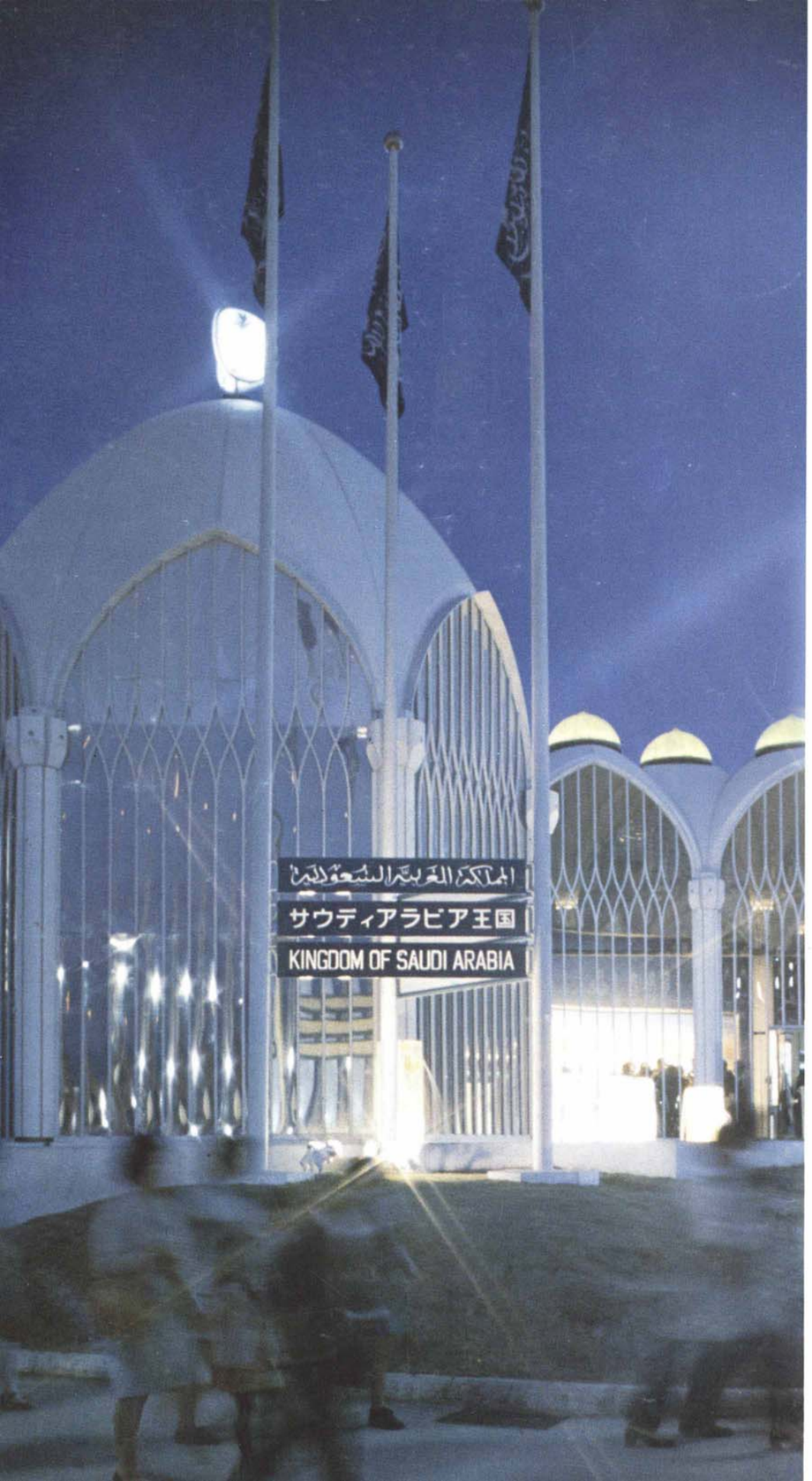

ARAMCO WORLD
magazine
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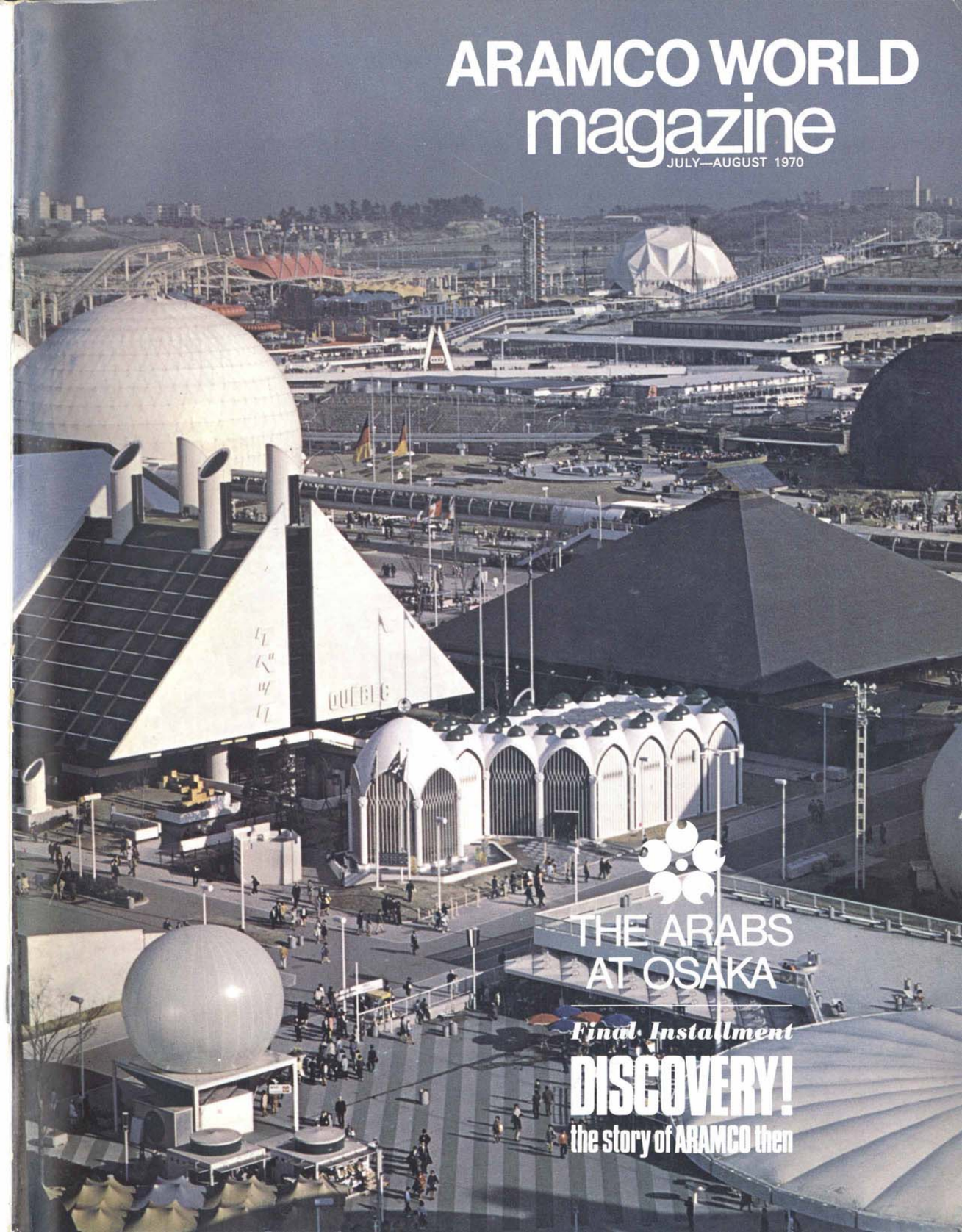
ARAMCO WORLD magazine

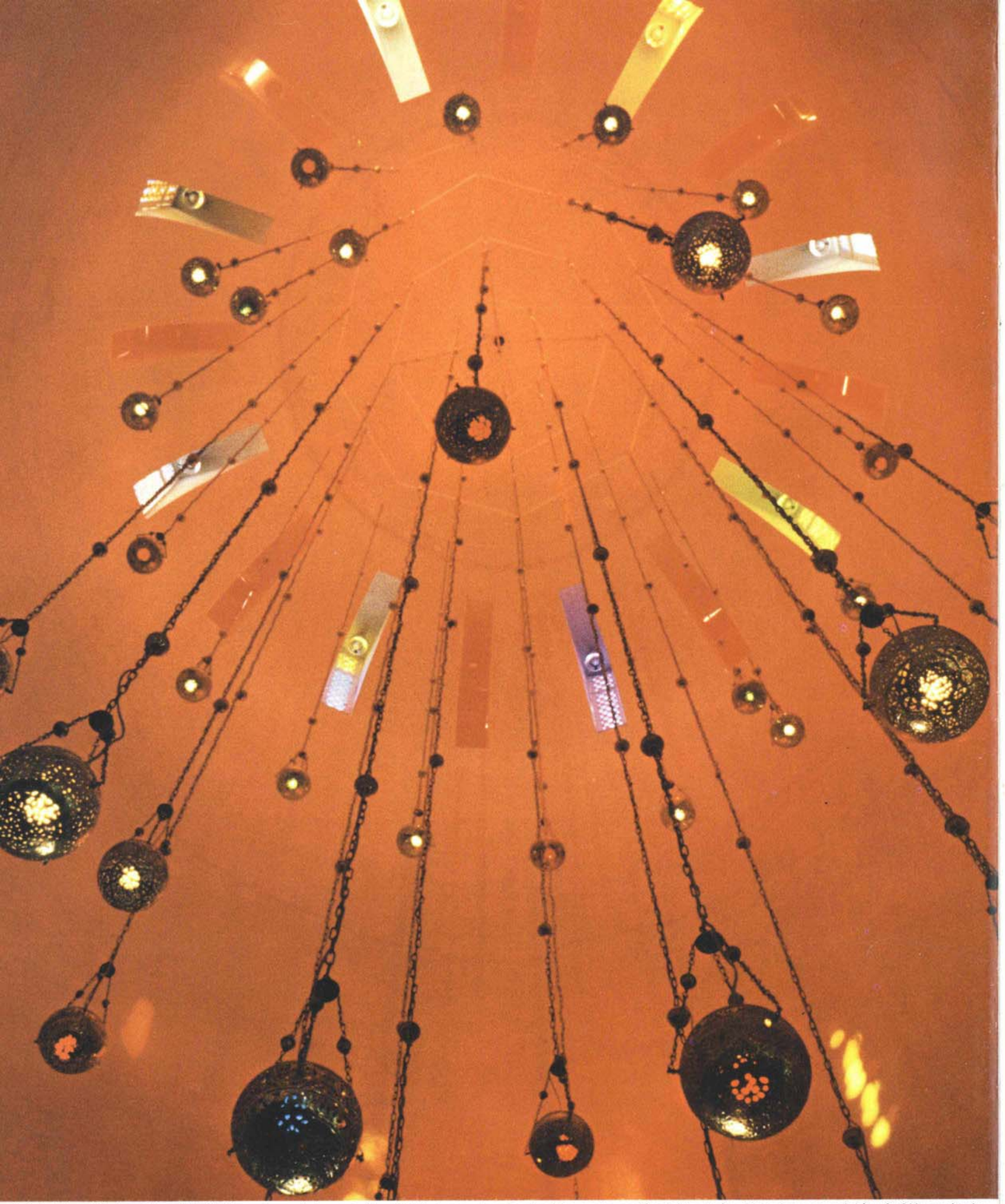
JULY—AUGUST 1970



THE ARABS AT OSAKA

Final Installment

DISCOVERY!
the story of ARAMCO then



At Osaka's Expo '70, the pavilion of Abu Dhabi reproduces a fortress out of the shaikhdom's romantic past and enriches one tower with a striking display of brass lamps suspended from its iridescent interior.

