumda took some bits of dried skin from his arm and fashioned them into a tiny ball. In time, this little ball grew into the earth and Madumda hurled the ball out into space. Finally, blowing sparks from his pipe into the southern sky, the creator chuckled and started the sun.

Madumda walked around in the world, fixing things. "Here a mountain, here some rocks," he said. "Now, a valley, a lake, clover growing, acorns on the mountains, juniper and cherries. There must be potatoes and rabbits," he said. "And on that mountain over there, let there be bear, puma, wolf, coyote, fox, skunk; on this one rattlesnakes, king snakes, garter snakes. . ."

When every creature had been made, Madumda gave the various peoples their languages and dances. "Take care of each other. Live in happiness," he told them and then he went to talk to the animals. Madumda called together the wolves, the lynxes, pumas, foxes, raccoons, squirrels, martens and the bears. He told each kind where to live and where to find his food. He called together the elk and the deer and told them to live in the hills.

He told the rabbits, the moles, gophers, mice and badgers that it would be nice to live in holes underground. He called together the rattlesnakes and big and little snakes, the lizards and the snails, and told them how best to get along in the world.

He called to the fish to tell them how to live, too. Turtle came ashore followed by all the fishes. "You're not a fish!" said Madumda to Turtle, "but you can catch your food in the water if you want. Now, you fish," he said, "must not come ashore. Live in the water."

And so Madumda's work was done and it was time to disappear. "Hold together," he told the world as he did so. And so it has. ■



Drilling on Dammam No. 1, first oil well in Saudi Arabia, began in February 1935. Test flow made four months later when the well was down to 1,959 feet proved discouraging, but work was already underway on six more wells.



Limestone hills on Dammam Dome helped geologists plot well sites, such as No. 7 (left), No. 1 at foot of Jebel Dhahran. Photo shows Dhahran, 1938.

Seven Wells of Dammam

The first six oil wells that wildcatters drilled in Saudi Arabia were nothing to write home about—and then came No. 7

FIRST COME the geologists. They travel light and move on quickly over unexplored ground, searching for exposed clues that may lead to hidden oil deposits. Next come the wildcatters who drill the first well in an area where no oil has yet been discovered. They need a bunkhouse and a cook, the seed and root of a camp. If luck is with them and their drill brings a show of oil deep in the earth, a fixed camp will begin to take shape around their rig. The camp will serve a complex venture—the development of an oil field. One day a family cottage appears; wives arrive

and civilization walks into the wildcatters' bunkhouse world. A community is born.

This simplified succession of events is one of the distinguishing patterns of twentieth-century life. Allowing for local variations, it is a pattern that can be traced wherever on the globe men have gone in the great hunt for new oil fields. Swamp and jungle, mountain and plain, coastal waters and blistering deserts have witnessed the silent passage of geologists on reconnaissance, the anxious days and nights of wildcat drilling, and the slow emergence of

Seven Wells of Dammam

supply yards, roads and homes. And many times, these distant oil frontiers have seen the wildcatters pack up and leave, the cookstove cool, and the bunkhouse grow silent when the drill bit failed to discover oil, or at least enough oil to merit commercial development.

In the middle 1930's the pattern was vividly acted out in the desert of eastern Saudi Arabia a few thousand yards from the Persian Gulf. There American wildcatters drilled six wells and were nearly withdrawn from what appeared to be a costly failure before their historic well — Dammam No. 7 — struck oil in commercial volume.

The story begins in the spring of 1933 in Jiddah, an old and storied city on the Red Sea. There, representatives of the Standard Oil Company of California and the government of King 'Abd al-'Aziz Al Sa'ud signed an oil concession agreement. No one really knew whether there was oil in Saudi Arabia. The American oilmen were anxious to have a look. By the time the 1933 football season was under way back home, two Socal geologists began to explore the concession area, a desert larger than the state of Texas. (In November the concession was assigned to the California Arabian Standard Oil Company. On January 31, 1944, the company name was changed to the Arabian American Oil Company — Aramco.)

The team of geologists was soon joined by others, until the pioneer team had grown to ten men. By early June 1934, the geologists finished the detail work on a geological structure they had named the Dammam Dome and thus completed their first field season in Saudi Arabia. In a preliminary report to the home office in San Francisco, they recommended that drilling be started. The company confirmed the recommendation, and the wheels were set in motion to assign men and equipment to wildcat half-way around the world.

