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JULY-AUGUST 1967

THE STORY OF BERTHA VESTER

ARAMCO WORLD
magazine

Cover: From the quiet grounds of the American Colony Hotel Mrs. Bertha Spafford Vester, Jerusalem's "mother of mercy," walks out into the city to which she has devoted her time, her love and her care for some 70 years and in which she founded the institution of which she is most proud: the Anna Spafford Memorial Children's Hospital. Photograph by Robert Mottar. Story on Page 24.

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OUT OF JORDAN'S SANDS...

JERASH REBORN

BY JAN VAN OS
PHOTOGRAPHY BY THOMAS F. WALTERS

Americans call a building old if it stands for 50 years. Europeans consider 500 years a very respectable age. But in the Middle East nothing is considered really old unless it goes back at least 3000 years.

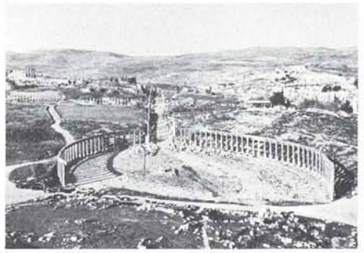
By those standards the ruined city of Jerash, a city in northwest Jordan, halfway between the capital city of Amman and the town of Ramtha, near the Syrian border, is only relatively ancient. It was built by the Romans sometime about 65 B.C.

Actually, Jerash—known as Gerasa originally—was settled as early as 5,000 or 6,000 years ago, but it did not become a city of any importance until about the third or fourth century B.C. About then, according to some sources, Ptolemy II of Egypt founded a city. Others believe it was Alexander the Great or one of his generals. In any case, by the time the Romans, under Pompey, came to Jerash, the city was probably a rather prosperous community, being an important stop on the caravan route which led from South Arabia to Damascus via Petra. But if prosperous, it was not attractive—at least in the eyes of the new masters, who almost immediately began to enlarge and beautify it as only history's city planners and builders par excellence, could.

As an important city in the province of Syria, the wealth and influence of Jerash developed swiftly. But as an outpost of the Empire its economy depended to a large extent on the mighty state's well-being. Thus when the Empire's imperceptible decline began—toward the end of the 2nd century—it was inevitable that Jerash would feel the consequences, especially since overland caravan traffic had begun to succumb to the competition of faster and cheaper sea routes.

But Jerash was a healthy city at heart and in spite of slowly worsening conditions, it managed to hold its own for a long time. It even staged a number of comebacks. Then, in the year 614, almost 50 years after the end of the reign of the Byzantine emperor, Justinian I, Persian forces invaded Jerash and destroyed large sections of it. Some 20 years later the Arabs attacked and after that there were earthquakes. Still Jerash survived, though by then a largely ruined city with only one-third of its original population left. The death blow came when Baldwin II, Crusader King of Jerusalem, invaded Jerash sometime between 1118 and 1131 and demolished it so thoroughly that the Arabs coined an expression, "like the ruins of Jerash," which is still used today to describe a scene of utter destruction.

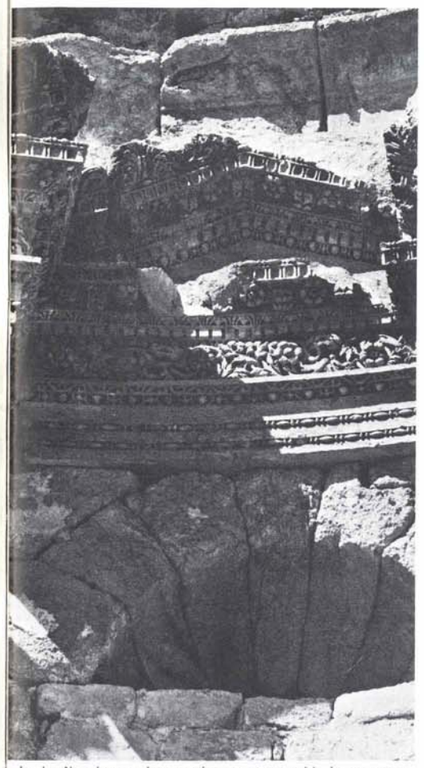
Like so many of the ancient cities of the Middle East, Jerash was then buried in the sand and rubble that sifted in from the desert day by day for 800 years. Part of the ruins were still visible when



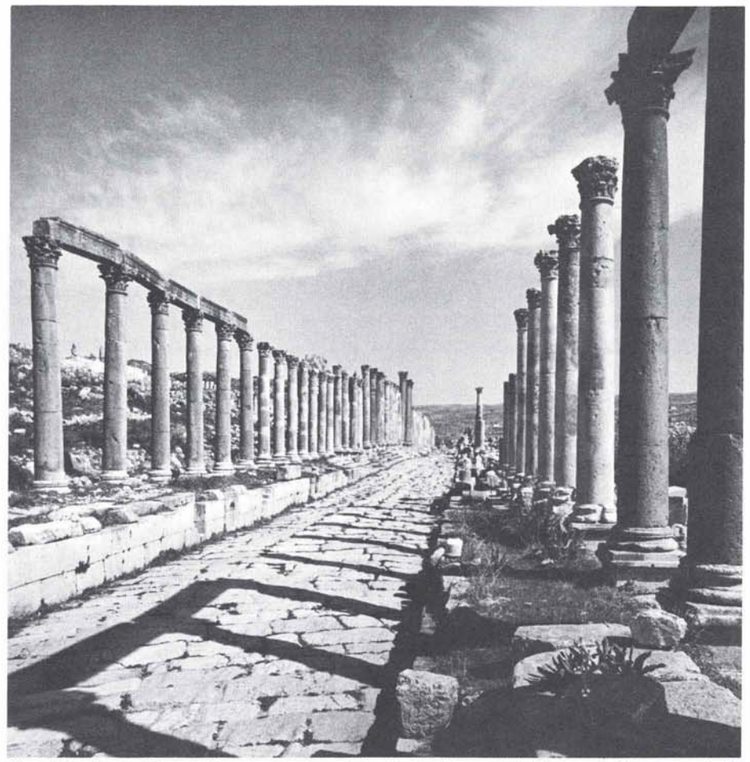
Travelers first see the huge, elliptical, colonnaded Forum.

Experts have carefully restored much of the South Theater.

Excellent acoustics in the South Theater enabled spectators in the highest bank of seats to hear every whispered word.



In the Nymphaeum, lacy carving contrasts with heavy stones.



About 100 columns still stand along the main street of Jerash, its surface marked with ruts carved by chariot wheels.

some European travelers, including Burckhardt, discoverer of Petra, passed through the area in the beginning of the 19th century. But it was not until 1920 that the government of Trans-Jordan started to excavate and restore what the experts say is the best-preserved city of Roman times in that area.

Today, reborn Jerash is one of Jordan's main attractions. It is also one of the easiest to reach. It lies on the main route from Damascus in Syria to Amman and Jerusalem in Jordan. The road, in fact, runs through it, and travelers coming from Syria get an unexpected and overwhelming view of its most memorable feature: the huge, elliptical, colonnaded Forum.

Driving from Amman or Jerusalem, the first important landmark one sees at Jerash is a large, triple triumphal arch built in A.D. 129 to mark the visit of the emperor Hadrian. Then comes the Forum —with its unique elliptical shape outlined by curving lines of columns—then the main street, and, after a short climb, a single pillar marking the site of the Temple of Zeus. Admirably restored is the nearby South Theater with a seating capacity of well over 4,000. Its acoustics are excellent and even the famous, though often shyly whispered words, "Friends, Romans, countrymen, lend me your ears..." come through remarkably loud and clear.

Like the Forum, the main street of Jerash is paved with large slabs of stones and lined with columns. About 100 of these columns, partly in the Ionic, partly in the Corinthian order, still stand. Prominent on the surface of the road are the ruts carved by chariot wheels, and sunk into the surface are manhole covers leading to the drainage system. Off the main street are numerous sights: a ruined Christian cathedral and numerous churches, the South Tetrapylon and the Nymphaeum, which used to be a temple as well as an ornate public fountain. Then comes the Propylae, the beautiful entrance to the most important antiquity in Jerash: the Temple of Artemis, the city's patron goddess. From ground level grand stairs rise to a spacious platform measuring 530 by 400 feet. Toward the center, on another platform 132 by 73 feet, stands the temple proper with a few majestic pillars, remnants of a superb colonnade, still standing. They are almost 54 feet high. Off the main street too can be found other ruins: the North Tetrapylon which was dedicated to Julia Domna, wife of Emperor Septimus Severus; the remains of Jerash's second, smaller theater, the North Theater; and the West Baths.

These are the main antiquities of Jerash, nearly all of Roman origin. Very little is left which was built, added or changed by those who inhabited Jerash after the Romans left and one wonders what the reason could be. Did the Romans have more qualified craftsmen than the others? Did they use better materials? Was it simply a question of money or time? Or could it be that the Romans possessed in abundance what neither their predecessors nor successors could imitate or improve on—the quality of grandeur?

Jan van Os, formerly with Aramco World Magazine is now an assistant editor of the Dutch edition of the Reader's Digest.

BY DANIEL DA CRUZ

Across the desks of government officials in Saudi Arabia about six years ago went a long dull report with a long dull title. It was called "A Study of the Wasia Acquifer in Eastern Saudi Arabia." Written by the Arabian American Oil Company (Aramco) after a year's study, it contained 115 pages of text, seven maps, six tables and one graph—hardly the kind of thing to bring readers to their feet. Yet in the slow, careful language of the report was buried some electrifying information: that under the hot desert sands of Saudi Arabia oozed enough groundwater to meet, and even exceed, the entire country's needs for years to come. To one of the driest countries on earth this was not merely good news; it was almost a miracle. For in Saudi Arabia, as in all the arid and desiccated regions of the Middle East, water is life itself.

Water is among the most ubiquitous of the earth's substances. It not only pervades the atmosphere as clouds and invisible vapor, but as open seas blankets 139,700,000 square miles of the terrestrial surface—nearly 40 times the area of the 50 United States—not counting the world's countless rivers, glaciers, lakes, bogs, swamps and swimming pools. Surrounded by so much water, it is surprising that any part of the solid, habitable 29 per cent of the earth's surface ever dries out, let alone becomes sterile desert.

Nevertheless deserts abound. In fact they constitute nearly one-third of the earth's land area, ranging from the rolling steppes of Central Asia and mountain valleys in Baluchistan to dry lake bottoms in Central Australia, flat deltas at the mouth of the Colorado River and even the sand-duned stereotype of popular fancy—which is in fact so uncommon that even the Sahara is less than 10 per cent dune sand. Even the sandiest desert of all, the Rub' al-Khali, or Empty Quarter, spreading across nearly one million square miles of the Arabian Peninsula, is only one-third dunes. In total area, it ranks third in size after the Sahara Desert, three times as large, and the Australian Desert, one-third larger.

Although it is quite possible to freeze in the desert—especially at high latitudes—deserts in the Torrid-Temperate Zone are every bit as hot as the fevered imaginations of movie-makers conceive them. The highest shade temperature ever recorded, 137°F, was registered at the desert settlement of Aziza in the Libyan Sahara. But since deserts seldom afford shade, this figure is less meaningful than typical summer surface temperatures, which during daylight hours can range from 150° to 170°F and up. At these brain-baking temperatures, usually accompanied by steady, desiccating winds, a normal adult needs nearly seven quarts of water a day merely to survive, never mind move.

Yet it is the extremes of heat and cold, rather than simply heat alone, which make desert climates so merciless, and curiously enough this usually results, in inland deserts at least, from an absence of the kind of atmospheric humidity which makes Philadelphia summers, for example, so soggily insupportable. Every day the sun pours down on the earth 50,000 times as much heat energy as man simultaneously consumes in all energy forms. Deserts absorb 90 per cent of the insolation falling upon them, while dust particles reflect skyward what's left. In humid climates like that of Philadelphia, on the other hand, the terrain absorbs only 40 per cent of the solar heat, 20 per cent being reflected upward by clouds, 10 per cent by dust, and 30 per cent by water areas and land cover such as forests.

At night the process is reversed. The same clouds, dust and land cover that in temperate climates attenuate the intensity of the sun's rays now trap 50 per cent of the residual heat, while in the desert the setting sun signals the dissipation of nearly all its accumulated daytime warmth. Thus the dry air which makes desert heat relatively bearable also accounts for the dramatic drop in temperature at sunset, when swings of 50°F are not uncommon and of 80° not impossible.