ARAMCO WORLD magazine

VOL. 21 NO. 4 PUBLISHED BIMONTHLY JULY-AUGUST 1970

U.S. readers are asked to send all changes of address to Aramco World Magazine, c/o 1345 Avenue of the Americas, New York, N.Y., 10019.

Published by the Arabian American Oil Company, a Corporation, 1345 Avenue of the Americas, New York, N.Y. 10019; L. F. Hills, President; J. J. Johnston, Secretary; E. G. Voss, Treasurer. Paul F. Hoye, Editor. Designed and printed in Beirut, Lebanon, by the Middle East Export Press, Inc. Distributed without charge to a limited number of readers with an interest in Aramco, the oil industry, or the history, culture, geography and economy of the Middle East. Correspondence concerning Aramco World Magazine should be addressed to T. O. Phillips, Manager, Public Relations, Arabian American Oil Company, 1345 Avenue of the Americas, New York, N. Y. 10019 or to The Editor, Box 4002, Beirut, Lebanon.

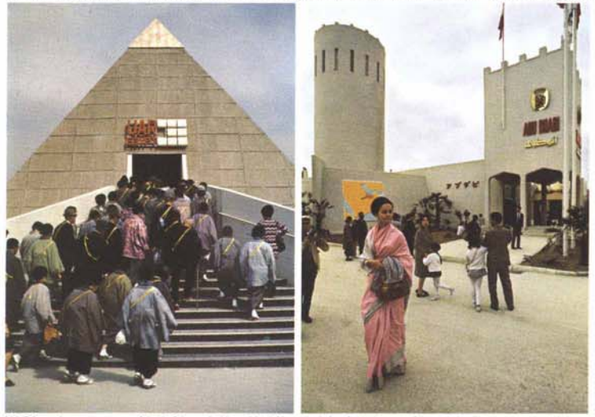
Cover: Amid the futuristic shapes and unrestrained colors of Expo '70's 100-odd pavilions, the more traditional white arches, gold panels and green domes of the Saudi Arabian pavilion strike a rare note of tasteful austerity—one reason, perhaps why some two million Japanese tourists have already visited the pavilion. Story on page 1.

BY PAUL F. HOYE Editor, Aramco World Magazine

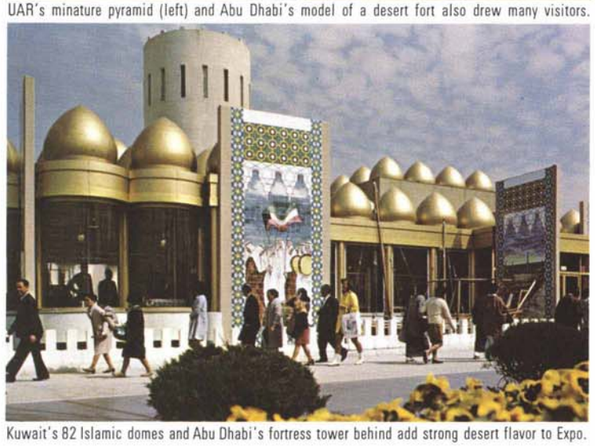
PHOTOGRAPHED BY BURNETT H. MOODY
Chief Photographer, The Arabian American Oil Company

THE ARABS AT OSAKA

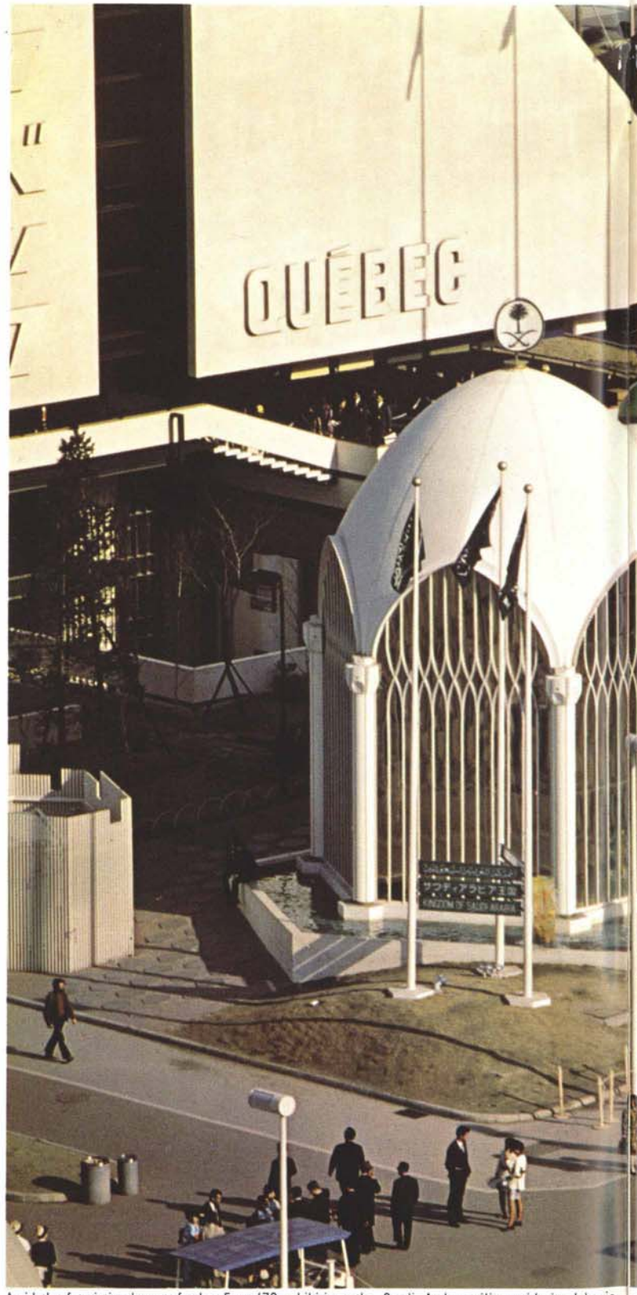
Of the five Arab pavilions Algeria's Paris-designed building is the costliest and the biggest.



UAR's minature pyramid (left) and Abu Dhabi's model of a desert fort also drew many visitors.



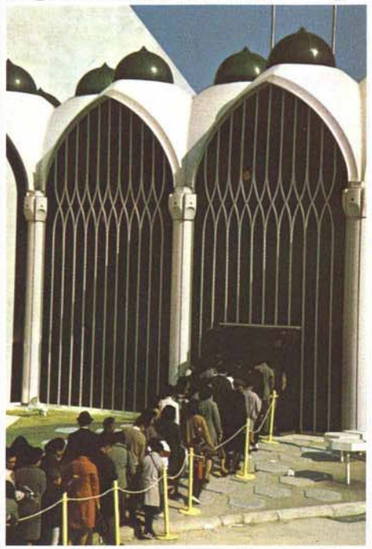
Kuwait's 82 Islamic domes and Abu Dhabi's fortress tower behind add strong desert flavor to Expo.



Amid the futuristic shapes of other Expo '70 exhibitions the Saudi Arab pavilion with its Islamic-Arabesque lines, gold panels and green domes seems oddly pristine. According to architects, however, the contrast was a deliberate choice intended to suggest that Islam can exist and thrive in a modern context.

In the Saudi General Exhibit Hall lighted panels depict the kingdom's emergence as a modern nation. In the center an "oil drill" in a glass "casing" probes a bubbling "oil well," symbol of the industry that has made rapid progress possible.

SAND?



Send SAND to Japan?

To everyone's astonishment a chief attraction at Saudi exhibit was some red sand from the Dahna desert.

OSAKA. — Three weeks after Japan opened Expo '70, officials in Riyadh, capital of Saudi Arabia, received a puzzling cable from the kingdom's Commissioner General to the exposition. "SEND MORE SAND STOP PAVILION PROVING POPULAR."

Sand? Send more sand ten thousand miles to Japan? Can the Commissioner General be serious?

Yes, the Commissioner General, one Bakri S. Shata, was serious. He wanted sand because a small, almost incidental display of sand from the famous red dunes of Dahna was boosting attendance figures to quite unexpected levels. Indeed, by 3:50 p.m. April 14, less than a month after Expo opened, one million people had visited the pavilion. "We counted," reported Mr. Shata happily, "as many as 40,000 people a day weekends and not less than 24,000 weekdays. That's four times our most optimistic estimate."

With refreshing candor Mr. Shata acknowledged that was due more to good fortune than brilliance. The location was excellent. Newspapers had carried a story about Mr. Shata's five-year-old daughter learning some Japanese at kindergarten. And the Kansai Telecasting Corporation chose Saudi Arabia's pavilion as one of ten "unique and outstanding" pavilions to be featured on a three-hour telecast of Inauguration Day ceremonies. That meant that with most of Japan glued to their Sonys for Asia's first international exhibition, the Saudi pavilion, red sand and all, went out in living color to nearly 100 million people. The next day the crowds began to come.

For Saudi Arabia, making its debut on the international exposition circuit, it was a welcome windfall. In line with King Faisal's efforts to channel more funds into the kingdom's basic needs, the allotment for the fair was comparatively modest—certainly not enough, most people thought, to pay for more than a token display.

In choosing their architects, however, the kingdom's representatives chanced on two teams of professionals who refused to simply go through the motions. The Kawashima Architectural Design Office and the Dainippon Printing Co. Ltd., the decorating firm, dispatched two teams of researchers to Saudi Arabia to ground themselves in Islamic thinking, compile data and accumulate the materials they would need to capture, in a meager 4,800 square feet, the flavor of a country in which dynamic social changes and an ancient religious code go hand in hand.

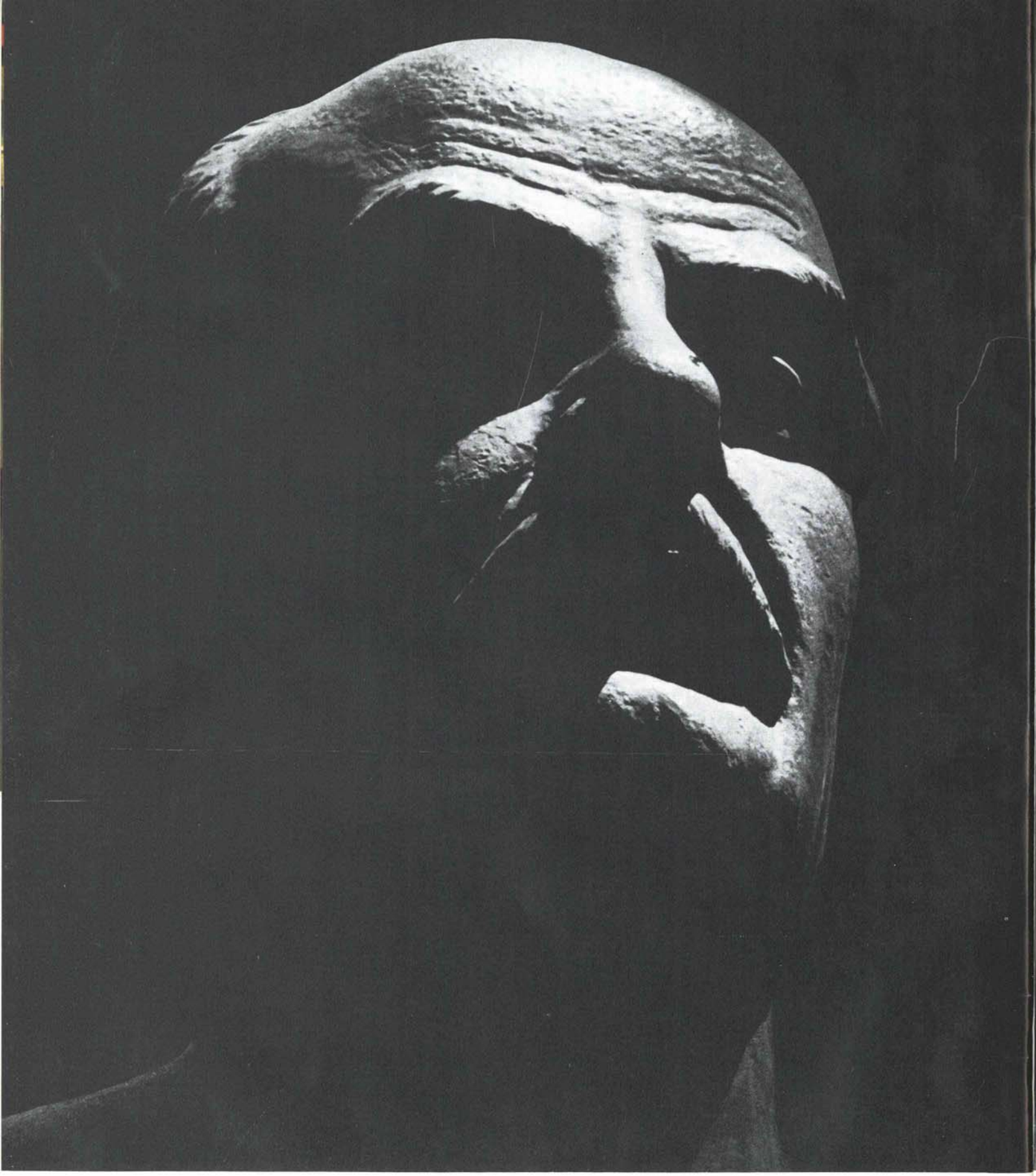
At first sight, admittedly, the pavilion that came out of that planning appears to express much more of the old than the new. Amid the chaotic collection of bizarre structures tilted drunkenly against the wild and wildly colored Expo skyline, the Saudi pavilion with chaste white arches, green domes and pale golden panels, seems inappropriately austere. Inside, however, past the attendants busily stamping the Saudi Expo seal on pads and programs, the exhibition is as modern as a missile, as busy as an assembly line. Lights flash. Drums throb. King Faisal speaks. Bedouins chant. On television screens Arabian horses gallop across the desert. In the center of the displays an oil drilling string turns endlessly in a glass casing and dark gouts of oil bubble out of a seething pool.