In late September the Bedouin folk, following the astral calendar, began to break up their summer encampments. The season had changed, and the time for nomadic wandering and distant grazing had come. Within a month the oilmen had started their second season of desert exploration, taking up the vast chore where they had left off before the oven heat of summer had forced a recess.

In January the King was officially told of the company's plans to go ahead and drill. The world was deep in the great depression, and it was good news indeed that the oilmen were making progress.

The wildcatters had already started to arrive in the Dammam Dome area where the first well, in drilling lingo, was to be "spudded in." Tents were set up temporarily on a broad terrace near a group of limestone outcroppings. A pier was started down by the shore at al-Khobar, a fishing village. In January 1935, while the geologists were out on the desert reaches continuing their surface explorations, the construction crew was digging a cellar for the first drilling rig.

Most of the pioneer group were experienced in the conditions of wildcatting far away from well-stocked oil field supply centers. They knew how to improvise. Lacking dynamite, they broke up the rock for the derrick cellar by

heating the rock with a wood fire and then flooding it with cold water.

By February 19th the cellar was completed, and by mid-April the derrick was up and being rigged. On April 30th the wildcatters spudded in Dammam No. 1, the first oil well in Saudi Arabia.

The hole was first drilled by the cable tool method, a slow process that was at that time being replaced by the modern rotary rig system. Three crews worked around the clock to "make hole" as fast as possible. Arab crews who had to be trained on the job assisted the American drillers, the wildcatters who had been on exploratory rigs in Venezuela, Ecuador and China. The drillers were gifted roamers who liked to discover oil and then move on.

In San Francisco an anxious group of men eagerly awaited progress reports from the pioneer well. Theirs had been the executive decision to risk the money for the Saudi Arabian wildcat. The shadow of the lengthening depression fell ominously across the venture.

From the wellsite in Saudi Arabia a succession of cables was sent to San Francisco. May 7, 1935: drilling in hard limestone at 260 feet. May 14: water at 312 feet; some show of tar at 385; now down to 496 feet.

In July the hole reached 1,433 feet, and on August 25th the daily cable reported slight showings of gas and oil at 1,774 feet. "Not important, but encouraging," the cabled message read.

Five days later the well had reached 1,886 feet with showings of gas and oil at several levels along the way. "Flowing by heads [surges] . . . possibly would make 50 bbls. per day," the August 30th cable said.

On September 6th the depth was 1,959 feet. The cable for that day advised San Francisco that the time had come to stop drilling and make a flow test.

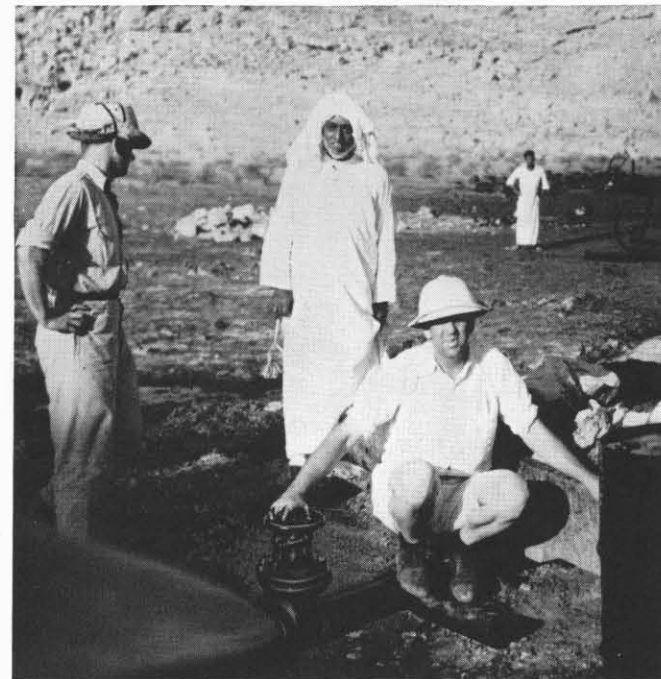
The result was nothing to write home about, let alone cable. On September 12th the cable reported the results of a 21-hour test: the well flowed 98 barrels of oil. "Preparing to drill deeper," the cable hopefully added.

Six days later the anxious men in San Francisco were at first overjoyed by a report that at 1,977 feet the well had flowed by heads approximately 6,537 barrels per day. But knowing the vulnerability of international wireless to sunspots, and human fallibility, they sent a cautious cable back to the oilmen in the Persian Gulf: "These figures may need checking. . . ."