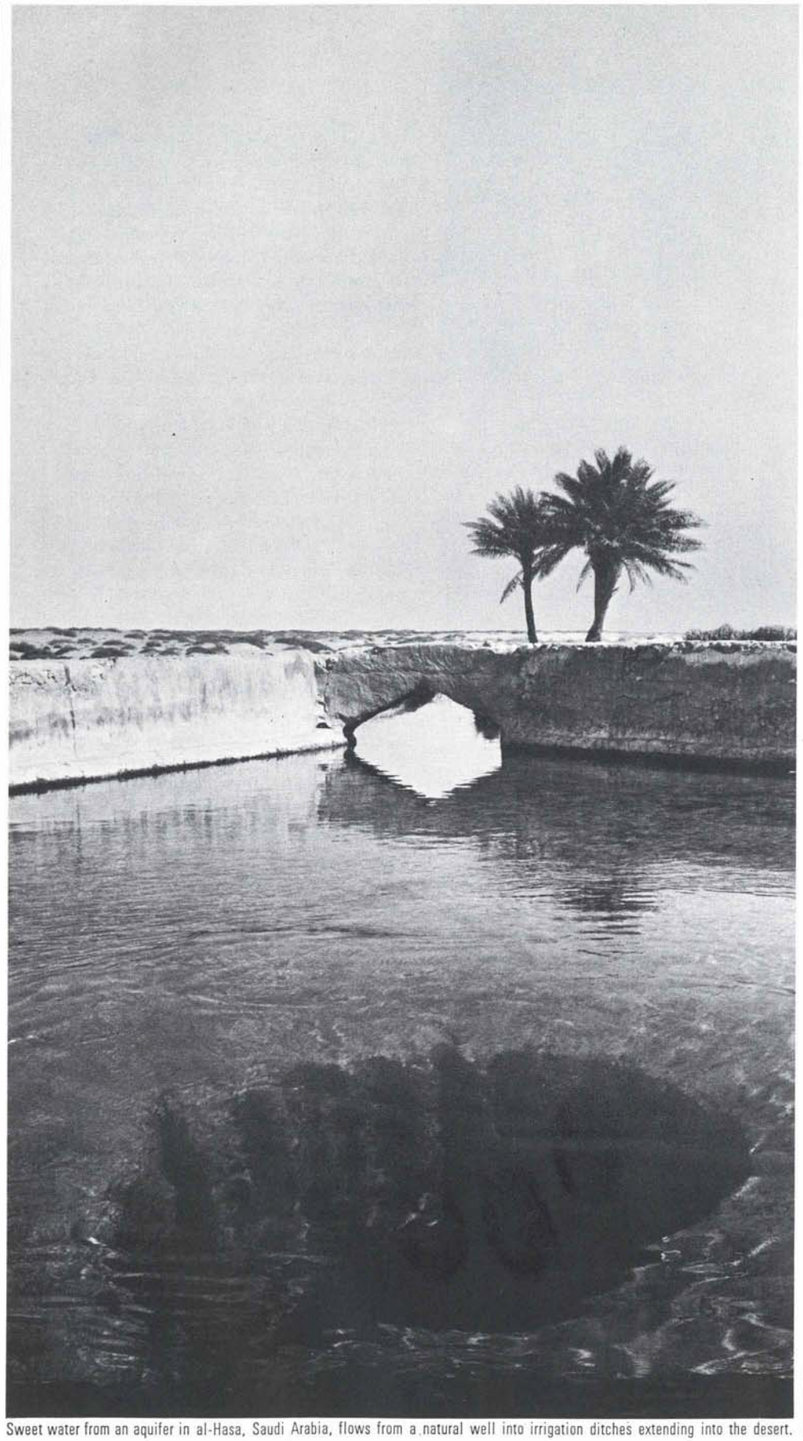
Latitude and altitude likewise condition desert climates. As a rule of thumb, 1,000 feet of altitude corresponds to a distance of 300 miles from the equator, so that the low-lying, equatorial Sahara is the world's hottest desert, while the Gobi Desert of the Mongolian highlands above the 40th parallel is the coldest.

Though deserts radiate an air of eternity to match their immensity, they actually seem to be geological newcomers compared, say, to the earth itself or to rain forests, but why this is, is very much a mystery since conditions that breed them have been around a long time.

One condition is the location of land masses and mountains in relation to oceans. Another is the presence or absence of clouds since, theoretically, land unprotected by the insulation of clouds quickly becomes a lifeless wasteland. Yet clouds alone do not guarantee that the land below will be green and productive. (To the contrary, climatologists estimate that 95 to 99 per cent of all clouds fail to produce precipitation.) Thus other forces must also be considered—such as the earth's diurnal rotation. These forces create and control the major wind belts that, in turn, are responsible for low pressure areas and high pressure areas. Low pressure areas—among them the equatorial rain forests and the misty plains of north central Europe—are wet because as air is pulled in to fill the relative vacuum in such an area, it rises in the steady updraft generated by the low pressure, cools as it leaves the earth's warm surface, until, finally, the moisture in it condenses and falls as rain or snow. At about 30° latitude, either north or south of the equator, the process is reversed, as air descends from the atmospheric heights—which is why most of the world's great deserts occur in these latitudes. Warmed by contact with the earth, the air picks up whatever moisture is present as it sweeps along the earth's surface toward a low pressure area, seeking to equilibrate the ever-changing pressure—and never quite succeeding. Where ascending, cooling air masses are absent, rain rarely occurs—a feature not only of the deserts but of the high-pressure polar areas, equally innocent of precipitation and vegetation.

Weather, of course, is not nearly as predictable as this neat pattern suggests since it is disturbed by the asymmetry of the continental land masses, seasonal temperature variations, the precession of the equinoxes, sunspots, volcanic action and even such man-made factors as forest fires and automobile exhaust fumes.

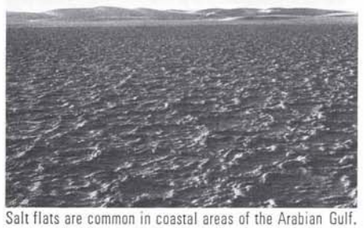
The oceans, which ultimately supply most water for precipitation, also upset the precarious balance of atmospheric pressures. Cold polar waters are impelled by centrifugal action toward the equator. But as the sun-heated surface layers evaporate, the deep ocean currents surge upward, and winds blowing landward across these frigid waters cool and lose their capacity to carry moisture. At times fog and mist drift tantalizingly ashore from such waters, onto the Patagonian Desert, Africa's Kalahari and other coastal wastes, but the sun burns them off before the parched sands can drink. In the deep interior of Asia, by contrast, warm water-laden air from the Pacific has been wrung so dry by its long overland passage that seldom is a drop left for the arid Gobi. In somewhat the same manner, ocean-born rain clouds rising to pass over mountain ranges are cooled and drained of their moisture within sight of the dry interior. It is thus that the wettest and driest spots on earth—the windward and leeward slopes of mountain ranges bordering the sea—are often separated by an interval the naked eye can span.



Sweet water from an aquifer in al-Hasa, Saudi Arabia, flows from a natural well into irrigation ditches extending into the desert.

Of all fates, death by drowning on the desert seems least likely. Yet it is a far from rare phenomenon, owing to the fact that the less rain that falls on a given area, the more variable will be its periodicity, duration and quantity. But when rain does come, it often falls with demonic violence, torrentially, overtaxing the capacity of the soil to absorb it. It runs off in sheets from the slightest slopes, gathers volume and force in dry river beds, and roars through bone-dry canyons as tremendous flash floods which sweep them clean, often of people who hadn't suspected that somewhere, miles away, rain had fallen only minutes earlier. Once in the Mojave Desert a flash flood, becoming a moving wall of mud when it dissolved alluvial sediment in its path, carried a locomotive a mile from the right-of-way before completely burying it. Typically, a few days after such a cloudburst, it is almost impossible to tell when it rained last—a week or five years before.

A desert is nature's Sleeping Beauty, needing only the gentle caress of raindrops and the right temperatures for it to spring to vibrant life. But nature is capricious with its water, flooding Hawaii's Mt. Waialeale with an average 471 inches of rain a year, while parsimoniously denying many of the temperate lands the minimum 10 inches of water they need annually to



Salt flats are common in coastal areas of the Arabian Gulf.

sustain crop growth. None is so ill-favored as Chile's Atacama Desert, which has now endured 375 years without a drop of rain, although years often intervene between rains in deserts such as Saudi Arabia's barren Rub' al-Khali.

Yet nature finds a way of surmounting her self-inflicted handicaps, and in the desert plant kingdom some of the solutions are marvels of adaptation. Perennials abound and by a conservative metabolism often manage to see the next rain. Some annuals are so specialized that a downpour will cause their seeds to germinate, send down roots, grow to maturity, bloom and cast their tough seed on the ground—all within a period of weeks, after which the seed may lie unaffected for years until the next rain comes. Some seeds even have a soluble coating that dissolves to initiate germination only when enough rain has washed over it to guarantee that it will be able to complete its life cycle. Cactus plants store their water in cells and ration it out slowly over long periods of drought, while deciduous plants shed their leaves during dry spells to limit evaporation.

That so much of the world's lands are green only with such hardy but unlovely vegetation as cactus, is a misfortune

Bedouins draw precious water from ancient hand-dug wells.

for which man can partly thank himself. During the past 3,000 years, mankind has often proven more destructive than the elements to his rich terrigenous heritage. Abandonment of Roman territorial farmlands as the Empire dissolved, wanton destruction of oases by nomadic invaders, overcropping of pasturage by the cattle and horses of the same roving armed bands—all were factors in the progressive denudation of old world crop land. Exposed to the erosive forces of wind and water, stripped by ruminants of the grass roots which held it together, the thin top soil was blown away or washed into the sea.

Ironically, it was in Mesopotamia, the fertile valley between the Tigris and Euphrates, that the first man-made desert was created, in the same place that civilization was born. Over the millennia man's plow bit into the land and produced bountiful crops, while his newly domesticated animals grazed nearby, and the surplus food allowed the beginning of villages and the division of labor upon which urban culture was erected. It also allowed standing armies, and when in medieval times the Mongols under Hulagu Khan overran the Fertile Crescent, they destroyed not only those armies but the corps of engineers which maintained the irrigation system on which Mesopotamia's agriculture was based. Soon the irrigation and drainage canals silted up, corrosive salts whitened the land like snow and plowing fed dry topsoil to the wind. Where grass tenaciously managed to survive, sheep and goats tore it from the soil, roots and all. In a generation Mesopotamia was an almost abandoned wasteland well on its way to becoming a desert.

The process goes on today despite modern man's knowledge of methods needed to arrest, or reverse, the encroachment of the desert. The Indus Valley, for example, has more than sufficient water, yet has a delta of infertile clay. And in some places loss of land due to waterlogging and salanity is outracing the gain through traditional land reclamation techniques—suggesting, perhaps, that more than water is required to transform the desert into productive agricultural land and maintain the shaky balance of natural forces which it represents.

In Saudi Arabia, for example, the fact that vast amounts of water trickle through the earth thousands of feet below is by no means news to hydrologists. Ever since 1939 when Aramco's experts began to chart the underground deposits they were finding during the search for oil, they have suspected that the totals would be enormous. But to countries without widespread and relatively sophisticated networks of mains and pumps to carry it to the farms and cities where it is needed,

Saudi farmers soak thirsty soil from new wells at Haradh.

the mere presence of water isn't enough. Despite the discoveries at Wasia for instance, Saudi Arabia began to build a seawater de-salting plant on the Red Sea coast last February because there is no way yet to get the Wasia water to Jiddah.

Another problem is that the Bedouins who, government agencies hope, will create and maintain new agricultural land, have so far shown little enthusiasm toward exchanging their nomadic independence for the security permanent settlement offers them as a landowner; they feel that the whole land—not just a single plot—is theirs anyway.

Those factors, of course, count for little in the face of the benefits inherent in the Wasia findings. Estimating the Saudi Arabian population at 5,000,000, the productive land required at two acres per capita and the irrigation demand at 110 barrels per acre, statisticians have arrived at a maximum requirement of approximately one billion barrels per day—and in the Wasia acquifer *alone* there are reserves of 200 trillion barrels, enough, at present rates of consumption, to serve the *whole* united States for more than 60 years.

In Qatif, long channels drain brackish water from gardens.

In addition to Wasia there are such sources as Turabah where in late 1966 fresh water gushed to the surface from a depth of 7,400 feet (possibly the second deepest water well in the world) at a rate of 500 gallons per minute. And Wasia and Turabah are but two of dozens of similar acquifers.

For a desert country these are enormous amounts of water—enough, say some, to change the entire face of the country. First, of course, Saudi Arabia must construct the wells, mains and canals essential to effective distribution and use. The country must also find or train enough farmers to tend the fertile, verdant farmland that this water will create. These are not projects that are completed overnight; they will take time, patience and work. But now, with virtually limitless reserves of water to tap, the formerly insuperable barriers to agricultural progress and industrial development have been breached. In Riyadh, for example, Swedish, French, Saudi and Finnish firms are already designing and installing a system to lift, purify, cool, deliver and store up to 10,000 gallons a minute, most from the Wasia acquifer. For a country that has always been dry but never known why, the answer is at hand at last.

Daniel da Cruz is Middle East correspondent for McGraw-Hill World News.

for a bright eternity

PHOTOGRAPHY BY WERNER FORMAN

Of all the races of man, none has fought harder against death than the ancient Egyptians, nor with such conviction that they could ultimately conquer it. They reluctantly conceded that death invariably took the first battle, but believed that with the proper rituals and, above all, the preservation of the body, they could win the war and emerge into a day everlasting.

The Egyptians were extremely practical people. They developed art forms of considerable complexity and beauty, worked with great proficiency in wood, faience, stone, copper, glass, brick, ivory, paints and gold, and even gave birth to abstract art. Much of it, unfortunately, was consigned forever to the darkness of underground tombs to serve the timeless needs of the dead rather than the transient pleasures of the living. And in that sense art, a foundation stone of esthetics to modern man, was to the ancient Egyptians a strictly utilitarian device on a par with our washing machines and filing cabinets.

In Egypt, art and religion grew up side by side, entwined, and were inseparable. Both were designed for the single purpose of assisting the mortal remains of man through the difficult and dangerous period of death, to the bright eternity which awaited the lucky and the farsighted beyond the grave. The Egyptians knew, of course, that the collection of perceptions, potentialities for action and qualities of character—that part of the individual we call the soul or spirit—existed after death as long as the body remained intact in the tomb. That crucial proviso was the greatest single stimulus to the creation of the Egyptian artistic tradition.