The layout is simple: an entrance hall with a mural and a portrait of the King, the central exhibit circled with lighted panels stressing educational, industrial and agricultural progress and, off to one side, an angular bank of red Dahna sand with visitors filing past, stooping to touch it, run it through their hands and surreptitiously drop a few grains into their pockets.

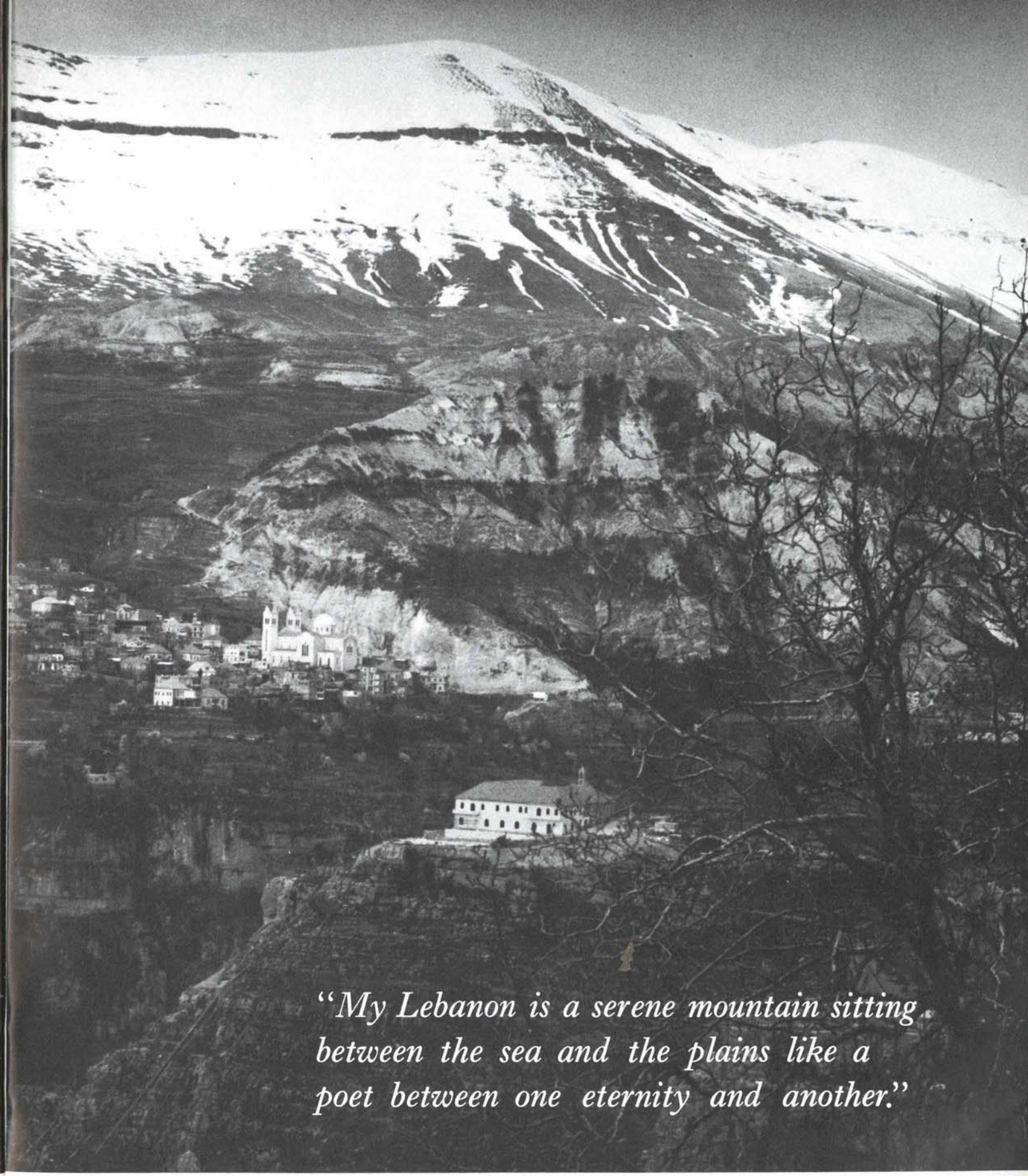
The last hall is a display of Koranic extracts in Japanese, an enormous reproduction of a *National Geographic* transparency showing pilgrims circling the Ka'bah—Islam's holy shrine in Mecca—at the peak of a pilgrimage and, adjoining it, part of the huge sacred covering of the Ka'bah, a hand-sown cloth covered with large strips of calligraphy in gold and silver. It's a reminder, according to Mr. Shata, that whatever else it may become, Saudi Arabia will be first and foremost the cradle and heartland of Islam.

Saudi Arabia, of course, is not the sole voice of Islam at Expo '70. Nine other Islamic countries are represented, four of them Arab states: Malaysia, Afghanistan, Pakistan, Iran and Turkey; Algeria, the United Arab Republic, Kuwait and Abu Dhabi. However, Turkey, Pakistan and Iran, sharing a common building, settle for

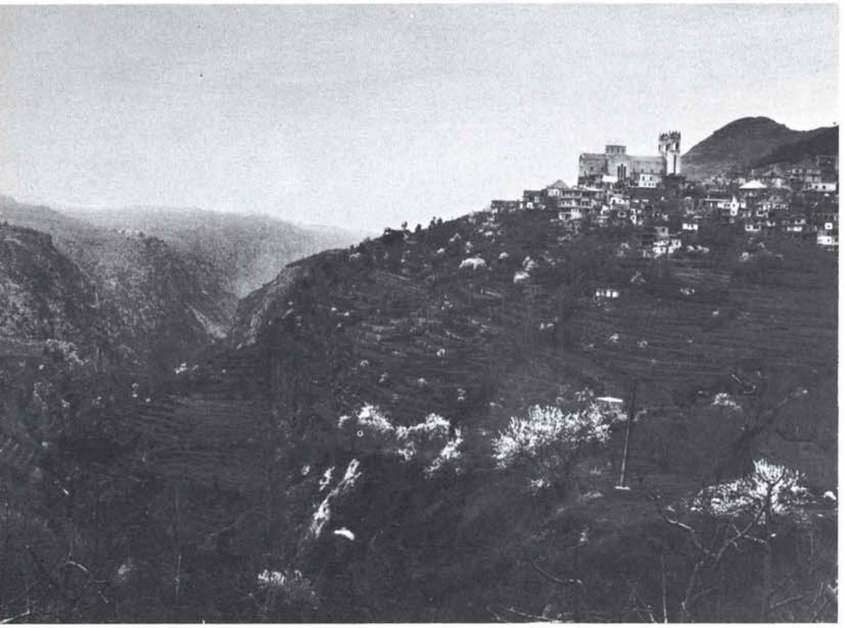
continued on page 32



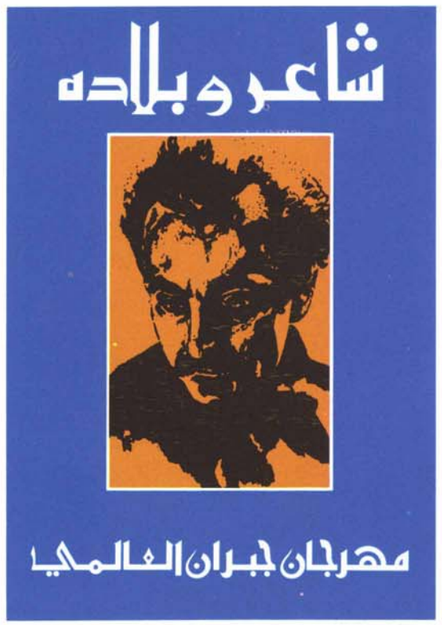
...where the streams sing their way to the sea



A LAND, A POET, A FESTIVAL



Bisharri, the village of Gibran's birth, sits high above Kadisha Gorge, the deep valley which became the poet's final resting place.



Arabic edition of the festival poster designed by Walid el-Assad.

PHOTOGRAPHY BY WILLIAM TRACY

Every man, and above all a poet, draws nourishment from the soil of his birthplace. This was especially true of Gibran Kahlil Gibran, the Lebanese-American philosopher, artist and poet whose life and works were honored this spring at an international festival in Beirut.

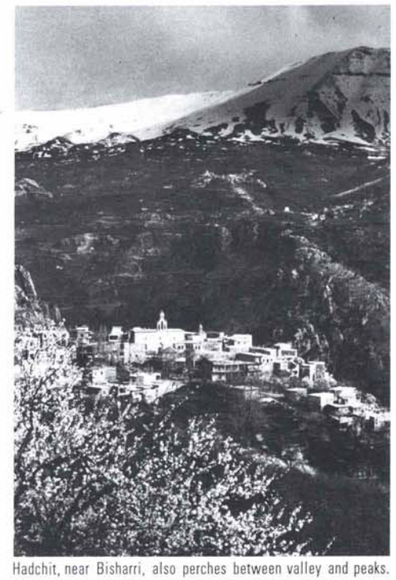
Although Gibran, author of **The Prophet,** spent most of his life in America he constantly felt an irresistible pull from his native land. "Every time I close my eyes," Gibran wrote, "I see those valleys full of magic and dignity and those mountains covered with glory and greatness trying to reach the sky." He went back several times during his short life and when he died in 1931, at the age of 48, his body was brought to Mar Sarkees, an old monastery hewn from a cliff below Bisharri. That was the mountain village in which he was born and which he once described as "sitting like a bird on the side of the valley."

Lebanon returned his affection, but it was not until last May that his Lebanese admirers, in conjunction with others from abroad, made that affection official by sponsoring and attending a week-long international festival on the theme, "A Poet and His Country."