Indeed they did. Another cable from Saudi Arabia set the matter straight. The estimated flow was actually about 100 barrels a day. Not good enough to be considered worthy of commercial production.

The year wore on and the hole deepened. 1935 gave way to 1936. On the fourth day of the new year work was stopped at Dammam No. 1, and the construction men started rigging up for a second well — Dammam No. 2. The pioneer well had not been abandoned, but to go deeper a rotary rig had to be brought over from Bahrain Island, which is visible from the Saudi Arabian mainland.

In early February, Dammam No. 2 was spudded in. The original enthusiasm that filled the air in early 1935 had



Enthusiasm ran high as valves were opened for test at Dammam No. 1, but in 21-hour test the well yielded only 98 barrels of oil.

been dampened. Oil had been discovered, but the problem was to find it in commercial volume. By mid-May the second hole (which was now being drilled with the rotary rig) was progressing very well. It was already down to 2,175 feet and had made encouraging showings. Hopes rose again.

Optimism was greatly heightened on June 20th when, during a five-day test, Dammam No. 2 flowed an average of 335 barrels of crude oil a day. A week later production during the test jumped to the equivalent of 3,840 barrels a day. This seemed to be it.

The San Francisco office in anticipation had already decided to drill another wildcat elsewhere in the desert and to expand the drilling program at Dammam. Wells 3, 4, and 5 atop the Dammam Dome were authorized. Before July had ended the company had also decided to drill a deep-test well — Dammam No. 7. It was to probe the so-called "Arab zone" of deep strata. No one then knew the crucial nature of this decision.

Implicit in the stepped-up drilling program were a number of changes in the small world of the Dammam wildcatters. The bunkhouse days were numbered. A boom was in the making; headquarters was "bullish" on the concession. More equipment was coming, and more people would be needed to keep up the pace the company was setting. The rough-rock pier at al-Khobar was widened and pushed further out into the Persian Gulf. Black, oiled roads began to snake out from al-Khobar and the Dammam camp. The Saudi Arabian Government announced a new Bureau of Mines and Public Works.

In August, a month after the decision to drill five more wells at Dammam had been made, the company got clearances from the Saudi Arabian Government for a 70,000-acre reservation on which to build a permanent camp.

Then a string of disappointments clouded the all-out drilling program. The deeper drilling of No. 1 produced no significant results. No. 2, after its exciting test flow in June, dropped from 3,840 barrels a day to 225 late in the year. No. 3 was started in mid-July but never flowed more than 100 barrels a day. No. 4 was a dry hole — it didn't even have a showing of oil. No. 5 was spudded in September 8th but by the end of the year hadn't flowed a barrel of oil. No. 6 lagged behind because of the rush of work on the other wells.

On December 7th the deep-test well—Dammam No. 7—was spudded in. As the year turned, the company proceeded with plans for the permanent camp. Despite the poor showings of wells 3, 4, and 5, and the startling drop of flow in 2, an optimistic outlook prevailed. On March 8, 1937, the San Francisco office inquired about the progress on Dammam No. 7, and the cable included this question: "When will married quarters be ready?"

But No. 7 was troublesome. In May it was in bad shape. In July a spurt of good drilling took the well down to 2,440 feet. In early October the hole reached 3,300 feet. Several tests were run. The result: "No oil." Then a few days later the well had its first show of oil.

Again misgivings had begun to grow. San Francisco ordered all work stopped on the shallow wells. Any further work on them would have to be specifically approved.

How would No. 7 turn out? That was the big question during 1937 as month by month the drill bit ground deeper into the earth. But behind this question there was a more profound one that had begun to trouble the executives in San Francisco: should the company pull out of Saudi Arabia altogether? It had already poured millions of dollars down the holes in the desert.

Both questions got a dramatic answer on March 4, 1938. On that day, No. 7 flowed at the rate of 1,585 barrels a day. In three days the flow had risen to a rate of 3,690 barrels a day. San Francisco cautiously included a single word of comment in one cable: "Congratulations."

This time it was no fluke. The test continued, and the rate of flow stayed over 3,000 barrels a day until halted April 20th. Soon thereafter No. 2 and No. 4 were drilled down into the "Arab zone" and both turned out to be good producers in the lower strata. On October 16, 1938, the good news was conveyed by the company to the King: *Commercial production had been discovered.*

The day of the wildcatters was over. They had done their job and were ready to leave. The first wives to arrive in the Dammam camp had been on the scene for almost a year by the time No. 7 yielded its big flow. The family cottages were growing in number.