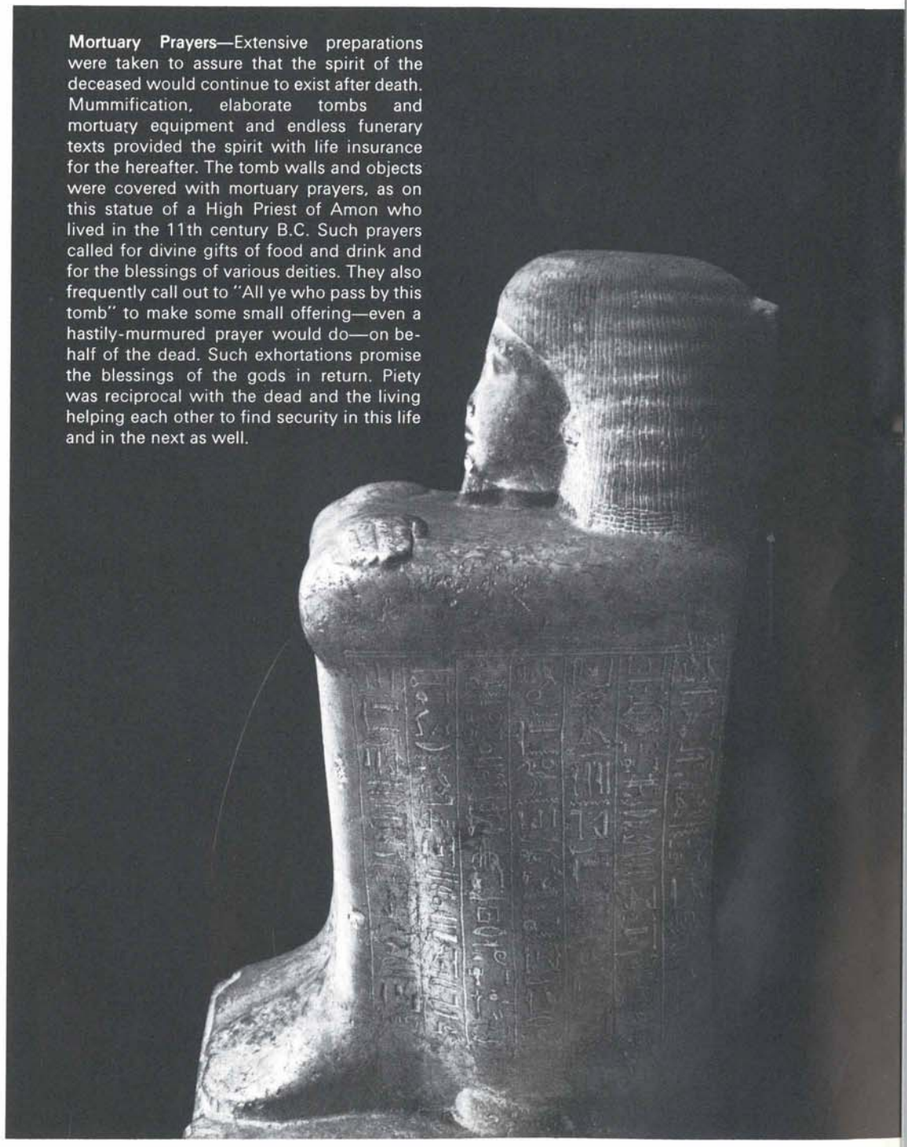
Embalming was an obvious first step to insure that the body would not disintegrate. In very early times the Egyptians began to mummify bodies, eventually developing a 70-day process that leaves little scope for improvement. But since the body might be destroyed somehow, additional measures were taken. Statues and relief carvings portraying the deceased were invested, by means of magical ritual, with his identity and attributes. Thus, should the mortal remains disappear, the dead's supernumerary, whether wood or stone, would serve to maintain his personal identity forever. Nothing horrified the Egyptians so much as the thought that the personality of the individual would be destroyed. That was true death.

The concept of personification—of treating the symbol as the object it represents—is still very much with us. Caribbean voodoo magicians use it every day, girls kiss pictures of their beloved, men burn books and libraries thinking to destroy the ideas residing there, and other men die defending colored cloth they call flags. Ancient Egypt was full of such fetishes and symbols, each serving some human purpose. A temple was constructed to save Egypt from disaster by intercession of the gods who dwelt in its very stones; a bracelet charm carved of carnelian was the abode of a god who protected its wearer; the mere action of writing (for was not hieroglyphic writing itself a pictorial representation, and therefore magic?) could provide protection against calamity, and was therefore the province of priest-scribes.

Art thus served to sustain the state—it must be remembered that the state and religious institutions were one—and the artists were faceless bureaucrats. Considered as a duty to the state, that is, to religion, art was obsessed with the conservatism, the pat formula, the endless repetitions of any bureaucracy. In representing the human form, for example, the idea was not to make an exact reproduction of a particular person—although artists were by then quite capable of doing so—but a person in the abstract, shorn of non-essential individual traits and embodying those godlike qualities the dead would want to possess in the afterlife.

The tradition-steeped Egyptian was a true reactionary. He sometimes added, but never threw anything away, and the best models were thought to be the most ancient. Except briefly during the Amarna period, art was the slave of conventions and canons laid down in the early centuries of historic times. A man's representation was ideally abstracted from several viewpoints: on a relief figure the head was traditionally drawn in profile, the eye from the front, the shoulder also full-face, giving the torso a twist to the three-quarter profile of the hips, the legs in full profile, and the feet often both left feet. It was not a lack of technical ability, as is often thought, that forced early Egyptian art into these rigid patterns, but a deliberate attempt by the artist to abstract the essential and discard the rest.

In creating a funerary art of great if stylized beauty, the artist of dynastic Egypt was careful to cast it into as nearly a natural setting as possible. The dead on reawakening wanted to have familiar objects—slaves, musical instruments, food and drink, fine clothing—at hand to resume his life as he was accustomed to live it, and it was up to the artist to provide. He did so with such a wealth of detail that we know far more of the daily life and thoughts of the ancient Egyptians than we do of such more recent civilizations as the Indo-Aryans, the Assyrians, even the British of Roman times. And thanks to the painstaking work of Egyptologists for a century or more, we have today an amazingly faithful picture of life in ancient Egypt. Thus, in a way they never anticipated, the Egyptians achieved a measure of immortality after all, for through the art of their monuments to the dead they are vibrantly alive today.



Mortuary Prayers—Extensive preparations were taken to assure that the spirit of the deceased would continue to exist after death. Mummification, elaborate tombs and mortuary equipment and endless funerary texts provided the spirit with life insurance for the hereafter. The tomb walls and objects were covered with mortuary prayers, as on this statue of a High Priest of Amon who lived in the 11th century B.C. Such prayers called for divine gifts of food and drink and for the blessings of various deities. They also frequently call out to "All ye who pass by this tomb" to make some small offering—even a hastily-murmured prayer would do—on behalf of the dead. Such exhortations promise the blessings of the gods in return. Piety was reciprocal with the dead and the living helping each other to find security in this life and in the next as well.

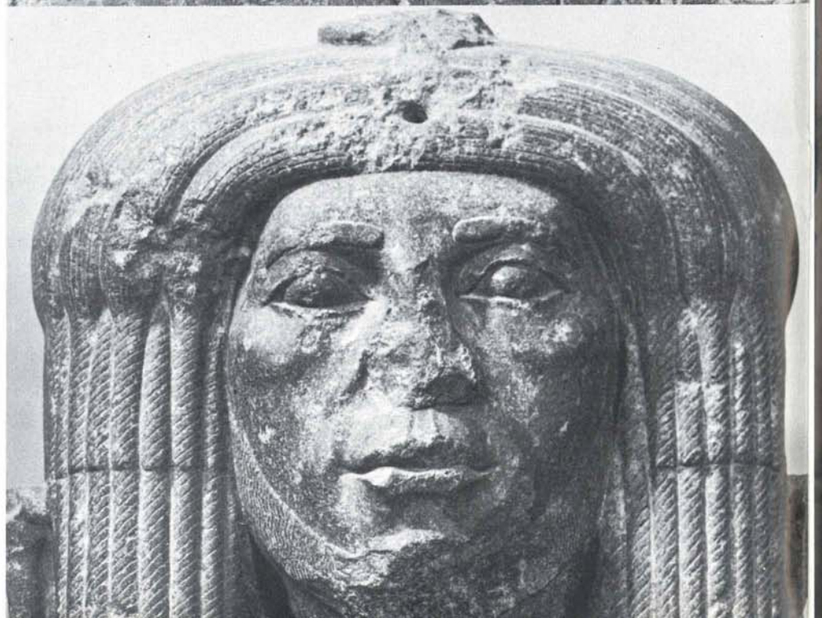
False doors—Private tombs of the Old kingdom grouped around the royal pyramid usually had two independent parts, the burial chamber and the chapel. The living had access to the chapel to perform funerary rites on appointment days to honor the dead and in the chapel false doors served as a magic entrance through which the dweller in the next world received from his mourners the ritual nourishment indispensable to his being. This wooden false door from the tomb of the scribe Hesy-ra at Sakkara dates to the 28th Century B.C., and shows him with the scepter of authority in his right hand and a staff and writing tools in his left.

The Uraeus—Although snakes were normally considered harmful, the deadly cobra, —uraeus—early came to be the symbol par excellence of divine protection for the king. It was placed on royal crowns and diadems, as on this statue of King Ramses II of the 13th century B.C., in the belief that it would be directed against any enemy—human or supernatural—who was potentially dangerous to the king's person. In origin, the uraeus was a symbol of the sun-god Re. Its poison was thought to be the fire which could effectively destroy any opposition to the power of Re. The word uraeus is the Greek form of the original Egyptian, meaning "the one that winds and rears up," truly a graphic picture of a cobra ready to strike.

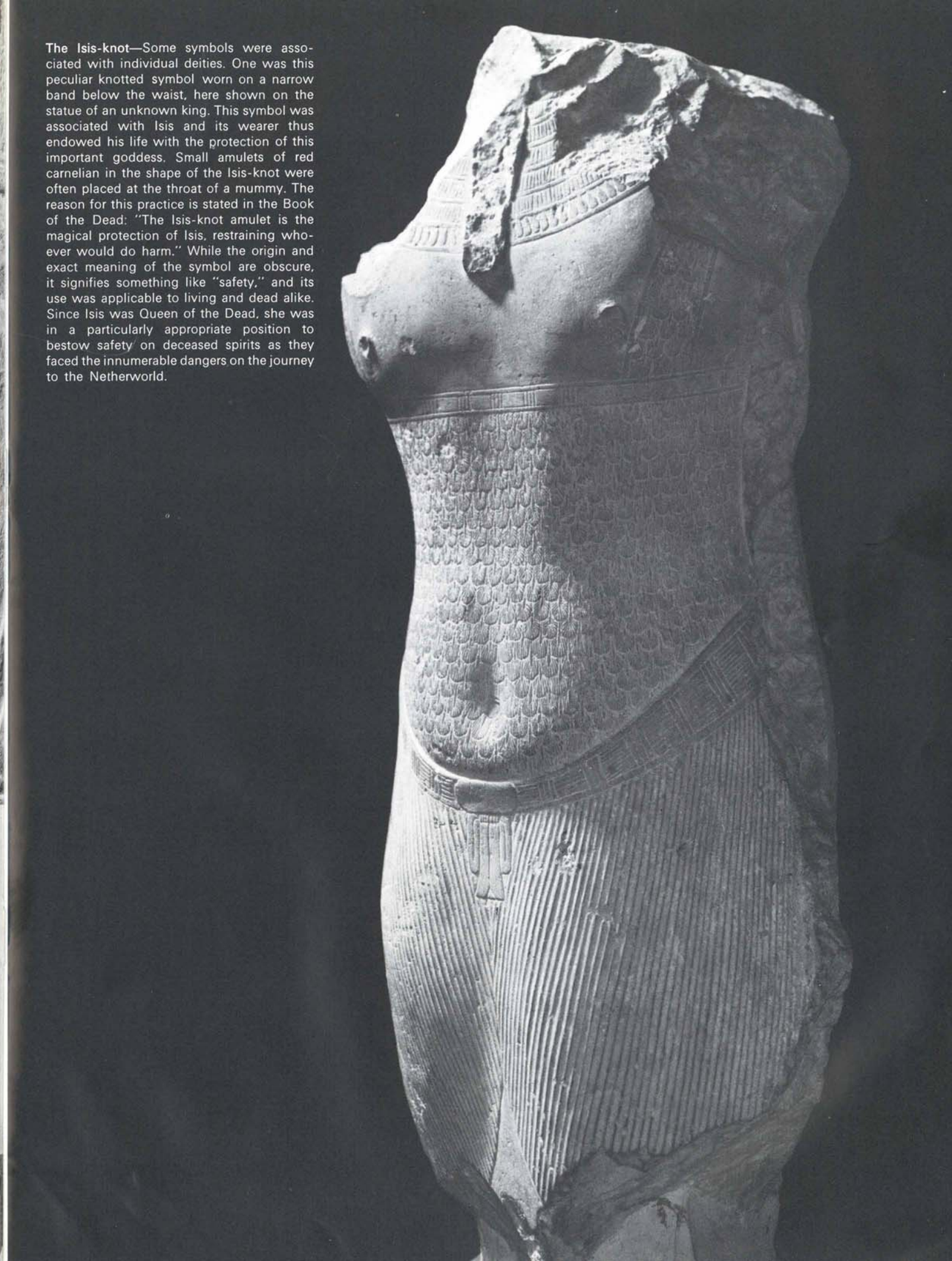
The Lotus—In the tomb of Eika, a false door bears a carved representation of his wife smelling a lotus flower, while to the left is Eika's daughter. According to legend then current, (26th Century B.C.) the creator himself was a "beautiful child sprung from the heart of a lotus flower," whose everlasting renewal of life was suggested by the closing of the lotus flower at night and opening at the sun's first rays. To Egyptians the lotus was the most perfect and sacred of flowers, and the fragrance of the blue lotus was to them the perfume of divine life.

Dancing—The dance was born of religious ritual, but was also a secular amusement. In ancient Egypt dancing was practiced at festivals of joy and pageants of sorrow, such as the funeral dance illustrated by this stone relief showing girls beating skin drums while two dancers accompany themselves on wooden castanets. The use of percussion instruments, originally designed to frighten away evil spirits, was supplemented in time to embrace string and woodwind instruments whose rhythms and melodies were enjoyed for their own sake. The dance, too, became organized into recognizable patterns and Swiss Egyptologist Henri Wild has catalogued the movements portrayed on Egyptian friezes. They include running, leaping with body erect or bent, splits, arabesques, back-bends, pirouettes, stamping of feet, acrobatic somersaults, cartwheels—in short, all the movements described in the waltz, the fox-trot, the fish, the Watutsi...