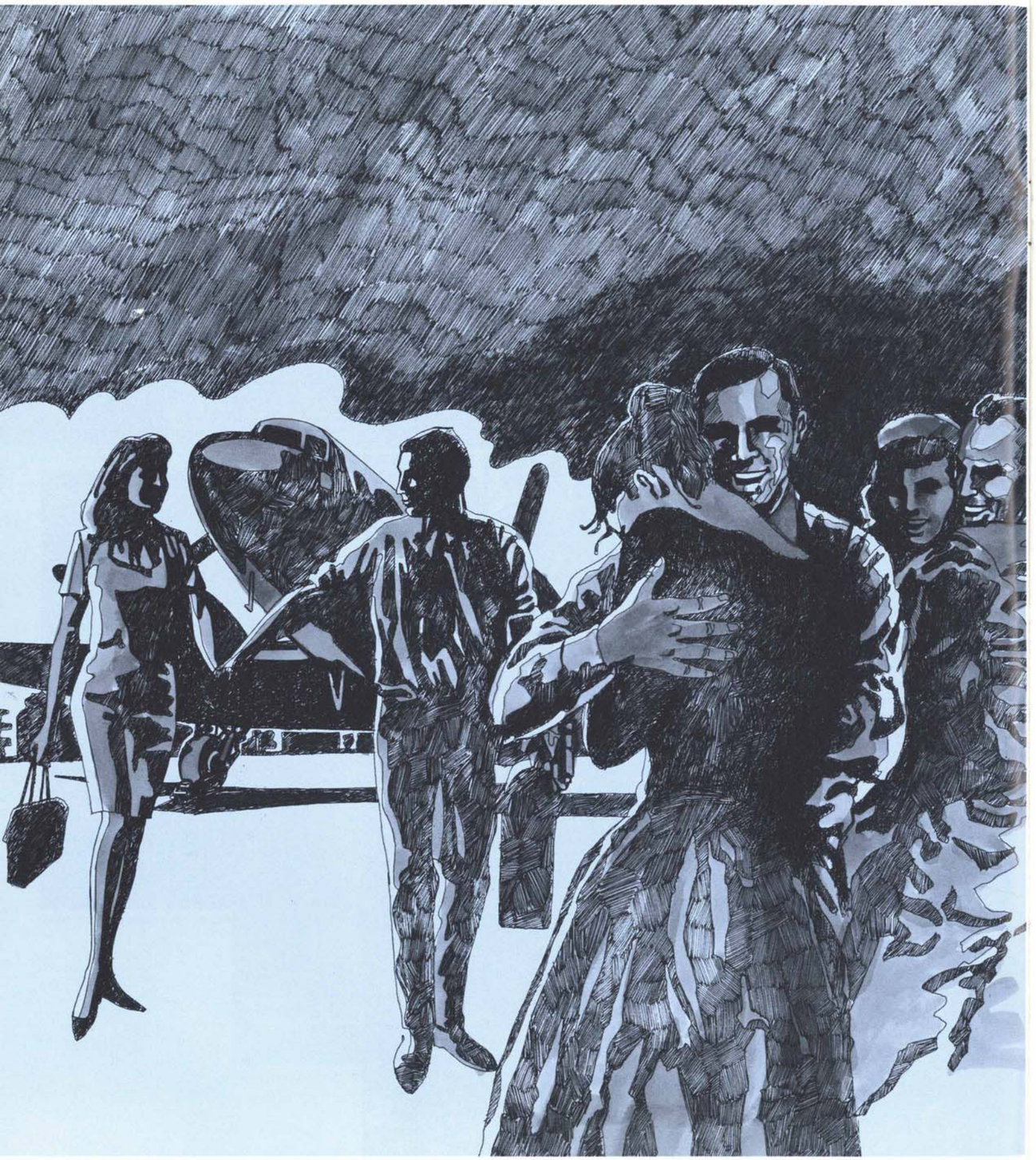
The proposal to hold such a festival came out of a meeting at which professors from the departments of English and Arabic at the American University of Beirut were comparing English and Arabic literature through the works of such bilingual writers as Gibran and two other Lebanese authors, Mikhail Naimy and Ameen Rihani. During the meeting someone mentioned that although **The Prophet** has been translated into more than 20 languages (and still sells a quarter of a million copies a year in the United States alone) Gibran's own country had never adequately recognized him. Later, when a **New York Times** announcement of the proposed tribute brought an encouraging response from Gibran's international public, the professors raised their sights. They formed a national committee of cultural, political and industrial figures as well as representatives from other Lebanese universities. Naimy, friend and biographer of Gibran, accepted an invitation to be the festival's guest of honor. President Charles Helou offered his patronage and the government offered help ranging from the issue of a special commemorative stamp to road repairs in Gibran's home village.

From abroad came delegations of Lebanese emigrant communities in the United States and Mexico, and distinguished men of letters, including poets and critics from Egypt, Great Britain, Nigeria, the Soviet Union and the United States. A posthumous award honoring Gibran was presented by the United Poets Laureate International and the World Congress of Poets. The festival week's activities included lectures (principally in English but also in Arabic and French), seminars, panel discussions, poetry readings, radio and television programs, a film, art and photography exhibitions, concerts and tours of the countryside which produced Gibran and nourished his work.

"...those valleys full of magic and dignity and those mountains covered with glory and greatness trying to reach the sky."



Hadchit, near Bisharri, also perches between valley and peaks.



DISCOVERY!

the story of ARAMCO then

CHAPTER 14: THE FRONTIER CLOSES

BY WALLACE STEGNER

ILLUSTRATED BY DONALD THOMPSON

SYNOPSIS: Pearl Harbor may have caught Casoc off guard but not off balance. Nothing could by then. In the years between the day geologists landed in Jubail to open the search for oil, to the night Italian bombers muffed an air raid on Dhahran, the Casoc men had learned to roll with the punches. Heat? Flies? Sand? What's a little dust? Regulations? Hostility? Misunderstandings? It's their country isn't it? Long hours? Danger? Challenges? That's what they're paying us for, isn't it? Even the bombers couldn't disturb them for long. After all, they missed.

Later, they would look back on those years with affection. Not that there weren't real crises—like the fire at Dammam 12 that killed two men, or the mid-Gulf boat explosion that killed Charlie Herring and his wife. But overriding all the problems was the immense satisfaction of contributing to an enterprise that even then seemed bigger and more important than any they had worked on before, an enterprise that seemed to have a larger dimension than merely finding oil and making a profit.

The war did have its effects. Supplies dwindled. Equipment broke down. Production slowed. Most of the men and all but two women left. Even food became a problem until Steve Furman turned Dhahran into a ranch. At first he just raised rabbits, chickens and sheep. Then he met an incredible Bedouin named Mutlag and commissioned him to bring a herd of cattle all the way up from Yemen. No one thought Mutlag really could. Yemen was 1,000 miles away, after all. But a few months later there he was, gaunt but grinning with a herd of cattle still moving.

Despite such problems, however, few of the "Hundred Men", as the skeleton staff were called, objected. As the men in the 30's had discovered, life on a frontier has its own rewards. For some it might have been the pleasure of running things their own way. Others sensed that this interlude was the end of the frontier. There were already signs that the America's war effort would eventually need Arabian oil resources and the Hundred Men knew that when the boom came it would bring an end to the pioneering period. As it did. When expansion began in 1944, what had been a frontier outpost mushroomed into one of the greatest oil operations in the world. The frontier had closed at last, and with it the last chapter in the story of the discovery of Arabian oil.

A NOTE TO READERS

Aramco World Magazine is pleased to announce the publication of a paperback edition of DISCOVERY! The Story of Aramco Then. Readers who have followed the serialization of the early history of Aramco in this magazine may reserve a copy of the book by writing the Manager, Public Relations, in New York, or the Editor, Aramco World Magazine, P. O. Box 4002, Beirut, Lebanon.

Sometimes, when the war went badly (as when Rommel took Tobruk in Libya and seemed to threaten their very gates) or when they were oppressed by loneliness, discomfort and irritation at being asked every day to do the impossible, they wondered why they stuck. The pay was good, but not that good. Even with the bonus of 30 per cent for married men, 20 per cent for single men, that went into effect on January 1, 1941, it was not so good they should risk their lives for it, or leave their dependents in the States uncared for. And ingenuity could find ways of getting back home if it wanted to. On leaves or on business some of them got home around the Cape of Good Hope, or across Arabia and down the Nile to Cairo, or direct to Cairo by B.O.A.C., and from there out by ship or plane, or down to Bombay and across the Pacific. But most of them stayed with the job, though the contracts of 85 per cent of them were up by the spring of 1942; and most of those who went out on leave came back again to renew their assault on the Impossible. Oil production stayed up to the maximum they could handle, and above it; their 12,000 to 15,000 barrels a day went down to al-Khobar and Aziziyah and then by Ike Smith's and Hank Trotter's barges across to the Bahrain refinery. They kept Arabian oil feeding the Allied war effort, and that was one reason for their staying. But there was another that many of them could not have articulated and that some of them would not have admitted. They were, in a way, missionaries—missionaries of what they would vaguely describe at a time when the phrase was still hallowed—as the American way of life. Such an economist as John Kenneth Galbraith, with whom they would not have been in general

sympathy, would probably have called their way of life something like a faith in production, the belief that production in and of itself is a good from which all other goods can flow, that from production come economic security and a high standard of living, the uncomplicated conviction that Old Salim, the Awamiri, who had never in his life needed more than a camel, a woman, and a smooth piece of sand, would be a happier man for having learned to also like oranges, castor oil, and a Ford pickup.

For the Hundred Men it was a natural assumption —in the 1940's there was little need for a Commission on National Goals—and the Saudis certainly didn't seem to object. Already, within less than 10 years, Saudi Arabia had learned to be dependent to an almost alarming extent upon the income from oil; already the nation's wants had proliferated under American example. For every reason—enlightened self-interest, the logical desire to keep the Arab world friendly to the Allies, a shrewd forecasting of the future, even the impulse of disinterested philanthropy—the Company found itself involved in welfare activities that must have astonished its stateside directors. These were largely forced upon it by circumstances and by the enthusiasm of the men who collectively were known as "the Field," but it accepted them with surprising equanimity, perhaps comforted by the fact that though they were welfare activities they were at least Private Enterprise, and hence more acceptable both to oilman and to Arab. In any case, Casoc during the war years found itself devoting an increasing amount of its skill, manpower, and equipment to a sort of private Point Four program for Arabia, long before there was a Point Four program in Washington.

Tom Barger, for example, newly installed in his government relations job in the fall of 1941, found himself showered with requests: watertanks for the roof of a palace in Riyadh, electric refrigerators, truck axles, Kohler light plants, door locks, three cans of talcum powder, medicine prescribed by an Indian doctor in the interior, even facilities of all kinds for a picnic the Shaikh of Bahrain and the King were planning in al-Khobar. Who, after all, understood these matters better than the Company? Who was nearer at hand? When a Hijaz firm which had ordered 300 Fords for the Government unloaded them early in the war at the al-Khobar pier, they were found to be characteristically short a number of items, including extra tires and about 200 hubcaps, and to have been in addition badly mauled by foul weather at sea. What more natural than that the Company should be asked to supply the hubcaps and the tires and to repair the damages? Barger's first lessons were in all the firm ways of saying no. His next were in all the devious means of finagling, ordering, or creating out of thin air as many as possible of the things the Government needed.

Repairs were always a problem. Every Government car or truck that limped into Dhahran with its radiator full of alkali or its head cracked or its fan belt gone or its fuel pump conked out or sand in its carburetor or its wheel-bearings grinding themselves to bits or its axles broken—and when they limped in they limped in, characteristically, not by ones but by caravans—came with touching dependence to the Company shops. There nameless heroes, Arab and American, crawled, in suffocating heat, underneath the wrecks and labored and twisted and dismantled and rebuilt and replaced while every fly in the Eastern Province, waiting for just that time when a man's hands were full of tools or grease and his face trickling with sweat, gathered and crawled and stuck all over lips and nose and eyelids. The mechanics might, for service above and beyond the call of duty, have received medals.