By early 1939 the seven wells would become another chapter in the company history. So would the Dammam camp, for it would formally take on the name by which it is now known — Dhahran. ■

ISLAMIC SICILY

*Just two miles off the toe of the Italian boot lies a sunny island
 once dedicated to Muslim accomplishment*



Twelfth-century mosaic of Roger II, Norman king of Sicily. Roger championed the preservation of his island's Islamic heritage.

"IT IS A FAIR KINGDOM, is it not, sir?" asked King Roger II of Sicily, lifting his blond-bearded head and gazing round him in the summer morning.

"It is indeed," answered Idrisi, his Arab geographer, a shorter man with a swarthy skin, but nonetheless noble, descended from African caliphs and princes of Malaga. "And especially your capital here, known for its elegance. Palermo turns the heads of all who see it."

The two men stood together on a rocky hill in the Cassaro, the walled inner city, and gazed over the roofs and towers below them to the shimmering plains and far-off foothills wooded with cypress, chestnut and stone pine. Close around the Cassaro circled the outer city, also walled. Beyond lay the villages and market gardens providing all manner of succulent food — corn, melons, tomatoes, celery, onions, cucumbers, herbs and salad greens unknown in Europe, come from the Old East, as Idrisi's people had come. The Muslims, too, had devised the system of narrow canals for irrigation, the tall tapering *giarre* or water towers standing up everywhere. Beyond the villages stretched broad arable lands, criss-crossed with little rivers. Great fish swam in these rivers, both men knew, and mills rose along their banks. Windmills spread their arms above wide wheat fields. As in Muslim times, this island just to the south of Italy waxed rich in the Mediterranean.

Idrisi turned his head and looked backward at Roger's palace from which he had just come. Now, in 1145 A.D., he had dwelt here for 20 years, and he knew it well: the turrets and courtyards, the gardens where grass and flowers spread smooth as carpeting, the orange, lemon, olive and palm trees, their branches full of singing birds. He knew, too, the *Tiráz* or royal weaving house that had existed since the days of Saracen rule, the golden palace proper, and the Moorish fountain where stone lions poured out the waters of Paradise. He was an honored member of the cosmopolitan group Roger had gathered round him: Greek men of affairs, learned lawyers, French and Provençal troubadours, Arab poets, administrators and story-tellers. An Arab cook ruled in Roger's kitchen. Truly, he thought, Norman Sicily had preserved much of Arabic Sicily after all.

He turned back to Roger and spoke again. "You sent for me, sire. I am at your command."

Roger smiled at him. "I command my armies, my servants, but not my scholars, artists, friends. I sent for you, Idrisi, to enquire about your progress on your great geography book, then to ask you to come with me to inspect the work on my chapel ceiling, which our Moorish painters render more splendid every day."

Idrisi bowed, but there was honest pride in his reply.

"My universal geography which I think to call *The Book of Roger* progresses as you commissioned it. I have sent emissaries into all the known world to bring back practical accounts of what they see: streets, monuments, buildings, customs, religions, ornaments, dress, language, exports and imports. I have divided the world into 77 segments for easy consideration and transported the whole to a huge planisphere of silver, which I hope to present to you shortly. There has never been an account like it."

"That I know," mused Roger. His eyes were on a donkey cart piled with a load of gourds and sugar cane, winding up the stony street from the river marshes below the town. "Ah, but look here! It seems that everything in Sicily, from cathedrals to donkey carts, is ornamented with your Saracen arabesques and similar Eastern designs. Your folk are old and persistent here. I have advanced them for their own worth. What can you tell me of the Arab past in Sicily?"

Idrisi bowed again. "It is soon told, sire. A brief story, yet an attractive one."

"When the star of Islam was rising, our sea rovers arrived here in full force from Africa. Palermo fell to our arms in 831, but it was fifty years more before the Byzantine government fled and left us in control."

"Gradually through our skillful political administration, our agricultural techniques and our gifted artisans, we turned the fertility of this island to great account and made it the richest part of the Sultan's realm. We turned the churches into mosques, just as you turned the mosques into churches when you invaded and conquered us in 1072. Palermo had then as now an outer and inner city. Within the walls were some 300 mosques and the Sultan's court,

San Giovanni degli Eremiti, a church built in Palermo, Sicily, during the reign of Roger II, shows Islamic influence in its many domes.