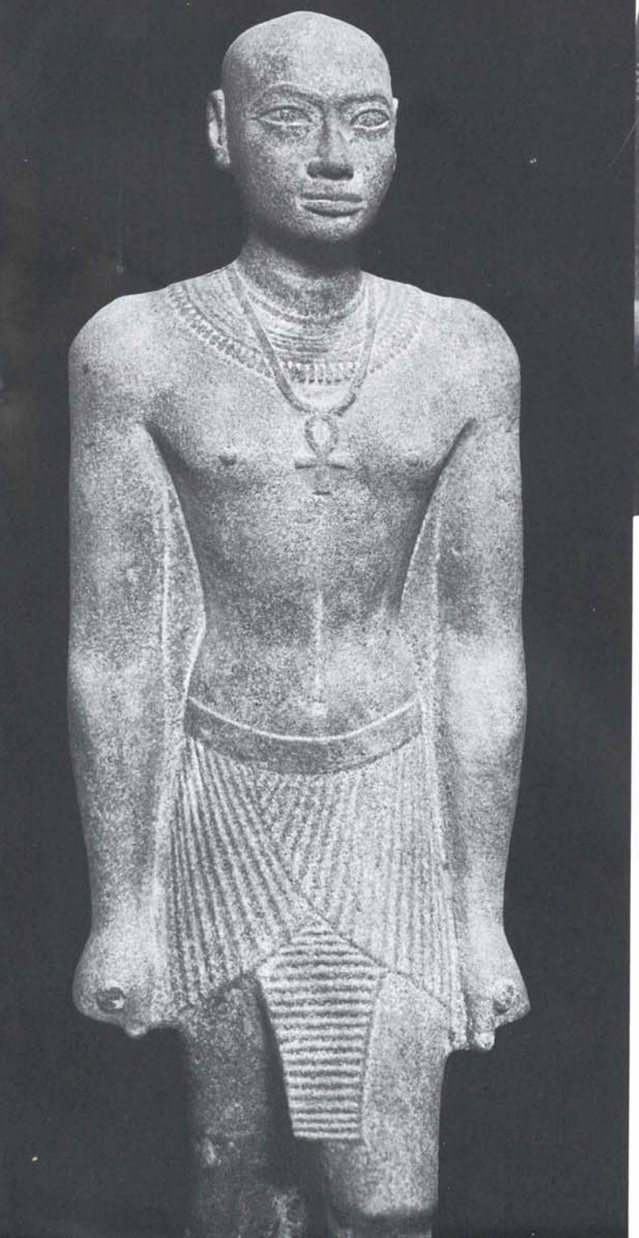
Realism in Art—While Egyptian art maintained a dogged adherence to a set style, there were times when certain canons of this style were broken in favor of realism which was truly symbolic of a given period of history. The Amarna Age of the 14th century B.C. is the best known for such a rebellion against traditional art forms. However, royal sculpture of the Middle Kingdom also broke with tradition, as illustrated by this head of King Amenemhat III of the 19th century B.C. Kings and commoners alike were normally shown as stylized human beings, portraiture being more rare. The kings of the Middle Kingdom, on the other hand, were shown with expressions of an intensely serious nature. This is a stark contrast to royal portraits of a later age. The realism of the Middle Kingdom symbolizes an age of hard-working rulers, struggling with a feudal nobility and the many problems of holding a powerful state together. Such realism faithfully portrays the reality of an age when the kings of Egypt were not absolute monarchs but maintained their authority by the dominance of their personalities.

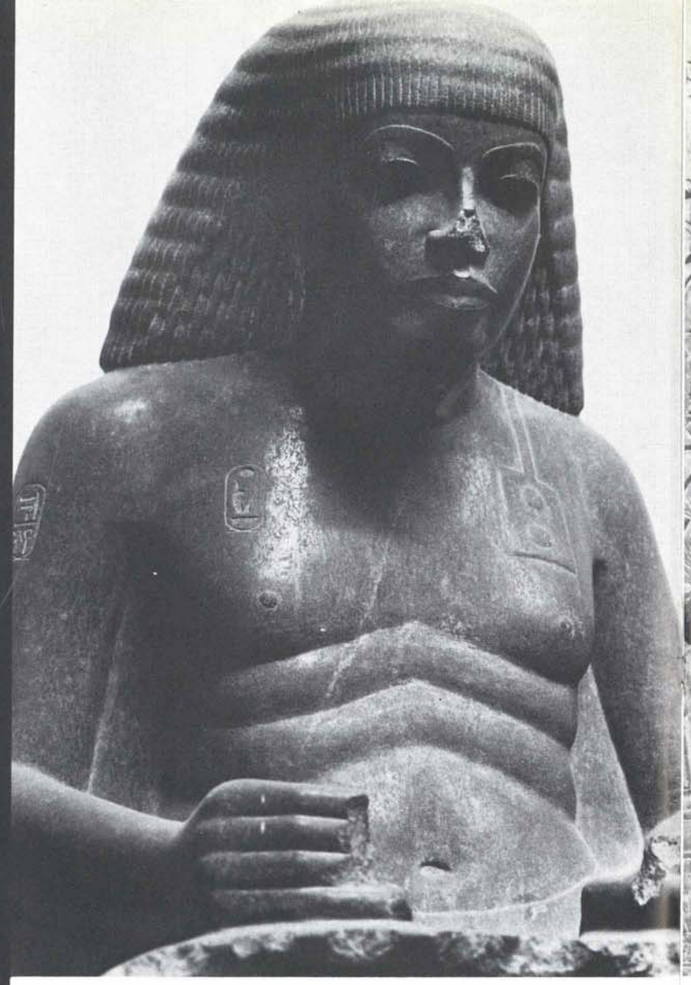


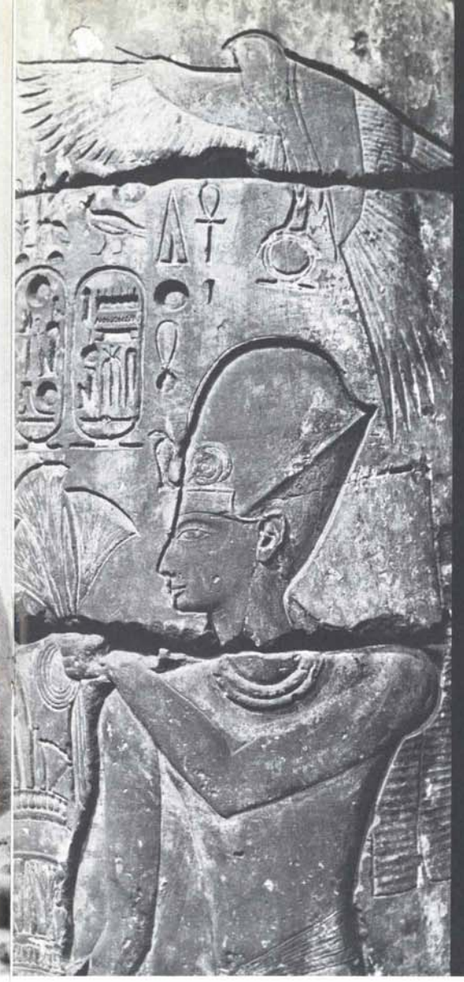
The Isis-knot—Some symbols were associated with individual deities. One was this peculiar knotted symbol worn on a narrow band below the waist, here shown on the statue of an unknown king. This symbol was associated with Isis and its wearer thus endowed his life with the protection of this important goddess. Small amulets of red carnelian in the shape of the Isis-knot were often placed at the throat of a mummy. The reason for this practice is stated in the Book of the Dead: "The Isis-knot amulet is the magical protection of Isis, restraining whoever would do harm." While the origin and exact meaning of the symbol are obscure, it signifies something like "safety," and its use was applicable to living and dead alike. Since Isis was Queen of the Dead, she was in a particularly appropriate position to bestow safety on deceased spirits as they faced the innumerable dangers on the journey to the Netherworld.

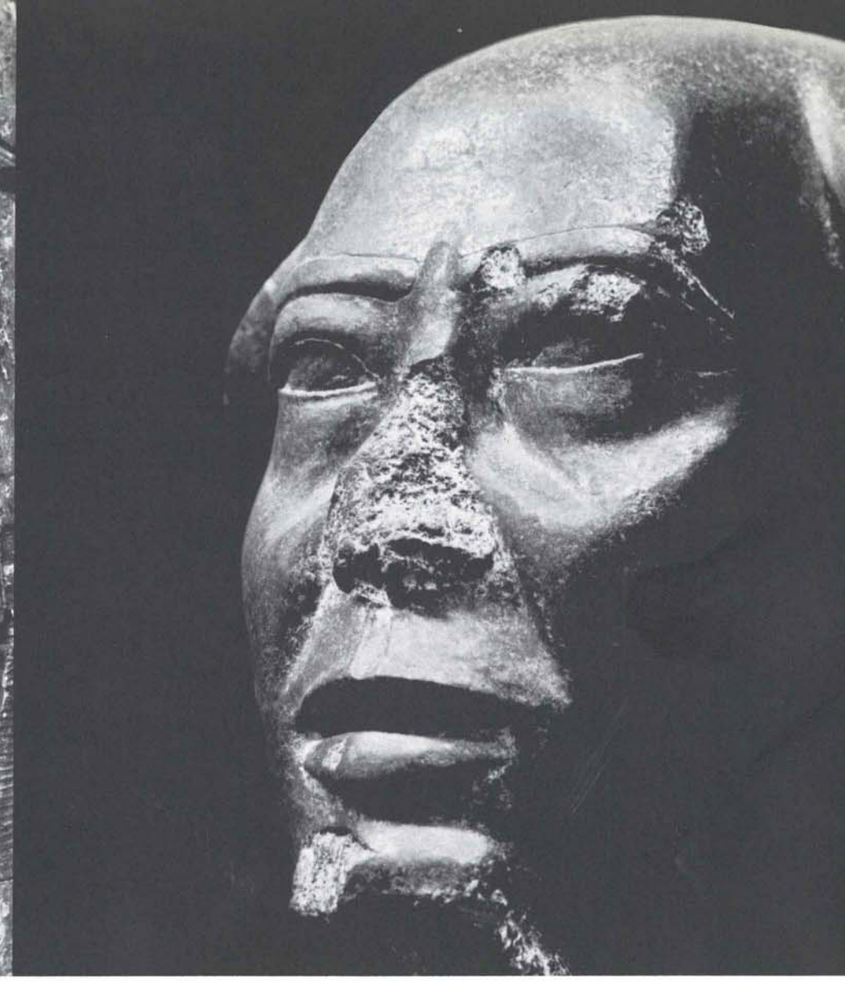


Amulets—Like all ancient peoples, the Egyptians literally surrounded themselves with good luck charms in both life and death. The living carried amulets for protection against demons and spirits. In death, amulets were enfolded in the mummy-wrappings to continue this protection for eternity. Certain stones, especially carnelian, were thought to have magical properties. This prince of the 8th century B.C. wears the "ankh" symbol on a chain necklace. This is the hieroglyph for "life" and was undoubtedly the most commonly used amulet in Egypt. In origin, this symbol was a sandal-strap with the loop fitting around the ankle. By the principle of the "rebus" which underlies Egyptian writing, it was used to represent the word for "life" which was pronounced much like the word for "sandal-strap."







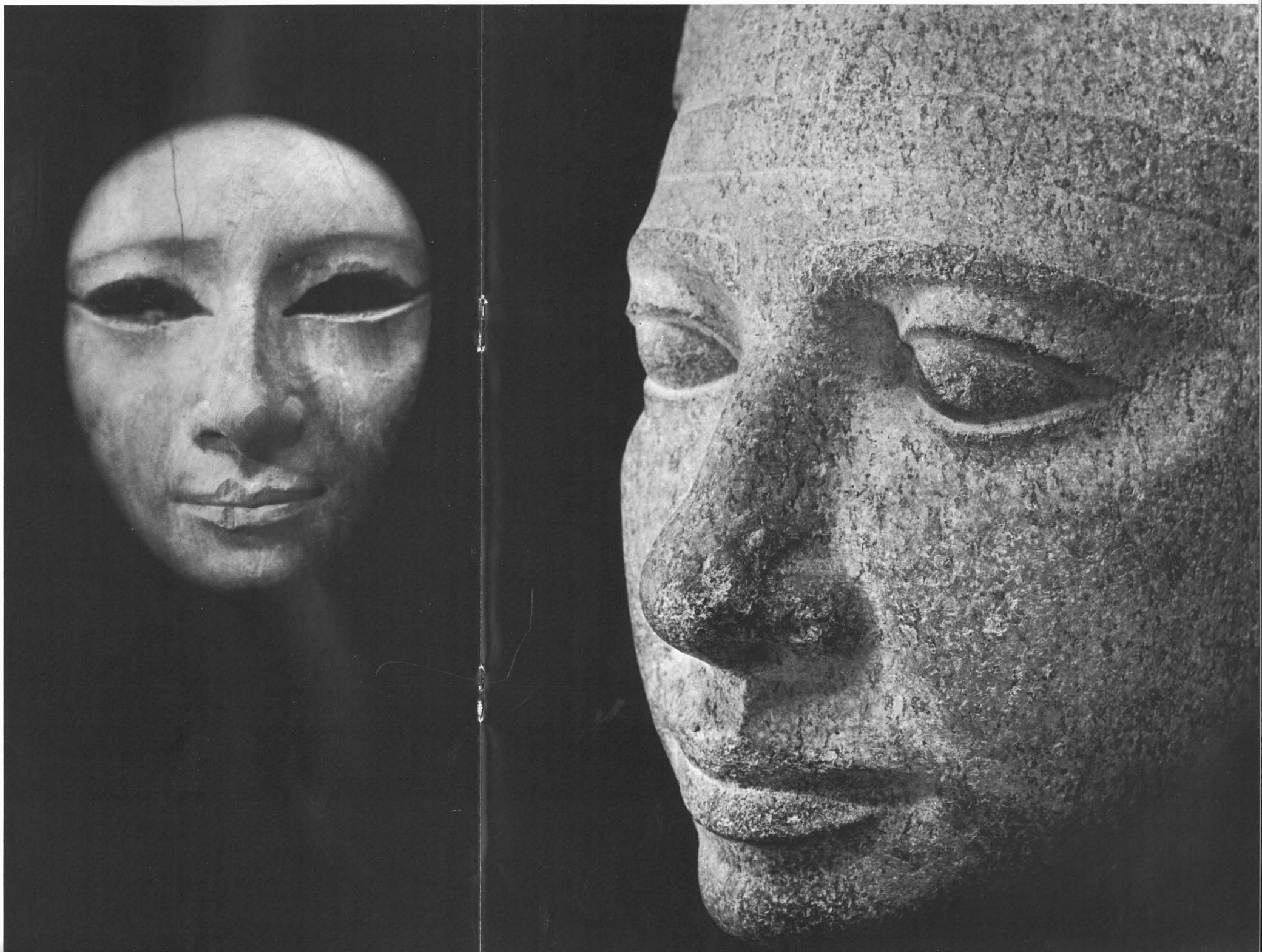


Cartouches—As might be deduced from his rolls of fat, Amenhotep, Son of Hapu, led a soft and sedentary life as a senior court official of King Amenhotep III. Seated in the scribe's folded-leg position, Amenhotep has his scribe's palette with black and red colors slung over his left shoulder, while on his right are two cartouches. The cartouche (so named because its shape recalled the French rifle cartridge), is actually a stylized loop of rope with a knot at the base, symbolizing the universe—"That which the sun encircles." To indicate the pharaoh's ownership of the universe, his name was written within the loop, elongated to accommodate it. The cartouche was used only for the last two of the five royal names, the penultimate one preceded by "King of Upper and Lower Egypt," and that following "Son of Re." The frequent occurrence of cartouches in the hieroglyphic text, corresponding to the repetition of royal titles in the accompanying Greek text, was the key that young Champollion used to unlock the secret of the Rosetta Stone, thus founding the science of Egyptology.