And there were the constant invitations to supply a Government, oblivious to the fact that even production had its limits during a war, with cars or trucks or, most particularly, with tires. Those requests *had* to be evaded, for if Casoc's limited production were halted for lack of essential equipment, the Company would have been finished and the Government's royalties would have stopped dead. Ohliger and Barger and McConnell and the rest could not blame the Government officials for asking, but they could rarely afford to grant what they asked, for tires and parts were not merely indispensable, they were priceless. A tire, by 1942, cost 1500 rupees in the black market —about what a secondhand car had cost before the war—and could only infrequently be had at any price. Shipments of new ones were at best improbable, at worst visionary. The few tires hoarded in the Company warehouses had to be kept for absolute emergencies. Nevertheless, as things worked out, about half of them were gradually sold to the Government in response to frantic pleas, and the Company struggled along on half a pittance.

Their Point Four aid went far beyond these relatively minor automative services. From the very beginning of its investment in Arabia, the Company had found itself forced by continual Government financial distress to act as banker. By the end of 1940 it had advanced in loans or contracted services a total of more than $5,500,000. That took some faith, but was actually entirely justified as a business gamble. More philanthropic were some other activities.

Already, long before the war, Casoc men had drilled and turned over to the Saudi Arabs a number of water wells. Their missionary zeal made them fall in enthusiastically with reclamation and conservation plans, made them eager to help the Arabs save, or put to better use, the little water they had. In particular, it led them into active and continued cooperation with the al-Kharj oasis project that was a dream of Shaikh Abdullah Sulaiman.

In 1941 Tom Barger and Les Snyder made a trip out to al-Kharj, southeast of Riyadh, to inspect the great pond-like springs that there burst from the ground, and to estimate the possibility of leading them by a system of canals and pumps to potential gardens of reclaimable land. Snyder wrote the first report on those possibilities, which involved not merely the engineering project itself but a considerable task of training the Arabs of the area in forms of agriculture quite new to them.

In June, 1942, Karl Twitchell, who had promised the King all the help he could arrange, returned to Saudi Arabia with a two-man American agricultural mission. The Casoc people took in the wayfarers, cured their quickly-caught Arabian ailments, and advised them against making the 80-day tour across southern Arabia that their hosts were proposing; they could not have stood the hospitality, even if they had been able to withstand the mid-summer heat along the edge of the Rub' al-Khali. Casoc advised a shorter and more northerly tour, but contributed much enthusiasm to the project of examining Arabia's agricultural possibilities. Predominantly from the Western United States, the Hundred Men responded to a reclamation dream as kindling responds to fire.

Thereafter, through the war and later, but especially during the years 1942-1944, Casoc was virtually the Saudi Arab Government's Reclamation Bureau. It assisted in getting a high wartime priority for pumps and other vital equipment, it helped the Government obtain allotments of supplies from the wartime Middle East Supply Center, it helped survey the canal route, it supervised the installation of diesel pumps. Altogether it looked upon al-Kharj as one of the most valuable contributions it was making to Arabia, because this agricultural development helped make use of renewable resources, not expendable ones; this could be part of a permanently new Arabia, and to their brand of missionary spirit, this was the kind of change that counted.

Considering the welfare of the Saudi Arabs, and finding their own human compassion reinforced by enlightened self-interest, the Casoc men could not ignore the state of public health. Disease was a multiplex misery to the Arab people, and it also resulted in all sorts of inefficiency in the Company's own operations. During the war years, in spite of every sort of shortage, they made their first large strides in controlling some of the worst Arab ills, and in improving the rude public health measures.

Dr. Alexander, for example, in addition to keeping the Hundred Men and all the Company's Saudi Arab, Bahraini, and Indian employes healthy, and in addition to treating scores and hundreds of Arabs who had no claim upon the Company's facilities beyond the fact that they were sick or hurt, worked like a mule to rid Dammam and al-Khobar of malaria. DDT, a wartime discovery which, in that pre-pollution-conscious era, was still being hailed as one of the great advances in medical history, was not to be known in civilian centers until well after the war, and would not have been available in any case. All Alexander could do was to enlist the cooperation of the local amirs and have them order all waterpots dumped and dried once a week. Since it took eight to ten days, in the hottest weather, for development of mosquitoes from the egg, that one single act, if religiously carried out, could help a great deal. But even that one simple act involved tedious labor. Every Wednesday morning Alexander had to go and inspect a half to three-quarters of al-Khobar to see that householders had turned their waterpots upside down. Every Wednesday afternoon he went through Dammam on the same errand.

It was the merest beginning. The virtual elimination of malaria, and the partial control of bilharziasis, amoebiasis, trachoma, tuberculosis, malnutrition, smallpox, and all the intestinal parasites so common to the undeveloped areas of the world 30 years ago, would be achieved, at least in the area around Dhahran, in the years following the war. But even the beginnings, however rudimentary and however important, were not always understood by those they benefited. Khamis ibn Rimthan, for instance, exceptional as he was, could never quite swallow the tale that malaria came from the mosquito, and if Khamis found it dubious, others would have found it absurd.

These were also the years when, with the future in mind and with the shortages of the present to combat, the Company made its first extended, long-term plans for the educating of Saudi Arabs for industrial jobs. On May 11, 1940, the first Company school for Saudi Arabs began in al-Khobar in a box-like, barred-window house rented from Hajji bin Jassim. The Company furnished tables, benches, blackboards, chalk, lamps, and instructor, and offered to teach English to any Saudi, whether employe or townsman. It began teaching 19 students; very shortly it was teaching 50. That meant a second instructor, and in less than a year a new school building—a *barasti* built near the Government wireless station to utilize the generator there for electric lights.

The al-Khobar school had been in operation less than two months when a second was opened, this one near the Saudi living quarters. It too was open to employes and any interested non-employes. The first night there were 85 students, within a few weeks 165.

In January 1941, it was discovered that houseboys, waiters, telephone operators, and office boys had working schedules that prevented their attending the regular classes. A third *barasti* was built for them and called the Jabal School. It was soon instructing 110 pupils.

The dynamic statistics of growth are always heartening, but in those days they were more than that. They were explosive, for here education was being built from the absolute foundations. Unlike today, when education is rapidly closing in on illiteracy, there was not in 1941 another school in the modern sense in all of al-Hasa, not another place where Saudi Arab, child or adult, could learn anything except the folk skills of his culture. Casoc began by trying to teach only Basic English, but it found that in order to teach English it had also to teach Arabic, for most of these pupils were wholly illiterate in their own tongue. Later it added arithmetic, and still later, in connection with the first aid program, a little rudimentary anatomy.

Necessarily things went slowly, especially in the early years when trained and competent teachers were nearly impossible to find. And yet this was the germ of something momentous, for these first 300-odd pupils in the three schools near Dhahran were the first stage of a Company training program that in later years expanded prodigiously and that stimulated the formation of Government schools both in al-Hasa and in other parts of Arabia. Some of the boys staring at the wonderful mysteries of letters and numbers on the blackboard of a *barasti* school would end up as skilled and supervisory personnel, and a few would attend, as Company scholars, the American University in Beirut. Some of them would also, by a law as inexorable as the law of falling bodies, be among the first to feel the restless pangs of people moving beyond their own culture yet not entirely part of another.

There was a new force in those eager youngsters responding to opportunity in the form of the 850 essential English words, and there was already enough occasional labor difficulty to make it clear to the Hundred Men that the force would not make the Company's position in Arabia any easier. Yet no one hesitated; this was part of their missionary effort, part of the contribution Americans tended to make wherever they went, whatever the implications. They would have said, as Phil McConnell said to his journal, that they were building something new in the history of the world: not an empire made for plundering by the intruding power, but a modern nation in which American and Arab could work out fair contracts, produce in partnership, and profit mutually by their association. Gradually, McConnell wrote, Casoc was teaching some of the functions of modern man. In theory, it would sometime get repaid for its teaching, but if it did not, "the Field" at least would not complain. It could look at the wells and the reclamation projects, the roads, the schools, the improvements in public health, and feel good enough simply to have had a hand in it.

Quite outside of the intentional, deliberate training and assistance offered, there were subtler but not less significant changes. It is hard for a man who has spent 10 years or so of his life drilling holes in a desert, living in a bunkhouse or a prefabricated cottage, and learning to get along with foreign people to realize the ways in which his daily actions contribute to the mighty pressures that raise or lower nations and empires and great segments of the world's people. Dropped abruptly into the heart of strangeness, he will be preoccupied by its odd look; he will be likely to look at what is near and concrete and under his nose rather than speculate on its importance to world affairs.

The average Aramco pioneer, transplanting his American practicality and his engineering know-how to a then completely unmechanized country, was geared to the performance of a particular job, and had little time to ponder his possible effect on the political and cultural balances. His cultural comments were likely to be on a level with Guy Williams' remark about Arabic script, in which some consonants are differentiated only by dots placed above or below the letters. "What a hell of an alphabet," said Slim Williams in his practical way, "for a country full of flies." Politically they were in one of two moods: in a dispute between the Company and Saudi Arabia, they backed the Company; in any dispute between Saudi Arabia and one of its neighbors, or between Ibn Sa'ud and the British, they were good Saudis.

In a way, their first decade in it had made Saudi Arabia their second country. They were richer for it, as it was richer for them. While the statesmen and the generals, acutely aware of what power lay in the peoples and under the rock strata of the Middle East, struggled to steer it and couple it to their own side, and while the Company pursued its commercial purposes as it could and its private Point Four as it must, and waited for the day when it would be released to go back to the simple problems of producing oil, it was the men in the field who had made the vital contacts.

So far as the Arabs of Hofuf or Dammam or al-Khobar or Jubail were concerned, any single American was America, was the West, was Industrial Civilization, and insofar as Arabs chose to retool themselves to fit into the industrial world, these were the models they knew. Without intending to be in any sense cultural ambassadors, the Aramco pioneers undoubtedly left reflections of themselves in Arab ways and upon Arab personalities that will persist a long while.

In more ways than oil royalties, Saudi Arabia was richer for their coming. The Company had functioned, because it had to, like a whole battery of scientific and service bureaus. It had been Geological Survey, Hydrographic Survey, Corps of Engineers, Reclamation Service, Department of Public Health, Highway Commission, Department of Education, Weather Bureau, Communications Commission, Bureau of Standards. In all of those capacities it had set patterns and established standards that were American in special ways. It had literally built America into the developing structure of Saudi Arabia's modern life, and everything from the gauges of nuts and bolts to the side of the road on which one drove was their doing.

Even the intangibles. Watch a Saudi Arab drive a car, and you perceive that he drives like the men who taught him. You can tell him from an Egyptian or a Lebanese as far as his car can be seen down the road. He drives using American-style traffic signals, he has acquired the American indisposition for a lot of useless horn-squawking, he has learned to vary his speed and stay in a lane instead of maintaining his speed and varying his lane as do the mad drivers of Lebanon, whose mentors were the French.

The concrete changes that 10 years of Company operations had made in Saudi Arabian life counted for much. The future was blueprinted in the maps and charts, the geological reports, the developed harbors, the hard-surfaced roads, the radio system that Don Mair enlarged and improved in 1939. It was made more secure by the water wells at Dammam, Qatif, Riyadh, Jiddah; and especially by the one they drilled at al-Hani, on the long waterless stretch between Riyadh and al-Uqair, during the severe drought of 1943. It was enriched by the 11-mile canal, the pumps, the irrigated acres, of al-Kharj. And if the Arabs of Riyadh and al-Kharj at first looked with suspicion on carrots from the project, and fed them to their donkeys, that was both understandable and legitimate. Given time, they would learn to make use of carrots as of other modern inventions.

These things were vital, in the missionaries' eyes. And yet they had made a contribution more significant than any of the gadgets adopted by the Arabs or any of the skills and resources the Arabs had newly learned. They had begun a transormation of a state of mind. *Allah kareem*, God is kind, said the pious Bedouin when disaster struck, when his only camel died or wolves carried off his lambs, or when he dug a grave in the sand for someone of his family. He was not in the habit of trying to remodel his world closer to the heart's desire; the intense struggle for a mere subsistence in the desert left him no time or energy for more than survival. Now, by importation and at wholesale, came not only new tools but a habit of mind new to him. God, it turned out when you studied the matter, *was* kind; but also, as the Americans said, He helped those who helped themselves.

All during the war, at erratic intervals, the world had been coming to see the Hundred Men, and they had joyfully taken time off to entertain, and pump, visitors. Their radios told them that the Gulf was a hotbed of activity, but they saw little of it. Dispensing nothing but crude oil, and that by barge, and having not even an adequate airfield, they were often bypassed. But they saw something of H.R.P. Dickson, the Political Agent at Kuwait—an old Arabian hand who flowed 10,000 barrels a day in stories and Arab lore, and

who brought along a wife as rich in anecdote as he was himself. They had visitations of other British from Bahrain and Jiddah. They entertained Ambassador Kirk from Cairo. On May 22, 1943, a Lockheed Lodestar alighted on their airstrip and the five crew members announced that General Patrick Hurley, President Roosevelt's personal representative in the Middle East, would be among them shortly. Mistrusting their airstrip, he had put his plane down on Bahrain and was coming over by launch. The Casoc boys, touched in their local pride, were somewhat pleased to find when the General got there that he and his party had taken a beating for three hours in a heavy sea.

General Hurley's visit was a high point, nevertheless. They did not get to know him at once, for immediately after his arrival Floyd Ohliger and Floyd Meeker took him off to Riyadh for an audience with Ibn Sa'ud. His crew, left behind, were given the keys to al-Hasa, which meant principally an initiation into gogglefishing. This had been introduced to the Gulf by Charlie Davis, and the spear had been improved by the labors of at least five different engineers. In return for that pleasant excursion, the crew amiably took everybody for an airplane ride, and on one flight turned over the controls to Ibrahim, the 12-year-old son of Shaikh Abdullah al-Fadl. Ibrahim flew the plane from Tarut to Ras Tanura. He did not freeze to the wheel or get tangled up in his instructions. Though his feet would not touch the floor, he demonstrated how far some Saudi Arabs had already come under Casoc's tutelage, for with the sweat standing out on his face, he turned when Captain Newell told him to turn, pushed things or pulled things when he was supposed to. When they lifted him out of the plane back at Dhahran his feet still didn't touch. He walked around all the rest of the day without his feet touching.

Then when General Hurley's party had returned, and Abdullah Sulaiman gave a great dinner at Dammam, the Americans demonstrated a knack for public relations every bit as brilliant as the impression Hurley had made in Riyadh. Charlie Davis had prepared a certificate, with a pair of mother-of-pearl wings pinned on it, which said that Ibrahim was a qualified assistant co-pilot for the trip between Tarut and Ras Tanura when flying in a Lockheed Lodestar and accompanied by Captain Dean Newell. The entire plane crew and General Hurley signed it, and at the dinner Hurley presented it to Ibrahim in person. It was a very American performance; it was a question who enjoyed it more, Ibrahim or the starved and isolated Hundred from Dhahran. When after dinner Hurley, who had been raised on an Oklahoma Indian reservation, demonstrated the Choctaw war whoop, and an Arab from Riyadh rose and responded with the war cry of that Najd fortress, it seemed to the dazzled Hundred that international relations could hardly be warmer.

International relations were precisely why Hurley was there. His visit was an omen and a forecast: the world was beginning to look upon their outpost with very interested eyes. With Africa secured, and with the Germans turned back in Russia, strategy could begin to contemplate massive offensives against the Japanese in Southeast Asia, and the logical source for fueling any such offensive was the Gulf. Leaving

out all problems of transport, American reserves would not indefinitely stand the wartime drain of two billion barrels a year. That was why, late in 1943, there arrived among the Hundred Men a mission from the Petroleum Reserves Corporation, which was part of the official structure built up by Harold Ickes, U.S. Secretary of the Interior, for supplying petroleum to the war effort. The mission demonstrated the seriousness of its interest by the eminence of its members, who were Everette Lee De Golyer, one of the most distinguished of the world's oil geologists; Dr. William E. Wrather, Director of the United States Geological Survey; and C.S. Snodgrass, Director of the Foreign Refining Division of the Petroleum Administration for War. The Hundred Men showed them around, and the mission went away like other missions. But within weeks this one developed portentous consequences. It turned out that without publicizing his activities Mr. Ickes had been growing very interested indeed in the possibilities of making greater use of Middle Eastern oil. Now the United States Government proposed to buy into Casoc and finance a big refinery at Ras Tanura and a more-than-thousand-mile pipeline to the Mediterranean, which since May 1943, when American and British forces captured Tunis and Bizerte, had been an Allied lake.

Government purchase of even a minority share in Casoc would have put the company in the position that Anglo-Iranian had occupied in Iran since 1914, when Winston Churchill concluded exactly the same sort of deal for His Majesty's Government. Commercial and political power would have been concentrated within the same corporate structure, with results for the Middle Eastern equilibrium of power that could hardly have been predicted and that would not have been likely to be good.

The Hundred Men, who had valued their purely private auspices and who had always felt that Ibn Sa'ud's favor was conditioned by their lack of political implications, hotly debated all the news and rumor that came to them. It developed that American oil companies were protesting bitterly; a Senate investigating committee was holding meetings; a British oil mission was visiting the States. They waited, and eventually they heard: they were not to become part of a political package. For better or worse, protest had diverted the first proposals, and the American Government was not destined to come into the Middle East in the way His Majesty's Government had. Instead, they heard that the pipeline notion, which would have saved the 3,300-mile haul around through Suez, and would have delivered oil to the eastern Mediterranean shore at approximately the cost of the per-barrel canal toll, was at least temporarily shelved. But they had approval, and a high government priority, for the construction, as a purely Company operation, of a 50,000-barrel-per-day refinery at Ras Tanura.

That was the authority for a hysterical expansion; for building a Ras Tanura refinery meant not only all the boom of that construction, but entailed all the corollaries; sharply-increased oil production, pipelines and stabilization plants and tank farms to handle and store it, people to perform the enlarged duties, housing to take care of the new people, people to build the housing, people to train the people who would build the housing. Consequence bred consequence, and many of the things that had preoccupied them during their isolation would now go unnoticed. In the rush of becoming a colossus, they would hardly have time to laugh at the peculiar cultural effect of sending a certain left-handed carpenter to Ras Tanura to train Saudi crews: dutifully imitative, every last one of his trainees learned to saw with his left hand.

The buildup for the expansion of the Ras Tanura facilities marked the transition from Casoc's frontier period into the postwar period of enormous production and enormous growth and enormous consequences. Appropriately, it followed close upon an official change of name. After January 31, 1944, they were no longer Casoc. They were the Arabian American Oil Company, syncopated in the lingo to Aramco.

If the expansion of 1936 had struck some of them as a period of hectic confusion, this 1944 expansion struck them as bedlam. Their goal by the end of 1945, they were told from San Francisco, was 550,000 barrels a day, nearly 25 times what they were turning out now in their standby operation, and much more than the capacity of their existing wells. There would have to be a massive drilling program involving perhaps 20 strings of tools, and drilling that many oil wells meant developing adequate water supplies both at Abqaiq and at Qatif, where they had been instructed to put down a wildcat. Of their three structure drills that might have been put to use for water wells, one was in Ras Tanura drilling test holes for Moore, the foundation expert looking over the refinery site. Another had been promised to Bapco for the purpose of drilling blasting holes for the foundation of *their* new refinery; it would be delivered as soon as the Aramco shops could rebuild its clutch. As for the new drilling machinery that in May would start coming from the States at the rate of 2,500 to 3,000 tons a month, it could not be unloaded because the big pier at Ras Tanura would not be done. The cargoes would have to be lightered ashore by barge, and they had no barges. Eight were coming from the States, but of those, four would be needed for laying the pipeline to Bahrain to which they were committed. Four barges were not enough to bring the drilling equipment down to al-Khobar; the best they could do would be to unload it at Ras Tanura, where it would be in the way of the refinery construction job. So they would have to try to get barges from Basra or Abadan or from the Persian Gulf Command. And what about tugs to pull them? Well —.

Boilers? They had five installed at Abu Hadriya and five at Abqaiq No. 5, plus nine that were available for other jobs. Two would be needed to start the small Ras Tanura refinery that had been shut down since 1941. Four would be needed at the Qatif wildcat and four at Abqaiq No. 6. That left them one short. All right, Abqaiq No. 6 would have to start on three boilers until Abqaiq No. 5 was completed and they could transfer a boiler from there. Meantime, there was the problem of firebrick for boiler settings, essential for drilling any new wells. They had not firebrick enough even for one setting, let alone all that they would require. So they would face their settings with red construction brick from India, and hope for the best, and they would experiment with transit roofing, which would undoubtedly fold with the heat but which might stay in place if they gave it proper backing.

In the warehouse they had 30 truck tires left. Almost every engine they owned had a cracked cylinder head. For a year or more they had been juggling engines around, putting tractor engines in launches and compressor engines on pumps. Their gasoline was bad, and would remain bad until they could develop facilities for making a leaded product. For the influx of men expected at Ras Tanura they would need kitchens, mess halls, God knew what. In the teeth of the demands being made on them they didn't even have paper enough to issue announcements of general instructions and their office memos were being written on the backs of old forms.

If they needed a welding machine to complete a well, they had to face a calculated choice: the machine was on the rock crusher that was preparing foundation material for houses that must be ready in less than 60 days for the advance guard of construction stiffs. But they needed to complete the well in order to increase production so as to fill the refinery tanks so that the oil line to Ras Tanura could be converted to a gas line during the drilling of the wildcat at Qatif. And if they didn't get the wildcat drilled in a hurry the refinery would run out of oil and the wildcat would be held up while the line was reconverted and 390,000 barrels of oil was pumped up to Ras Tanura.

That was the way it went. The machine shops were making spare parts of 10 dozen different kinds, most of them of such necessarily crude tolerances that breakdowns and wear were increased. They even made cylinder heads for tug diesels by welding together steel plates, with short sections of 5 9/16″ drill pipe for valve cages.

On April 3, Phil McConnell, who as Production Manager had these problems on his hands day and night, recorded, amid pages of examples of inspired improvisation with used parts that could be recombined into working engines, the fact that they had obtained a few 13.50 by 20 tires, but that they were out of 9.00 by 13's for the sedans and pickups. Their last resource was a few 9.00 by 15's, and 35 wheels to fit them, to which they could connect the cars as it became absolutely necessary. Also he noted that he was breaking up a drilling crew to provide extra men for the Ras Tanura rush, due to begin on April 20. Three days after that entry, he recorded the arrival of Steve Bechtel and one of his construction assistants, Bob Conyes, whom Walt Miller brought over from Bahrain to talk over plans for the refinery which Bechtel McComb & Parsons would build under contract for Aramco. That too was the beginning of something: up to now, Aramco had done its own construction work. From here on, and increasingly, it would contract out its heavy construction, generally to Bechtel; and from here on the Saudi Arab Government, wanting some industrial job done, would have another string to its bow.

For the moment, all McConnell and the others felt was relief. Bechtel was obviously used to massive operations, and he was used to dealing with the agencies through which priorities and supplies must be obtained. Also he was, as McConnell noted, no "sharp pencil." He figured a job with enough margin to cover failures of supply; he talked in shiploads, not in tons, and he promised to help as he could with Aramco's own supply problems, notably that of barges for unloading freight. He also agreed with them that Aramco and Bechtel personnel should be housed and handled separately, and he promised to be guided by Aramco experience in matters of American-Arab relations. He spoke of fencing his construction stiffs into the Ras Tanura peninsula, of permitting beer but no whiskey. The Aramco government relations people breathed a little easier: the influx of a horde of construction workers careless of Arab sensibilities and ignorant of Arab pride and Arab culture could be rough—so rough that only the anticipated royalties from 350,000 barrels a day could justify it to the Saudi Government.