Crowns—This sunken relief shows Ramses II, a pharaoh of the 13th Century B.C., holding a bunch of lotus flowers, above which are two cartouches and a falcon, a bird which, as a symbol of Horus, enjoyed divine status. King Ramses here wears a blue warrior's crown—the "Khepresh". Variations of crowns were innumerable and each had its meaning: the double crown signified the rule of Upper and Lower Egypt, the Red Crown was worn by divinities of Lower Egypt, while Osiris, god of the underworld, wore the White Crown flanked by two ostrich feathers. Gods generally wore crowns suggestive of their attributes—the double upright plume was worn by sky gods and falcons, lyriform cow's horns were worn by the goddesses Hathor and Isis, and ram's horn crowns by the gods Khnum and Amun.

The Name—This somber-looking individual is the Prince of Thebes, Governor of Southern Egypt, Mentuemhat, one of the highest government officials of the 8th century B.C. Mentuemhat would be pleased that we still know his name, for one of the chief goals of the funerary cult was the perpetuation of the name of the deceased. Others are less fortunate, such as the Middle Kingdom lady on page 18 whose haunting face will remain forever unidentified. A person's name had special significance in that it symbolized his whole personality, indeed his very existence. To destroy a man's name was literally to destroy his memory, hence his eternal life. The name of the deceased was repeated time and again in the tomb and on objects belonging to his tomb equipment. One of the ways to take complete vengeance on an enemy was to obliterate his name wherever it appeared. This actually happened to Queen Hatshepsut of the 15th century B.C. whose son-in-law tried to wipe out her memory by hacking her name and picture from all her monuments. King Akhnaton of the Amarna Age even attempted to do the same to Amon, the chief god of Egypt, during his short-lived revolt against religious traditionalism. But many like Mentuemhat have been luckier because their names have been revived by modern Egyptology and their names, the keynote of their hopes in eternity, are spoken once more.

The Eyes—It was as true in ancient Egypt as it is today that the emotions and personality of a person are best shown in his face, especially his eyes. Therefore the Egyptians gave particular attention to the eyes in art. In wooden statues such as this female head of the 19th century B.C., the eyes were originally of inlaid stone, quartz for the white and darker stones for the pupil. A complicated symbolism about eyes was created and expressed in many forms. The sun and moon were equated with the eyes of the god Horus, the moon being his left eye blinded in his mythological struggle against evil. This eye, having been healed and restored, became "the good eye," a widely used symbol for "good health" and "well-being." Small eyes were worn as amulets or in a variety of other ways; for example as decoration on the bracelet of the royal statue shown on page 13, bottom left. The "good eye" of Horus, having died by blindness and been restored to sound condition, became a logical symbol of eternal health and is shown regularly on coffins.

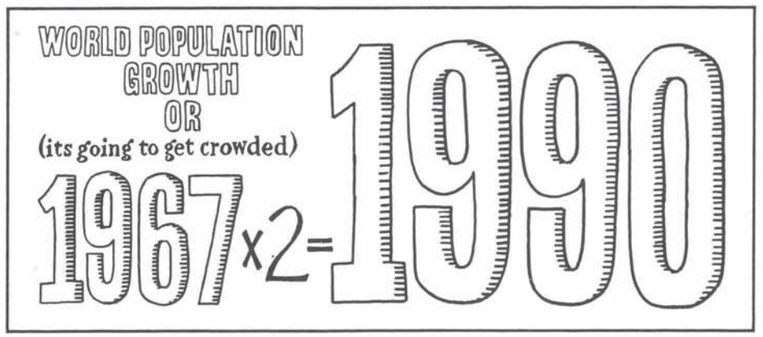


OIL IN 1990

BY KEITH CARMICHAEL

By its very nature the petroleum industry must look to the future. There are no instant oil wells. Thus if the petroleum industry is to meet the demand it will face in the next 25 years, it must predict, right now, and with a fair degree of accuracy, what those demands might be.

By 1990, for example, some 150 million passenger cars will be roaring along the highways of the United States, according to one recently quoted industrial prophet. That is twice as many as there are now, and for the oil industry it raises the attention of the oil industry of today. Its research and development departments are also pondering such questions as, will there really be two-helicopter families? Hovercraft transport? Throw-away clothes? Plastic skyscrapers? Or even Fly-Now-Pay-Later weekends on the moon? Some are likely, none is impossible, and all could have important effects on the consumption of energy. That is why oil companies have already begun to take a hard look at the factors on which all long-range economic forecasting is based: plan factories. Transport companies buy trucks. Businessmen enlarge shops. Sales increase. Orders soar. As the impact of growth crackles through an economy, employment increases and with it the purchases that can keep the cycle going. Refrigerators replace ice boxes and central heating replaces the kitchen range. Off the assembly line come, first, bicycles, then motor scooters, then automobiles. As appetites sharpen and expand, markets grow, and consumption soars. And so does the consumption of energy—without which none of it would be possible.



But to anticipate change is not enough. Even if companies can accurately predict that the population will double by 1990, it is just as important to make some intelligent guesses about what kind of a world they will live in. Will plastics shoulder steel and wood aside? Will factories be wholly automated? Will jets replace ships altogether? Will vertical take-off planes replace taxis? On holidays will a man be able tow a collapsible cottage to the shore? Go cruising on his own hydro-foil? Spend his vacation in Australia?

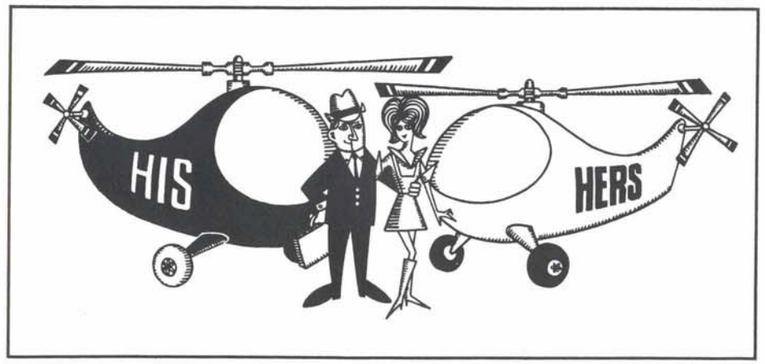
To all those questions the answer is probably, yes. But even if it is no the economists are sure of one thing: whatever the exact shape of this visionary 1990, the demands for energy will be enormous. In a talk given some months ago in Dhahran, a vice president and director of one of the companies that own the Arabian American Oil Company (Aramco) indicated just how big. The Free World's 1950 energy demands, regardless of how these demands were supplied, amounted to the equivalent of 28.5 million barrels of oil a day. By 1965, energy requirements had risen to the equivalent of about 53.5 million barrels. And demands for energy in the Free World, he said, will be increasing by two million barrels a day at least through 1970, which was as far into the future as the speaker ventured to look.

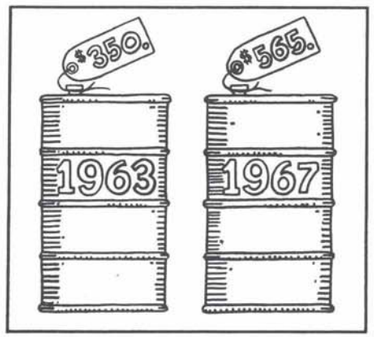
The secretary general of the Organization of Producing and Exporting Countries (OPEC), in a statement published early last February said that the share of petroleum as a source of energy in the Free World increased from 34 to 41 per cent between 1960 and 1966. And, according to the same official, 1966 was the year in which oil replaced coal for the first time as the world's single most important source of energy.

Economists cannot predict, of course, in what proportion total energy requirements will be supplied by oil and what by, say, water or sunlight in 1990. But taking all factors into account—such as the increased used of petroleum in petrochemicals—the experts still predict that the petroleum industry will have to deliver over the next 25 years about 480 billion barrels of oil. This is more than three times the total free world consumption between 1859, when the first well was drilled, and 1965. A consensus of shorter-term forecasts—of about 15 years—indicates an annual growth rate of from five to six per cent and a high executive in one oil company predicts a flat five and one-half per cent gain each year for 25 years. "By 1990," he said, "we shall need about three times as much oil and natural gas as now, a total equivalent in round figures of about 100 million barrels of oil a day."

If all this comes true the impact on the Middle East could be enormous. The Middle East has not only the largest reserves of any oil-bearing region in the world but also 70 per cent of the Free World's estimated total. Furthermore, the total reserves have been growing despite heavy withdrawals. Thus, barring political upheavals or violent increases in production costs, production is quite likely to increase steadily. Some economists say flatly that in any event the growth rate will be at least five to six per cent. In comparison with the eight to nine per cent growth between 1961 and 1966 that may seem small. But the prediction is deliberately conservative and even then means that by 1990 Middle East will produce 33 million barrels per day—about four million barrels more than the entire Free World used each day throughout 1966.

To produce oil in these quantities is a tremendous task. It is also fantastically expensive. Projecting today's cost figures, one economist states that the oil industry will have to lay out about $14 billion by 1990 in order to meet the estimated 33 million barrels per day demand. And since the Middle East produces just over 50 per cent of all oil moving into international trade, oil companies and allied businesses will have to ante up another $95 billion for tankers, pipelines and other necessary facilities. The total will be an estimated $109 billion—compared, for instance, to a $61 billion capital outlay





for all U.S. industries in 1966. In the Free World as a whole the total investment needed will reach in the neighborhood of $360 billion. As one prominent oil executive from the United States told a Dhahran audience recently, "We have an industry that is an enormous consumer of capital."

To feed this obviously gargantuan appetite for capital would seem to be a colossal challenge. Yet actually the oil industry is 95 per cent self-financing—that is, it already finds 95 per cent of its capital from depreciation provisions and retained earnings. The question now is: with costs rising and demands for capital at unprecedented levels, can the industry continue to finance itself and if so, how?

Four years ago the gross investment required to produce one barrel of oil in the Middle East—i.e. find it, get it out of the ground and move it to a refinery or port—was $350. Now, according to the Chase Manhattan Bank, it is about $565. Costs, obviously are rising, and if they continue to do so petroleum companies may have to look elsewhere for capital. To put it another way, if the petroleum industry is to continue to finance most of its own growth, it must improve production and cut costs.

Many leaders in the industry say that most of the fat has already been trimmed. They argue too that increased sales volume will reduce unit costs by spreading

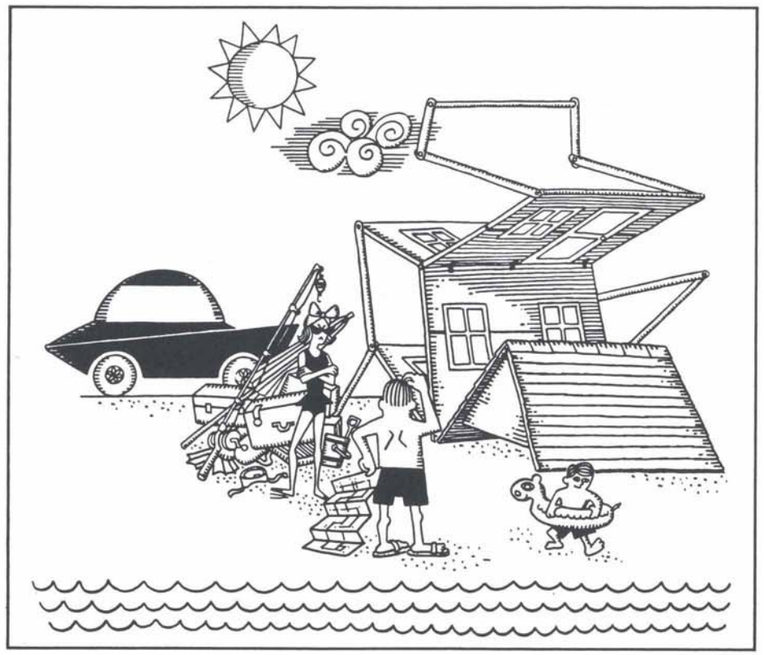
important questions: what kind of cars will they be and what type of fuel will they run on? In spite of talk about monorails and "people tubes," it is unlikely that they will offer a serious challenge to the automobile for some time. As the chairman of one of the American "Big Three" auto manufacturers has said, "For most travel purposes, no vehicle has yet been developed or even is in prospect that can equal the automobile for speed, comfort, convenience, privacy, economy..." But in the light of current conjecture about the kinds of power plants that will move the car of the future, and in view of the serious air contamination problem for which the gasoline engine is sometimes blamed, the petroleum industry must still ask the questions and try to answer them now.

The future of the automobile is not, of course, the only subject which holds population growth and economic development.