As they more or less expected, nothing developed in the way it was supposed to develop. Through April and May and into June they moved heaven and earth trying to obtain barges that were lying idle in the river at Basra. They enlisted the Persian Gulf Command to help get them out of Piaforce, which controlled them. Piaforce replied that as far as it was concerned Aramco was just another civilian operation wanting favors. When it did finally release them, it released them to a Bahrain company with which the Company had had nothing but trouble. Still, even in what the Hundred Men felt to be inept hands, they were better than no barges at all.

The first of the Americans expected for the Ras Tanura refinery job, variously estimated at 800 to 1,400, began to arrive—and began to depart again. At least one went back after taking one look: they shipped him out the morning after he arrived. Other stayed a few weeks, a few months. They did not seem to see in Arabia what the Hundred Men had seen; their complaints about housing conditions, food, lack of air conditioning, bad laundry service, and other things were frequently and generally justified. By June 13 they had assembled to the number of 31. By that time, too, Phil McConnell had entirely shut down the Abqaiq field after completing No. 5, and had diverted his entire Drilling Department to Ras Tanura. His new drillers and derrick men, recruited in the expectation of a big drilling program and a chance for advancement on the job, groused. The management people began to be seriously disturbed by sagging morale among the men. Meeting to consider speeches and announcements and instructions that might ease the period of adjustment, and tell the newcomers something of Aramco's history and its relations with the Arabs and with the Saudi Arab Government, they found themselves so short of paper that they couldn't even issue an instruction sheet. To cap it, Floyd Ohliger came back from Riyadh with the word that the King feared food riots unless some way of obtaining grains, and money, could be found in a hurry.

Then at the end of June the first ships began arriving at Ras Tanura, and with the help of three tugs that the army sent over from Cairo, and the barges and tugs that Basra had released, they found that they could unload them at the rate of 600 to 700 tons per day. But that didn't help much, because they had only trucks enough to get about 400 tons away from the pier. The rest of it stacked up in their way, still desperately and tantalizingly needed, yet almost as unavailable as if it had been on the other side of the world.

In August, at a grand conclave to discuss their troubles, they made the sort of decision that gave them their peculiar capacity to get things done. The bunkhouse building was 60 days behind schedule, worse off than anything else, and basic to most of their effort. So the refinery closed down, the crews rigging up for new wells were transferred, the Bechtel men on the pier construction job were pulled off it, and they all tore into the building of bunkhouses.

By August 19 they were moving into the second completed bunkhouse, and the mess hall was open. Also they were beginning to get some trucks—not necessarily the right kind of trucks, or the most efficient for desert work, but welcome nevertheless. And they got new men in erratic bunches—69 of them on August 14. By that time the Bechtel men were sleeping eight or more to a bunkhouse room.

On the night of August 31 occurred the first of the kind of incidents the Aramco people had all been fearing: two Bechtel men, drunk enough to be adventurous, took a car and went into Dammam in the middle of the night to see what they could find in the way of entertainment. An Arab policeman found them touring the street at 1 A.M. followed by a crowd of boys, and told them to go home. Surprisingly, they did. Next morning the Company told them the same thing, and put visas into their hands.

On September 4 the camp received word that their ship No. 8 had been torpedoed and sunk. Immediately it began to seem that everything crucial, everything that had been totally and absolutely and excruciatingly necessary, had been on that boat. They were missing the oxygen plant, essential for welding, plus 8½ tons of kitchen equipment for the Arab mess hall. They were missing plywood, nine dump trucks with sand tires, large supplies of sodium hexamate phosphate.

More new men, and more going out almost as fast as they arrived. On September 21 Les Snyder estimated that 20 per cent of those who had come in had already left. He knew of 255 altogether who were no longer with them. Those who remained had wretched conditions and inadequate food and practically no recreational facilities at all and incessant frustrations on the job. The juke box was busted, the ice cream machine didn't work, the management people complained that they were getting the dregs of the U.S. labor market, and the laborers complained that they had been sold down the river. Four crane operators quit in a single week and stopped all unloading on the Ras Tanura pier. There were all-day executive meetings. There were attempts to enlist a labor force

from India, from Iraq. Workers from both places came in before there were facilities to care for them, and added their bit to bedlam and their complaints to the sleepless nights of Aramco and BMC bosses. Several hundred Americans were waiting expensively in Cairo for transportation to bring them to Arabia.

On October 19, under Navy guard, Bill Burleigh supervised the unloading at Ras Tanura of 2,000,000 silver riyals, symbols of the growing needs of Saudi Arab life, from Boat No. 10. In November there came and went, almost unnoticed in the uproar, a pipeline mission interested in examining the route for a proposed Gulf-Mediterranean pipeline, now renewed as a Company project without government participation. That, when it came to pass a few years later, would be the Trans-Arabian Pipe Line, known as Tapline, a subsidiary operation that would dwarf many whole industries. The day after that group, which included Lenahan and Hamilton, left Dhahran, Vic Stapleton came back from a visit to Eritrea with an optimistic report on the possibility of using interned Italian colonists as a short-term labor force.

Gradually, no one knew precisely how, things improved. Indians who had been striking because of the food situation settled down; the Iraqis proved to be good craftsmen; bunkhouses got built and cargoes unloaded; new men came in and the discontented went out again and the others settled down to the jobs they had come to do. Someone fixed the juke box and the ice cream machine. Outdoor movies flickered in the Ras Tanura evenings. McConnell's Drilling Department finally managed to spud in Qatif No. 1 and Abqaiq No. 6 by the middle of December.

They had upped their delivery of crude to the Bahrain refinery to 32,000 barrels a day. Their own teakettle refinery was running. Several miles of the Arabia-Bahrain pipeline had been laid, and with good weather they could push that ahead at the rate of 1,000 feet a day. At the end of the year their total strength was over 900 Americans, of whom somewhat more than 500 were Aramco, the rest BMC. And in mid-December had arrived the first 88 Italians from Eritrea, hastily assembled and flown over to prepare a camp for 1,100 more. They were welcome to the Saudi Arab Government only because it had been assured that no qualified Saudis were available, and that Italians would be given no preference in any way over Saudi workers. That promise could be kept: the first Italians arrived during a rare rain storm in a camp that was bursting with a hundred other preoccupations and that had not been warned of their arrival. It was weeks before they had anything even primitively adequate in the way of shelter or mess halls.

Sometime during all this Dr. Alexander was upset to discover amoebic dysentery bugs in the stools —compulsorily supplied—of 15 houseboys. Shortly thereafter he lost his first perturbation. One of the houseboys, for a slight fee, had been saving the others all that bother, and had been supplying sample stools for them all. The harried Hundred Men, swamped and overrun, made the most of that bit of comic relief.

They had been like the island outpost of an army—cut off, isolated, out of touch, holding out as they could and starved for word of how the war went elsewhere. But by the fall of 1944 there was no longer any doubt which way it was going; there was only doubt about how long it would take. Dhahran no longer felt like the end of the world. It saw increasing numbers of ships and planes, it got supplies and a flow of new people that grew rapidly to a flood, it received mail, it was in communication. And it began to be very impatient to see its wives, exiled to safety in the United States since 1941.

Floyd Ohliger, as General Manager, was the appropriate man to make the suggestion that they start coming back. He had been in a position of great power and responsibility during all the war years, and had grown in it: he was a long way from the freckle-nosed boy who had landed at al-Khobar at the end of 1934, or the young husband, baffled by his first turkey-carving, that Phil McConnell had described in 1938. He had become a friend of kings and princes; indeed, Ibn Sa'ud had often kidded Ohliger that he was going to find him a nice Bedouin girl for a second wife, and that he was sure Dorothy would not mind. Ohliger had also become a companion of generals, a consultant of governments, besides holding virtually single responsibility for emergency Company action. So when he suggested to San Francisco that it was time the wives come back, or at least the wives of the people with the highest seniority, San Francisco listened, and agreed, and looked around to see what it could do.

In November 1944, seven Aramco wives in different parts of the United States got telephone calls asking if they could be ready to leave for Arabia within a week. They said no, of course not, but they were all in Philadelphia for Thanksgiving, just the same, and next day they were all at the dock for the sailing of the Portuguese ship that was to take them. They were Dorothy Ohliger, Esta Eltiste, Kathleen Barger, Gertrude McConnell, Roberta Scribner, Maye Beckley and Marie Ross. Not all of them were "management" wives—Marie Ross and "Scribby" Scribner were the wives of foremen—but they were all wives of men with long service, and anyway the kind of thinking that would have made a distinction among them on the grounds of job or status had never applied on the Arabian frontier. Kathleen Barger and Maye Beckley, the only two of the seven with young children, had to leave them in the United States.

Their plan was simple and direct. This neutral ship would take them to Lisbon, where they would transfer to another Portuguese vessel bound for Haifa. From Haifa they would make their way, by air if possible, by land and sea if necessary, to Basra and Bahrain and thence "home." So self-confident were they that they dared Providence in the matter of luggage: Gertrude McConnell, for one, asked how much luggage she was allowed and was told she could take what she needed. She took not only her suitcase but a good large steamer trunk, its whole bottom full of her flat silver.

They went with lights blazing and the Portuguese flag prominently displayed to mark their neutrality, but they neither feared nor should have feared submarines at that stage of the war. Across the South Atlantic they were like seven schoolteachers on a cruise. They did not begrudge Kathy Barger, the youngest and prettiest, the admiration she obviously inspired in a handsome young Spaniard; and if the sea roughened, or shipboard life began to grow tedious, they could always be roused into hilarity by one of Maye Beckley's lectures on what "we ladies" might or should or should not do.

Then at Lisbon fell a blow: the ship they had hoped would carry them to Haifa had gone somewhere else. They were like a truck in a *sabkha*—their wheels spun, they settled, there they were, embedded in Portugal. Gertrude McConnell put her trunk in bond at the customs house and they came ashore. In Estoril they lived in appalling luxury at the Palacio while they waited for someone to find them a ride to Arabia. The messages they sent to their husbands might or might not reach them (they didn't), but in the meantime the ladies might as well enjoy themselves. Enjoyment was made easier by the courtly attentions of another Spaniard, the uncle of the young man on the ship, who like his nephew fell hopelessly and gallantly in love with Kathy Barger. He turned out to be the manager of a famous winery in Spain; their table was impeccable.

They had arrived early in December. Around their little neutral country the nations were locked in war, and though beyond the eastern end of the Mediterranean was an aura of relative peace toward which they were bound, there was no way to get across to it. On Christmas Eve, however, they had a flurry, and had their bags half packed ready for instant departure: Dorothy Ohliger and Gertrude McConnell had a promise that they could hitchhike to Alexandria aboard a British military plane. From Alexandria it should be possible to get down to Jiddah, or to catch a plane across to the Gulf. But that hope too went glimmering: two wayfarers named Churchill and Eden came through on their way to try to settle the Greek civil war, and the plane that was to have taken the seven ladies flew away on sterner business.

They had been in Portugal nearly six weeks, and they as well as all associated with them were beginning to feel fairly desperate, when it appeared that the British Government, which meant in these parts a set of very decent and lonesome British officers, would arrange to get the seven from Gibraltar to Alexandria if Thomas Cook & Son could get them to Gibraltar.

It was actually rather dangerous, but they said they did not care how dangerous it was, they wanted to get on to Arabia. Gertrude McConnell had already had to get her trunk out of bond, because six weeks in a luxury hotel had put a strain on her wardrobe. Now she bundled it aboard the train with the rest of their luggage and they went down to the southern tip of Portugal, under orders not to talk about where they were going. Feeling like smugglers or international spies, or perhaps like contraband, which is essentially what they were, they transferred secretly to a converted yacht, and that night they ran blacked-out and tense through what remained of the submarine blockade in the Straits and arrived in the morning safe inside the nets of Gibraltar.