Population growth is particularly important in estimating future demands. By 1990 there will be, according to a *Fortune* survey, 5.7 billion people in the world —twice today's total—all of whom will be struggling, not merely to survive, but to improve their standard of living. In some cases this many mean exchanging a nylon toothbrush for an electric toothbrush, in others merely moving up from rice to bread. Whatever the nature of the improvements they inevitably affect economics. For although man's *needs* do not change, his *wants* do. A primitive community *needs* food—any food—but a sophisticated community *wants* strawberries at Christmas. And when enough people want and can afford something beyond basic needs, the effect sends shock waves through the economy. Industrialists

For the needs of the future, the prediction of the present...

ILLUSTRATIONS BY DONALD THOMPSON



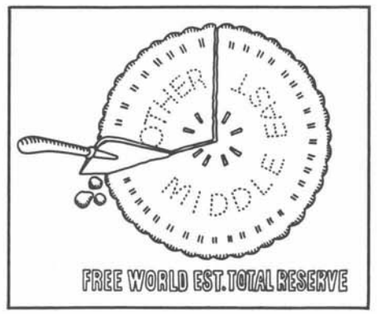
overhead and, to that extent, they're right. But in the Middle East, which is essentially a producing area, the major expenditures are for such uncertain, if vital, operations as exploration and drilling. As suggested earlier, finding oil is expensive: in 1965 Middle East companies spent about $40 million—a tenth of their total expenditures—on just lease rentals and geological and geophysical surveys. What this means is that there are strong incentives to improve exploration techniques—as, for example, the Arabian American Oil Company's marriage of advanced scientific knowledge with modern electronic data-processing.

Aramco was one of the first companies in the Middle East to start collecting seismic data suitable for computer processing. In 1956 its exploration parties began their first reproducible recordings of seismograph data. Seismic work involves the placement of small sound receivers, called geophones, in the sand of promising areas and linking them to a recording truck. When experts explode charges, shock waves bounce off subsurface structures deep in the earth. The geophones pick up the shock waves and convert them into electrical energy, which is routed to the truck. When these impulses are being magnetically recorded, they are transcribed directly onto a disc or tape. Later, Aramco analyzed this information in an analog processing center in Texas, and, eventually, provided geophysicists and geologists with graphic data on profiles of the sub-strata.

In November 1964, however, Aramco began to record the seismic data in digital form—a system in which an infinite variety of number symbols represents mathematically different variations of the electronic energy. Since these data could be processed on a computer, the system was faster and more sophisticated and reveals much more subtle variations in the profiles of the earth. It also gives the geophysicist much more detailed information, particularly of deep structures, on which to base his interpretations of the subsurface. To speed it up even more, Aramco has installed a complete digital seismic computer system right in Dhahran, thus eliminating the need to send the data away and making it possible to return processed data to exploration parties in the desert a few days after they have recorded it. This not only saves time but increases the probability of finding oil.

Another costly process is drilling. Despite all improvements in exploration, there is, so far, only one way to see if oil is there or not: drill down and see. And drilling wells is expensive. An analysis of recent annual oil industry capital investment compilations published by the Chase Manhattan Bank indicates that drilling activity accounts for about half of all oil capital outlays in the Middle East. Individual oil wells in the area cost between $300,000 and $500,000—whether they turn out to be producers or not.

To oilmen, however, the significant yardstick for drilling costs is the cost per foot. Over the last 10 years oil companies in the Middle East have succeeded in reducing the overall average cost per foot by about 30 per cent. This is quite an achievement when so much of their



equipment has been affected by rising prices of raw materials, particularly steel. How have they done it?

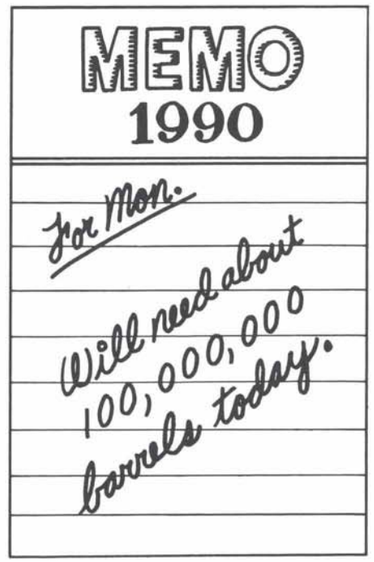
Again it is a story of the innovation of technology and the application of modern industrial techniques. One example of technological change is the drilling bit. By studying drilling bits petroleum engineers have discovered how they behave under different pressures and temperatures through different subsurface structures, and how to regulate weight, rotation speed and the pressure of drilling fluid of a particular density. Now they can drill faster, yet make the bits last longer.

Other changes have been achieved by simply analyzing every step in the drilling process. They studied and timed every operation: site preparation, rig transportation, drilling itself, lining the well with cement and casing, and even to tidying up afterwards. Then, by improving training here, planning better there, they halved the time taken to construct an oil well.

Today, as a result, the efficiency of drilling in the Middle East is vastly improved. In fact, if the cost per foot is related to the yield of the well, the average productivity of Middle East wells is probably the best in the world. Oil wells in the Middle East produce an average about 4,300 barrels per day, compared, for example, with the United States average of 14. And on a cost-per-foot-per-barrel-produced basis, Middle East costs are incomparably lower.

In the early days of oil the driller was the king of the mountain. Then, when the oil industry was scrambling to keep up with demand, the explorationist was the key man. Today it is the marketer. But in the next decade, according to one respected oil journal, the important man may well be the man who can "recover" the oil, i.e., help get oil out of wells that until now had to be left.

Under natural conditions, the pressure in an oil reservoir will decline with production. If the pressure is allowed to drop



to too low a level it will become necessary to pump the oil, and costs will increase drastically. With higher unit costs, ultimate economic recovery is reduced. By injecting gas, water or other fluids into an oil reservoir, production engineers can prevent the pressure decline and keep the amount of crude oil they can recover high. By injecting gas or water into its reservoir to maintain pressure, Aramco has been able to double the recoverable reserves in some of its oil fields.

In its relatively short history, oil recovery technology has already made remarkable advances. Over the past decade production engineers have developed increasingly accurate means of predicting how an oil reservoir will behave when different recovery methods are employed. Using computers, they have designed scale models that simulate the flow processes in oil-bearing strata so realistically that they can investigate the effect of various production and injection schemes and can select the method that results in the greatest ultimate economic recovery.

Whatever improvements in productivity and cost oil companies may take in exploration, drilling and oil recovery, however, they still have to move the oil to refineries or shipping terminals. And this grows more expensive almost by the well because as they develop new oil fields they have to build longer and often bigger pipelines. At the end of 1966, for example, the total gross investment in pipelines in the Middle East was over $1 billion. Only the United States had a higher figure.

Pipeline sizes and technology have advanced dramatically since the laying of the first line in the Middle East in 1934, when a 12-inch pipeline was laid 531 miles from Kirkuk, Iraq to Tripoli, Lebanon. Now, growing in size like runner beans, the usual diameter is 42 inches and Aramco's Safaniya pipeline demonstrates how important this increase in size can be. In 1965, Aramco started to construct a 42-inch pipeline from the Safaniya oil field to the shipping terminal at Ras Tanura, a distance of 130 miles. If they had not been able to install a line of that diameter they would have had to construct *three* lines with 26-inch diameters to provide the same volume. And the additional cost would have been $19 million.

These are just a few examples of what oil companies in a producing area such as the Middle East can do. Other such examples—cheaper and improved pumps, quicker loading at shipping terminals, cheaper maintenance, and so on—can be found, but they all add up to the same thing: the fact that oil companies in the Middle East are cutting costs and improving efficiency now in order to meet the challenges the future is sure to offer.

Keith Carmichael studied economics at Oxford and is now a free lance writer specializing in Middle East affairs.

Out of pain and loss, compassion and love...

THE STORY OF BERTHA VESTER

It was Sunday, December 9, 1917. Rain had soaked Jerusalem all night, but the sun rose in a clear sky over the Holy City, drying out the steaming mud in the roads and glinting from the leaves of the dripping trees. A sense of expectation gripped the people of the city, and with reason, for the sun had risen on what was to be the last day in four centuries of Turkish rule. A Western army was at the gates of the city for the first time since the Crusades, awaiting some sign that the Turks had retreated so it could capture Jerusalem as part of one of the most brilliant campaigns of World War I. That sign turned out to be a bedsheet from an American hospital, ripped in two and tied to a stick as an improvised surrender flag carried by the mayor to the British outposts. As the first British general rode into the city in mid-morning, the young woman who had supplied the sheet rushed down from her balcony and tearfully kissed his stirrup in thanksgiving.

The mayor died of pneumonia three weeks later, the bedsheet now hangs in the Imperial War Museum in London, and the British have long since gone home. But the woman who witnessed the delivery of the Holy City and who has been so much a part of its recent history is still in Jerusalem, her home for 86 years. Her name is Bertha Spafford Vester, but the people of Jerusalem, who have watched her care for the city's sick children for 42 years, have another name for her: they call her "mother of mercy."

BY ELIAS ANTAR

PHOTOGRAPHY BY ROBERT MOTTAR

Bertha Spafford Vester was born almost 40 years before that historic Sunday, in Lake View, Illinois, a quiet wooded suburb of Chicago so perfect in its serenity that the legacy of grief and suffering to which the child was born seemed incredible. It began with the Great Chicago Fire of 1871, seven years before Bertha was born. In the fire Horatio Spafford, her father, a prominent lawyer and father of four daughters, lost his law offices, a valuable library and most of the money he had invested in real estate just before the disaster. But that was just a preliminary shock. Shortly thereafter, on the advice of the family doctor, Horatio sent his wife Anna and his daughters to Europe on the liner *Ville du Havre*. He had planned to go along but just before they were to sail, he received an offer from a man who wanted to buy some of the land in which he had invested. He stayed behind and Anna and the children sailed for France.

At two o'clock in the morning of November 22, 1873, the *Ville du Havre* collided with a British ship in mid-Atlantic and sank. She dragged 226 souls down with her, including the Spaffords' four daughters. Anna was picked up by a rescue boat, unconscious. When she came to her senses, Mrs. Vester wrote later, "she lifted her soul to God in an agony of despair and humbly dedicated her life to His service." Once back in Chicago, Anna plunged into philanthropic and religious work to keep herself from going mad with grief.

And there was more to come. In 1879 a new baby, Horatio, who, with Bertha had seemed to promise a new life for the family, caught scarlet fever and died. A year after that the Spaffords broke with their church in a bitter public quarrel.

Although staunch Presbyterians the Spaffords, after what they had suffered, could neither accept the idea that their children could not have gone to Heaven —as Presbyterian dogma suggested—nor believed that their suffering was in retribution for their sins—as some of the church elders hinted. Horatio voiced his views openly, and, as a result, was expelled from the church. When some of his friends backed him they were expelled too. Soon the press took up the issue and subjected the Spaffords to a campaign of ridicule.

It was too much. Horatio decided to take his family to the Holy Land, hoping to renew and strengthen his faith. So, with several friends, he set out, arriving in September, 1881, when Bertha was three years old. There he began what was to be his and his family's life's work.

"I do not remember my first glimpse of Jerusalem. To me, it has always been home," Mrs. Vester wrote in her book, *Our Jerusalem*. The group lived together in a rented house on the highest part of the city walls near the Damascus Gate and soon became known as the "American Colony." In their first few months in Jerusalem, they made friendships that were to last for generations, through drought, famine, war and better times.

One of the earliest friends Mrs. Vester remembers was a stocky, blue-eyed Englishman with an authoritative bearing, who was spending a year studying Biblical history in Jerusalem. He used to bounce her on his knee and tell her stories while they sat on the roof of the colony's house and admired the view: the Mount of Olives on the left, the Garden of Gethsemane and the famous Dome of the Rock in the center, the huge dome of the Church of the Holy Sepulcher on the right and all the hundreds of spires, towers, steeples and cupolas that form the skyline of the Holy City. "I hero-worshiped him," she says of General Charles "Chinese" Gordon, the hero of Sebastopol, recently Governor-General of the Sudan and later to be England's martyred hero at Khartoum. "He was not very tall, and had fair, curly hair, and I remember how blue his eyes were, and the double-breasted suit he wore," Mrs. Vester wrote. "I did not know General Gordon was famous, only that he was my friend, and I loved him." One day she heard Gordon use the word "damn." A few nights later, young Bertha was asked what she wanted for supper and retorted: "Damn it, I'll have bread and milk." For many years afterward, she was puzzled why her mother smiled indulgently when General Gordon used the word but spanked her when *she* said it.

It was about a year later that Horatio took his family and members of the colony on a long excursion into Bedouin country, east of the Jordan River. They were the guests of the paramount chief of the powerful Adwan tribe. "I was the first Western child many of those tribesmen had ever seen," Mrs. Vester wrote. "They stroked my long hair, and some of them took off my shoes to count my toes. They liked me so much that I was initiated into the tribe." The Bedouins called her "Murtha," the nearest they could get to pronouncing her name, and ate salt and bread with her as a sign of lifelong friendship. Even today, occasionally a wizened old shaikh will come up to Mrs. Vester, peer at her with faded eyes and ask: "Is this not Murtha Adwan?"

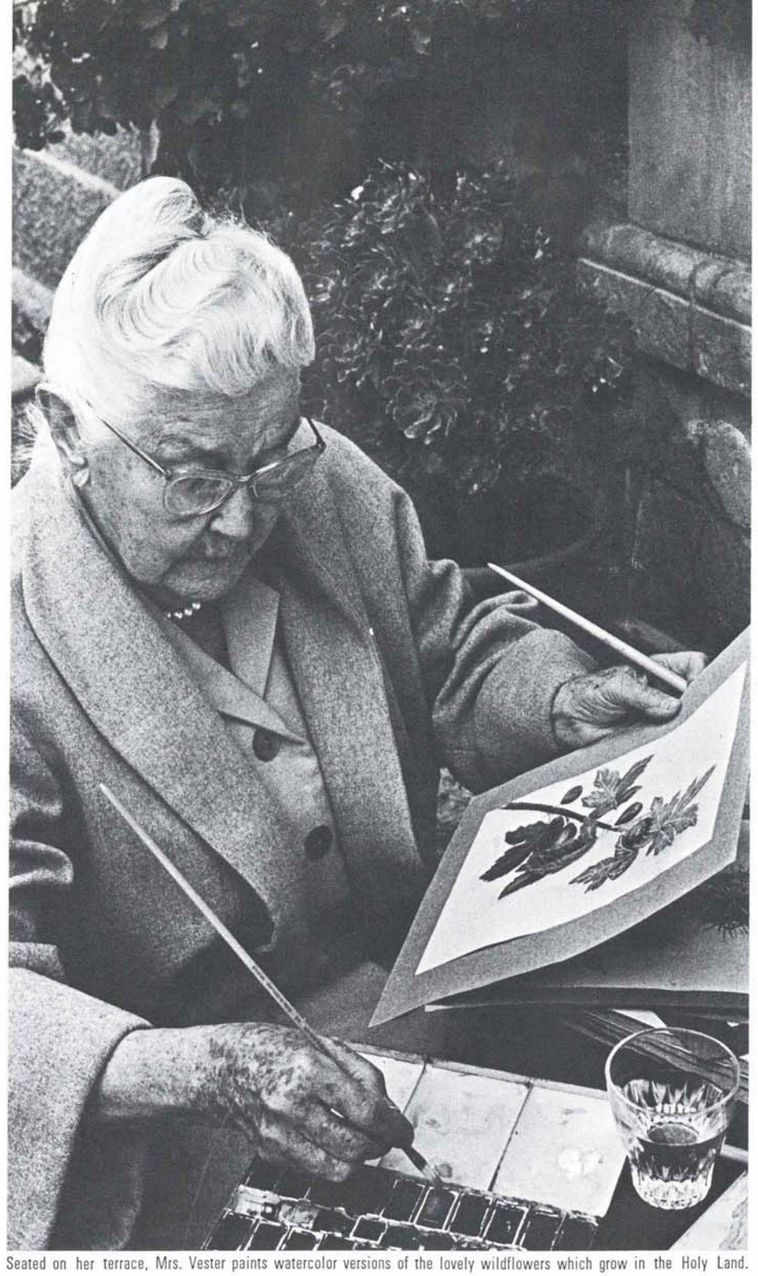
Shortly after the colony settled in Jerusalem, the members began doing welfare work among the inhabitants. Palestine was then under Turkish rule and hygienic conditions were poor, doctors scarce, and ignorance widespread. The colony members taught mothers how to care for their children, began holding English and Bible classes, advised the farmers of the region on how to improve their crops, and cared for visitors. Horatio sent for seeds from abroad and planted the first potatoes and the first eucalyptus trees in the Holy Land, a welcome addition to the almost deforested landscape of those times. "It was settlement work, only the phrase hadn't been coined yet," explains Bertha Vester.

The increasing numbers of the poor and destitute that gravitated to the colony to be fed, clothed and lodged often left Spafford and his group in debt, and time and again he had to draw on the little money remaining in Chicago. In leaner times, the local friends of the colony would chip in with gifts of bread, mutton, sweets and other food, and foreign visitors, seeing the good work being done, would make financial contributions.

Horatio Spafford died in 1888, and the burden of heading the colony and supervising the welfare work fell on Anna's shoulders. When Bertha grew into a young woman, she became the principal of the only school for Muslim girls in Palestine and a leader in the civic affairs of the city—one often consulted by the Turkish authorities or the Arab mayor on improvements and innovations. Most important foreign visitors to Jerusalem stayed at the colony, and Bertha was usually delegated to show the visitor the sights. Among them were Gertrude Bell, one of the most famous English experts on the Middle East, and H. Rider Haggard, the then-famous author of *She* and *King Solomon's Mines*. Other visitors to the colony in those days were the German vice-consul and his wife, who occasionally came to tea. "Whenever they did," says Mrs. Vester, "they

Sometimes, on a pleasant afternoon, Mrs. Vester joins her eldest son, Horatio, and her daughter-in-law for tea and conversation in the peaceful garden courtyard of the American Colony Hotel.

Her son now runs the hotel, one of Jerusalem's most famous.



Seated on her terrace, Mrs. Vester paints watercolor versions of the lovely wildflowers which grow in the Holy Land.

brought their son Rudolf along with them. He was a terrible nuisance. He meddled in everything and was very inquisitive, and there was no peace when he was about." There wasn't any when he grew up either. He was Rudolf Hess—the same Rudolf Hess who rose to the No. 3 position in Adolf Hitler's Germany, who parachuted into England during the war and who is now the only war criminal still held in Berlin's Spandau prison, where he is serving a life sentence.

As the years went by and the colony expanded, the members moved into a cluster of arched stone villas outside the city walls, the largest of which had been the palace of a pasha, and was one of the first dwellings built outside the walls since Roman times. There, after Bertha's marriage to Frederick Vester in 1904, they managed to get their operation on a sound financial footing. Mr. Vester, a Swiss-German member of the colony, put it on a business basis, with a gift shop, a hotel, a pig-raising venture, a car-rental agency, and a photography studio. The colony promoted handicrafts, dressmaking and tailoring, set up an insurance agency, imported the first steam roller into the Holy Land, introduced the first telephone to Jerusalem and used the profits from these ventures for its welfare work.

In 1898, city officials, many of whom had been educated at the colony, asked Bertha to help prepare for the visit of Kaiser Wilhelm II and his wife. "The Kaiser entered the Jaffa Gate on a white charger, wearing the gorgeous white Uhlan uniform, with dazzling and burnished helmet surmounted by the German eagle," she recalls. "He was wearing a white and gold Arab headcloth under the spreading eagle, and over his white uniform was a white silk cloak with gold threads running though it that sparkled in the sunlight. He was not only an artist in his choice of a costume to impress his audience, but also an actor." Later, during the Kaiser's visit, the imperial party drove past the American Colony and stopped at a narrow bend near the gate. The Kaiser stepped down from his carriage and was seen in earnest conversation with his Turkish hosts. Bertha later was told he had been remarking that the bend in the road was too narrow to allow cannon to pass. Sixteen years later, Bertha looked on in anguish as German cannon negotiated that same bend to fight the British army in Palestine. It had been widened in time for World War I.

The coming of war, bringing with it misery, disease and death, proved to be the supreme moment of service for the colony, and Bertha Vester in particular. Jerusalem was crammed with refugees from the coastal cities, there was little food, and medicine and other necessities were in short supply because of the fighting. Mrs. Vester organized an embroidery industry among women whose husbands

had been drafted into the Turkish army, hoping they could earn money by selling the handicrafts in the United States, which had not yet entered the war. But it had to be closed down when the women became too weak from hunger to work. She then wrote to a friend in Michigan asking him to collect donations to set up a soup kitchen, which eventually was feeding 2,400 people a day. But one morning, a German major appeared and ordered the soup kitchen closed because, he charged, "It is American propaganda." The great battles of the Suez Canal and Gaza had filled Jerusalem with Turkish wounded and British prisoners, who were left lying in the roads for hours because there was nobody to take care of them. This prompted Mrs. Vester to go and see the dreaded Turkish general Jemal Pasha, who held life-and-death powers over Jerusalem.

"He kept us waiting in the anteroom, and when he arrived, his manner was not gracious," Mrs. Vester recalls. This was understandable; the United States had broken diplomatic relations with Turkey on that very day.

"We have come to offer our services to the wounded, Your Excellency," Mrs. Vester informed him. Jemal Pasha bristled, told them about the U.S. entry into the war, then thundered: "And now, after hearing what I have just said, are you still willing to nurse our wounded?"

"I told him we had offered to nurse neither friends nor foes, just humanity," Mrs. Vester says. Jemal Pasha was taken aback, but he turned over one Turkish hospital to the colony, then three more in rapid succession, plus a casualty clearing station. The Turks were so impressed by the colony's efficient work that they asked Mrs. Vester to run *their* soup kitchen. Soon the kitchen was feeding 6,000 people a day and there was food for even those at the end of the line. Some of Bertha's work was grisly: she once had to amputate both arms of a Turkish soldier who had had a grenade go off in his hands; another time she removed a bullet-torn eye. "I had to; there was no one else," she says. Once, three battle-crazed Ghurka prisoners sat down on the floor of the casualty clearing station and one of them pulled out a grenade, waiting for the right moment to set it off. "To send in a man to disarm them would be the challenge they were waiting for. As a woman, I might appeal to them," she says. She walked in casually with a big smile, patted the Ghurkas on the back, gently took away the grenade and walked out again. "By the time I got rid of it, I was shaking all over."

When the British took over from the Turks after the surrender of the city, Jerusalem was in chaos. The colony had long since run out of funds, but needed help more than ever to care for the needy. The British military authorities gave the colony all the help they could, and in return received invaluable advice from Mrs. Vester on the affairs of the city. Field Marshal Allenby was a frequent caller at the colony, and so were Lawrence of Arabia and Colonel Ronald Storrs, military governor of the city. "Mrs. Vester was the uncrowned queen of Jerusalem," recalls one of her acquaintances. Mrs. Vester remembers Allenby as "a very nice, gracious, kind man," but found Lawrence difficult and curt. He was abrupt with her at their first meeting, "So I did not speak to him when I next met him at a dinner, although he was my partner at the table. At the end of the meal, just as we were getting up to go into the drawing room, he leaned over and said smilingly: 'Now, we're quits.' We were friends after that, but he was not an easy man to understand."

On a busy day Mrs. Vester talks fashions with her tailor ...

... enjoys an amusing chat with a visitor at the hotel ...

... and autographs a copy of her book to help the hospital.

On Christmas Eve, 1925, Mrs. Vester was leaving for Bethlehem to lead the first carol singing ever held in the fields "where shepherds watched their flocks by night," when she met a young Arab mother and her husband, carrying a tiny infant wrapped in a bundle. The woman was obviously very sick and needed care, but her husband said Jerusalem's general hospital was closed to outpatients because of the holiday. Mrs. Vester got the sick woman admitted, but during the night the woman died and the husband begged Mrs. Vester to take care of his son. She agreed, not knowing that it was the beginning of what was to become her most important work: the care of the sick children of the Holy Land. In the 41 years since Mrs. Vester founded it, the Anna Spafford Memorial Children's Hospital has cared for thousands of sick babies from Jerusalem and its surroundings. It is still the only hospital in the Jerusalem area exclusively devoted to child care and it is still housed in the big house atop the city walls where Horatio Spafford founded the colony so many years ago. Before 1965, the hospital included an adult outpatient clinic that cared for an average 50,000 persons a year, but this department has since been closed so that all available funds and resources can be concentrated on the babies.

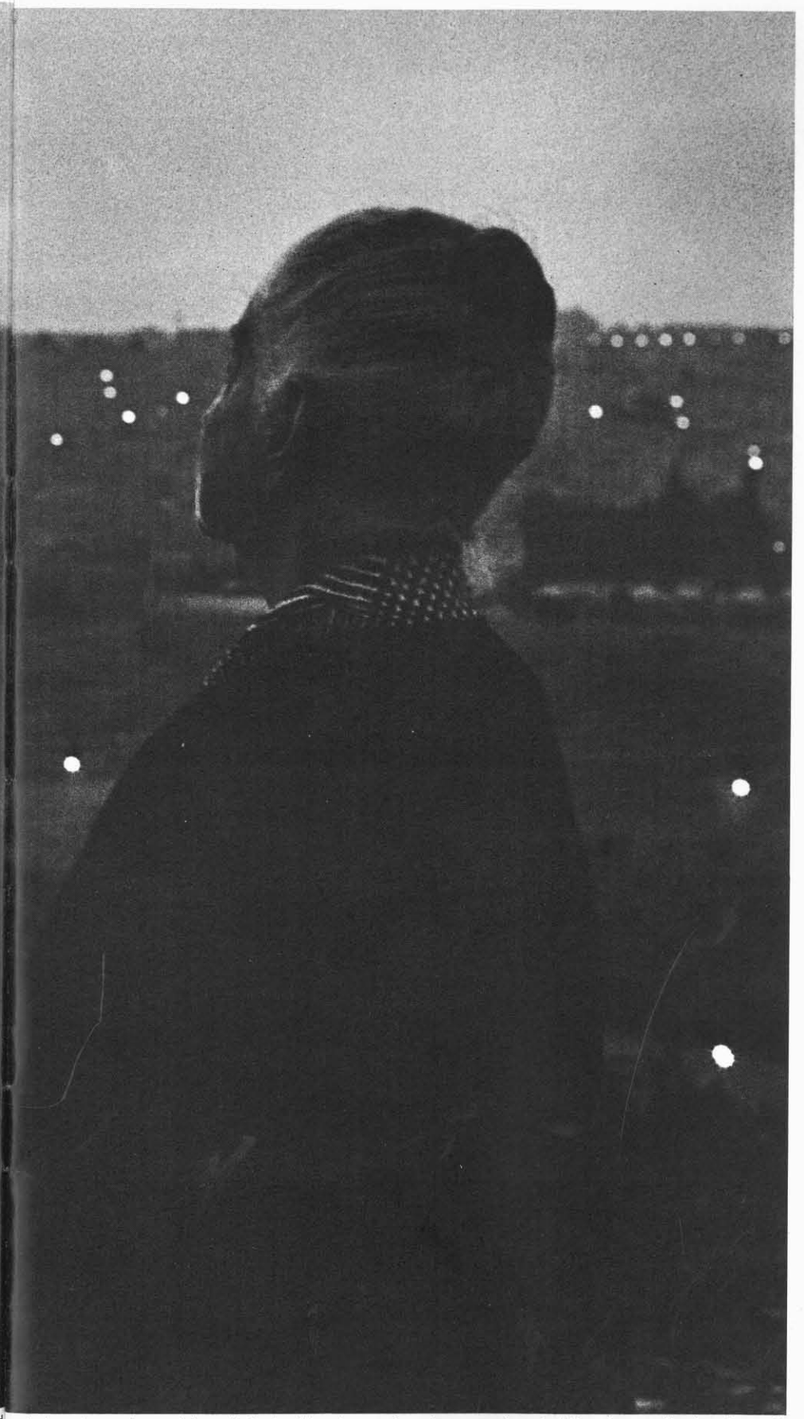
The hospital today has room for 60 beds and includes an up-to-date surgery and an infant welfare center, to which babies from Jerusalem and 60 surrounding villages come for regular care. A hospital nurse also makes the village rounds to give advice to mothers and periodically examine children who have been patients in the hospital. "We make the parents pay purely nominal sums so that they do not feel that the care they get is charity, so that they can feel they are human beings," says Dr. Mahmoud Dajani, the hospital's medical director. Dr. Dajani, a graduate of the American University of Beirut, is assisted by his cousin, Dr. Hassan Dajani, a specialist in children's diseases. The director shares Mrs. Vester's deep belief in prayer. "Whenever we have a particularly difficult operation, I phone Mrs. Vester and ask her to help me pray," he says. The hospital's work is maintained by funds collected in the United States and elsewhere by the American Colony Charities Association, Inc. In 1964, 1,710 babies were admitted to the hospital, and almost 1,000 mothers attended nutrition and infant care classes.

Until she broke her hip a few years ago, Mrs. Vester, who was 89 in March, took an active interest in the hospital. Since the accident, she has reluctantly handed over control to one of her daughters, "although I still have to go there once in a while to make sure things are going well."

The colony, in the old sense of an organized religious group, no longer exists. The cluster of villas has become one of the most gracious hotels in Jerusalem and is run by Mrs. Vester's eldest son, Horatio. Mrs. Vester occupies herself with correspondence concerning the hospital, still her main interest. Despite her hip injury, she moves around aided only by a cane, and, with her snow-white hair, bright smile and slow walk, looks like a rather frail old lady. "But she's the toughest frail old lady you'll ever meet," says an American acquaintance. Dr. Norman Vincent Peale once called her "a curiously fascinating combination of gentle feminity and rugged force," and a friend confides: "She still goes to all the parties and gets furious if she isn't invited." During the visit to Jerusalem of Pope Paul VI in January 1964, everyone went up to the roof of the American Colony to watch. It was so bitterly cold, though," says a friend, "that everyone came down again—everyone, that is, except Bertha. She stayed."

Mrs. Vester spends most of her time now in her drawing room, whose walls are hung with oriental tapestries and pictures of the friends she has made through the years. In one corner are two photograph albums that contain invaluable pictorial documentation of the Holy City under the Turks and, later, the British. On a sideboard are two more recent photographs, one of President Kennedy and the other

Carried in her own special "chair-lift" because of a broken hip, Mrs. Vester makes a visit to the children's hospital which she founded inside the old walled city of Jerusalem.



At 89, Bertha Spafford Vester looks out at twilight from the Mount of Olives across the Valley of Kedron and the Valley of Hinnom towards her Jerusalem, the Holy City in Jordan where she went as a child and where she stayed to work devotedly for the sick and poor and earn from generations of children the name "mother of mercy".

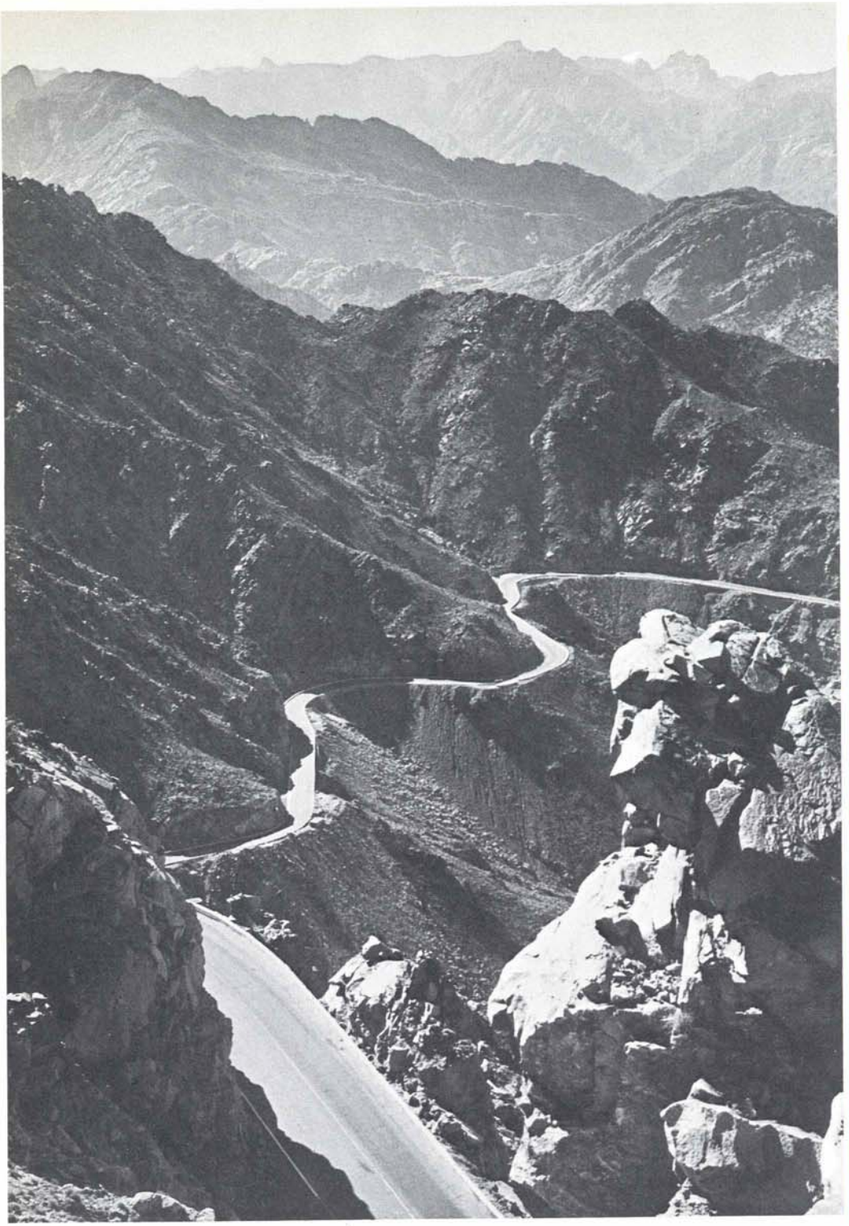
of President Johnson, both personally autographed. "They have a very interesting story," she says with a sparkle in her dark blue eyes. "I was very fond of President Kennedy, although I never met him, and I would never allow anyone to criticize him in my house. One day, I overheard a group of people in the hotel lobby making disparaging remarks about the President. I knew they would be coming to see me, and might say the same things in my presence. What could I do?

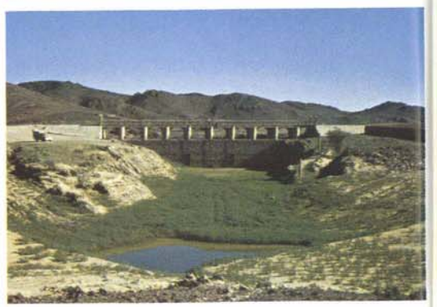
"I cut out a newspaper photo of the President and stuck it in a frame, and sure enough, when the visitors came in, they didn't say a thing against him. Later, when Hubert Humphrey, now Vice-President, came to visit Jordan, our ambassador told him the story, and Humphrey repeated it to President Kennedy back in Washington. The President very kindly sent me his portrait with a letter thanking me for my loyalty, and asking me to put it in the frame instead of the one from the newspaper."

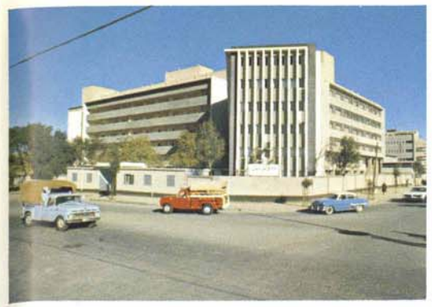
Johnson's picture was sent to her after a 1964 visit by Sargent Shriver, then head of the Peace Corps. Mr. Shriver asked her why she displayed Kennedy's portrait and not Johnson's. "I told him no one ever gave me one. Mr. Shriver told President Johnson that the oldest American citizen in the Holy City did not have a picture of her president. So President Johnson very kindly sent me his picture."

In 1963, King Hussein awarded Mrs. Vester the Jordanian Star in recognition of her "praiseworthy qualities," as His Majesty's citation read. She is the only Christian woman ever to have received the award. But perhaps the most touching tribute is a cement ramp which partly fills in a street of steps leading from Herod's Gate up to the children's hospital. In Jerusalem, where hardly a stone is moved without official sanction, the government allowed the steps to be filled in so Mrs. Vester could be wheeled up to visit her beloved babies.

Elias Antar, now a reporter for the Associated Press stationed in Beirut, was formerly the assistant Middle East correspondent for the National Broadcasting Company. Educated in Cairo, he speaks and writes Arabic, Italian, French and English.







"All good men want to visit Mecca," an old Bedouin once said, "and they want to die in Taif."

You have to see Taif to understand. The city sits in the mountains of the Hijaz, 5,000 feet up, where the air is clear and cool and the rains splash down from the sky to rinse the dust away and grow wonderful things to eat. It is only 73 miles east of steaming Jiddah but the real direction is up—up where the air is as clear as a good white wine and the sunshine has a taste of lemon in it.

People feel better in Taif and it isn't simply that they have escaped the stifling heat of the Red Sea coast. It is a whole change in attitude—a crisp, alive feeling that for an hour, or a day, or for however long you are privileged to stay in Taif, helps you to forget the hard demands of life on the arid plain below.

Normally the population of Taif is about 75,000. But when the summer heat settles down over Mecca, Medina and Jiddah, the main cities of the western coast of Saudi Arabia, the "summer people"—residents, visitors, pilgrims to Mecca plus many government officials—pour in by the thousands. No one knows how many really come but at the peak of the season you can't even rent a rope cot in a coffee house without a reservation. Months before the hot weather begins, in fact, most hotel rooms, most apartments and most spare rooms have been reserved. Outside the city, whole communities of tents spring up and some visitors counting on the generally rainless summer nights, simply spread their blankets on the ground beneath the stars. In the swank Aziziyah Hotel owner Na'im Idris packs 24 rooms and four suites with well-heeled merchants and well-to-do pilgrims who shell out the equivalent of $25 a day for accommodations and meals. In the hot season, it would be easier to rent a flying carpet than to walk into the Aziziyah and get a room without a reservation.

When people talk about Taif, they always seem to use the word "colorful." That's because color dominates the city. Unlike most desert communities where buildings are the color of sand, in Taif they are painted

In the mountains of the Hijaz, nearly a mile in the sky . . .

TAIF: CITY OF COLOR

BY FRANK T. BOYLAN PHOTOGRAPHY BY KHALIL ABOU EL-NASR

In a wadi south of Taif, an ancient stone dam, Sud Samallaq, still stands, strong and high, wide as a modern highway.

yellow, gray, ochre, light green, and white. Bright three- and four-story buildings stand in the center of town, where throngs of shoppers jostle each other between glinting cars and trucks carrying fruit and flowers and bricks and books. Vivid green trees sway against the sides of the gray mountains whose peaks run together like the notches on a saw. Below the peaks strange dark walls wobble off like long shoelaces, probably as an ancient way of controlling grazing animals. White sheep crop grass near the walls, while a new black highway snakes through the country-side where purple grapes wink through green leaves and orchards of apricots lean over mud walls like women talking across the back fence.

The center of the town is a busy place. Shops carry every product made in the Arab world, as well as many imported from Europe and the United States. Red rugs hang above crowded *suqs* where the unveiled women of the Hijaz sit and sell fresh figs and pomegranates to men from Afghanistan as well as men from the Hadhramaut, men from Indonesia, men from the Najd and even men from Algeria and Yugoslavia. Children carry school books as they stand in their blue *thobes* listening to an old man with white whiskers sell a watermelon that he holds in his hands as he talks. Over some shops around the town's heart, heaps of crooked firewood wait to be sold, piled high on the roofs like a witch's tangled hair, and out at the edge of town in an area specializing in hides and rope there are piled the warm, woolen, nubby cloaks called *bidis*. Bidis are woven in Taif—indeed are the last remnants of an important textile industry—and are popular with shepherds who must work on the wintry mountain sides or track their herds on the cold desert nights in December.

Taif, they say, makes a man feel young. But the city itself is old. People lived inside Taif's walls before history began. The name, indeed, means "to encircle or surround." Some signs of the ancient past still survive. There is the statue of Allat, a pre-Islamic goddess, standing on a tower of red granite not far from the Taif-Mecca highway, a statue, incidentally, that only a few people have seen. There are the deserted ancient dams in obscure wadis, one bearing an inscription that reads, "Built by Abdullah Ibrahim by Allah's instructions, 59 Anno Hegira." (A.D. 680.) This dam, nearly 13 centuries old, was constructed without a spoonful of cement. Instead the blocks were cut to fit —like the pyramids—and, despite its disrepair looks every bit as strong as the spanking new Akramah Dam that helps irrigate farms today.

In the years that have passed since the days of Muhammad, Taif has survived the storms of nature and the grief of man. Its wadis have gone dry, its great dams have fallen into disrepair and its fame as a center of textiles and leather has faded and vanished. For years it lived under the iron rule of the Turks whose stay is still marked by the Shruba Palace, a handsome, four-story building of Taif's own distinctive red granite. And here, in 1953, Taif—and all Saudi Arabia—lost its greatest leader, King 'Abd al-'Aziz. Even now people of Taif talk of the day when His Majesty suffered a heart attack but refused to leave Taif and how, before he died, the city had to face the monumental task of finding quarters for the throngs who came with their families to mourn his passing.

Today, of course, as in all parts of Saudi Arabia, the modern world is crowding in. With a new road to bring in visitors, and what amounts to a regular air shuttle from the country's major cities in the summer, the city is expanding every year. The walls gave way to growth 20 years ago and still the city spreads. Where pilgrims and other visitors once hobbled up the long mountain road on foot, they now come by car, by bus, by jet. Most do not stay of course, but many do—to breathe its air, absorb its color, rest and—the lucky ones—perhaps end their lives in peace.

Frank T. Boylan holds A.B. and M.A. degrees from Loyola University in Chicago and is now an instructor in Aramco's Industrial Training Center at Ras Tanura.

A stone watchtower from less peaceful times stands deserted.