The intention of the officers who had engineered their hegira from Portugal had been to put them aboard a French vessel commandeered by the British at Madagascar and now used as a troopship. This was to take them to Alexandria. But their troopship arrived at Gibraltar with her stern blown off by a torpedo. The ladies settled down for another wait.

British gallantry was put to the test and met it like the Scots Greys at Waterloo, or the Light Brigade at

Balaklava. Making their quarters on the torpedoed troopship while she was being repaired, the ladies spent 10 days being squired around and smothered with attentions, and acquiring information on the fortifications of Gibraltar that would have made their fortunes in any Axis country. Military security melted away before them like wax. Whatever they expressed a desire to see, they saw. If the sentiments of the garrison could have been expressed without hindrance, the seven wandering wives would have had a salute of a hundred and one guns when their patched-up ship pulled out for Alexandria, with Gertrude McConnell's steamer trunk of silverware battered but intact in her hold.

Alexandria did not hold them. Trailing a taxi-load of suitcases and the albatross-like trunk, they took the train to Cairo. And Cairo was practically home. It had the proper smells, the proper snarling uproar of camels, donkeys, and automobile horns, the proper Arabic signs and dress and the sound of the Arabic tongue. Most important, in Cairo there was an Aramco office. From here on they were in Company hands.

The Company's hands turned out to belong to Willie Jones, he who had helped Floyd Ohliger engineer the Christmas greetings from home. The seven put themselves helplessly at his disposal. Gertrude McConnell's trunk was in bond again. They settled in Shepheard's Hotel, and sat on the terrace having a cool drink and watching the incomparable traffic of Cairo howl and catapult and lope past, and waited for Willie Jones to find them transportation to Dhahran. That was not easy for Willie to do. At one time he had had as many as 200 prospective construction men bound for the Ras Tanura project stacked up on his Cairo doorstep waiting, sometimes for weeks, for that same thing.

Fortunately, in deference to the Company's importance for the prosecution of the Pacific war, Floyd Ohliger had been able to squeeze out of the United States Government the rental of a C-47 from the U.S. Air Force for essential Company business. This plane, though subject to military orders and even to diversion to other purposes in emergencies, could be used to transport essential personnel and supplies between Cairo and Dhahran or Bahrain. The military authorities on the scene, with lamentable myopia, decided that the seven ladies were not essential; but, since the aircraft was going to Dhahran anyhow, and didn't have a full load, Willie Jones persuaded the brass that no great harm would result if the girls went along, trunk and all.

And now Gertrude McConnell, after dragging her trunkful of silver by train and freighter and train and converted yacht and troopship and train again from California to the shadow of the sphinx, was brought by it to a difficult moral choice, what social psychologists call a crisis-situation involving conflicting value-systems. At the last moment there showed up a young Aramco employe hitching his way out to Dhahran, one of the influx scheduled to build up the Ras Tanura refinery and win the war. He had applied for passage and found that the C-47 was loaded to its very limit, but that there was a trunk. He came politely to Gertrude McConnell to ask if she would mind dumping the trunk to make room for him.

She looked at him and breathed deeply and weighed his importance to the war effort against all the trouble she had been to about that trunk through more than two months of very erratic travel, and she pondered all that could happen to it, stored in Cairo while it waited for another chance that might never come, and thought of the months that might elapse before she could set her table in Dhahran with the things she had wanted there. Then she looked at the young man, who was polite and anxious, and took a deep breath and said no. Not for Eden, not for Churchill, not for the President of the United States. She was sorry, but that was the way she felt.

They emplaned, the motors whirred and caught, the plane shuddered through its warming-up and the bumps of taxiing down the strip. They fastened their belts and took off into the pale sky and saw Cairo fall away beneath them, and the palm-fringed river, and the desert pale and splotched with shadows. In an hour they crossed Suez, a thin inked line seen between puffs of cloud, and after a while, away up northward, they saw stretching away the fantastic canyons of the Sinai Desert half-filled with sand, cliffs and mesas and sheer surrealist rims reaching backward into the haze. In another hour or two they would be in Basra, in a few hours more in Bahrain. And then home.

At about that time word dribbled back from the crew's compartment in the nose that they had military orders to stop at Abadan and pick up passengers. The ladies looked at one another and there was sympathy in every face and defeat in Gertie McConnell's. There went the trunk. There, maybe, went some or all of themselves.

But there was only one passenger at Abadan, and when she saw who it was, Dorothy Ohliger screeched and could hardly get off fast enough. It was Floyd Ohliger, as startled as they were. The last word he had had was that the seven were somewhere in Spain or Portugal, safe, but hardly imminent. Of all the passengers they might have been asked to pick up in Abadan, there was none more likely to show sympathy with Mrs. McConnell's trunk problem. He got both it and himself aboard; they thought it best not to inquire too closely how. They were too anxious to get home to question anything; they had been out since the day after Thanksgiving, and it was now nearly St. Valentine's Day.

In Dhahran, when the word came through that they were coming, work utterly stopped. The radio said they would arrive around 4 P.M. The men had oiled the landing strip a day or two before, in general and hopeful preparation, and there was nothing to do down at the airfield, but by lunch time on arrival day Cal Ross and Bill Scribner were both down there, wearing neckties. A little later Phil McConnell and Bill Eltiste showed up. Eltiste, slouching along the strip and ruminating problems, suggested that they ought to make some preparations for a night landing in case there was any delay. It was his particular genius to foresee and forestall problems, or solve them when they arose. So he got together a batch of five-gallon oil tins and a barrel of mixed kerosene and crude oil, rigged each tin with a wick, and had the boys outline the landing strip with them. By that time it was nearly four o'clock, and the whole camp was down there.

Then delays—word from here and there, rumors, explanations. Four o'clock passed, and five, and no plane. Six o'clock, and it began to grow dusky. They lighted the flares and outlined the strip with smoky, flickering red. Still no plane, no sound of motors, no wing lights in the pure cooling sky over the Bahrain channel. The stars began to appear, and here and there men had hallucinations, seeing what they hoped to see: "There she is! There she comes!" But it was always Canopus, or Arcturus, or Polaris, or Deneb or the rainy Hyades.

Darkness, and still they didn't come. And then finally the plane was coming in truth, they all heard her at once, and saw her lights sure, and no star. She circled the flare-marked field, went away and came back, turned and headed in. The moment she hit the runway the pilot slammed on his brakes and all but stood her on her nose. She skidded, and shuddered, and swung sideways, and stopped.

Later, when the first clamor of welcome had subsided, they found out the cause of that abrupt landing. The pilot, who had never seen the field, had been all for stopping in Bahrain. He had no wish to set down a plane as big as a C-47 on an unmarked, unlighted airstrip with no control tower or ground-to-air communications. The ladies pleaded with him. Ohliger was sure he could guide him in. Esta Eltiste was positive that the boys—meaning Bill—would have made some sort of preparations for an after-dark landing. The pilot yielded, but he was skeptical until the last second. As soon as his wheels touched the oil he hit the brakes, afraid he would run her off into the Gulf or into the side of a *jabal* or flip her in deep sand.

But all he did run into was the lonesomest and happiest crowd of men in the Middle East. And with the marks of his skidding wheels he drew a line between the Time of the Hundred Men, as Phil McConnell had called it, and the later time, nameless, busier, more crowded, and less worth a man's devotion. Within a few months another plane brought Muriel Davis, Anita Burleigh, Virginia Hattrup, Leda Mair and some others, who had experienced their own odyssey and who had been hung up a long time in Casablanca. And within a few months construction was going full blast, the place was swamped with newcomers who knew nothing about Arabia and (old-timers thought) cared less. The solidarity of the Hundred was broken, the Animal Farm was gone, Sewage Acres was a memory, married were separated from single, the Golden Age of bunkhouse solidarity was gone by.

Though they didn't know it yet, the best time of many lives was over. The pioneer time of exploration and excitement and newness and adventure was already giving way to the time of full production, mighty growth, great profits, great world importance, enormous responsibilities, and the growth of corporate as distinguished from personal relations. Many of their greatest accomplishments were still ahead of them, and the American involvement in Middle Eastern economic, cultural, and political life that Lloyd Hamilton had begun at Jiddah in 1933 would grow deeper, more complicated, and more sobering. Not inconceivably, the thing they all thought of as "progress" and "development" would blow them all up, and their world with it. But that is another story. This one is purely and simply the story of a frontier, and the return of the seven war-exiled wives to Dhahran's makeshift airstrip in February 1945, is as good a date as any to mark its passing.

THE END

ISLAM IN TAIWAN

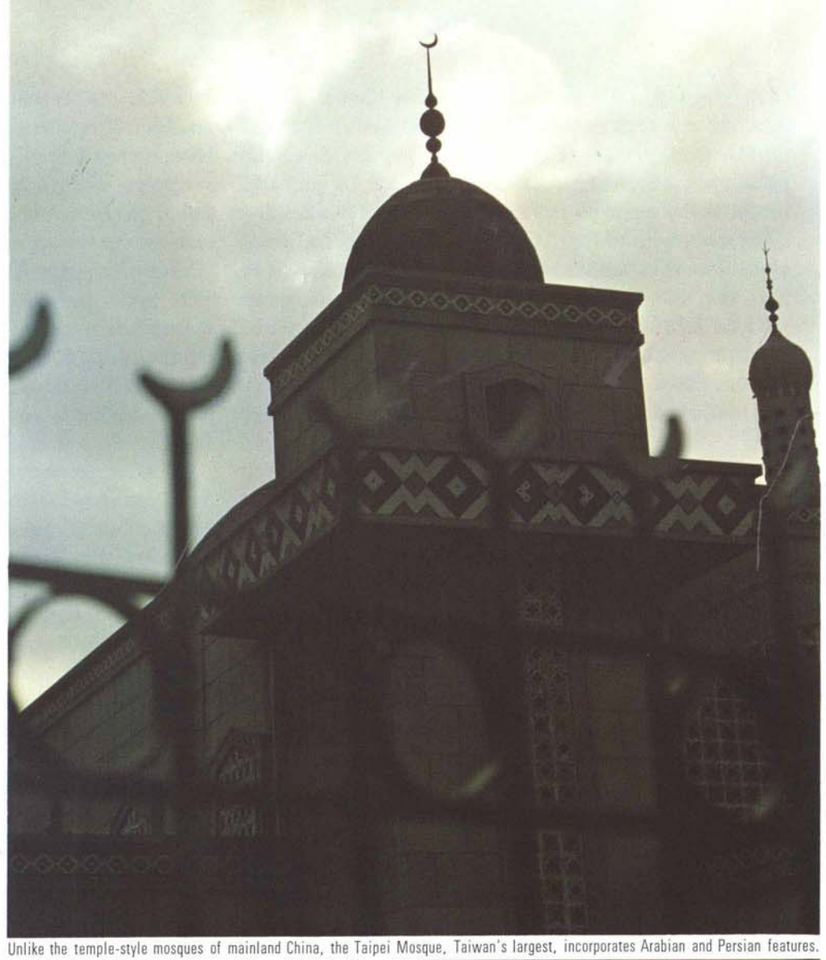
Cut off from its roots, Taiwan's small community of Chinese Muslims struggles to survive.

BY PETER G. GOWING
PHOTOGRAPHY BY RAY CRANBOURNE
MAP BY MAX ABELLANEDA

Twice in its history the island of Taiwan has been invaded by Chinese refugees fleeing the collapse of a mainland regime. And both times Muslims were among them. The first invasion occurred in 1661, after the fall of the Ming dynasty, when a legendary hero called Koxinga (Cheng Cheng-kung) led 25,000 followers from the southern coast of China and seized Taiwan from the Dutch. The second invasion took place nearly three centuries later, in 1949, when Nationalist President Chiang Kai-shek, after his defeat by the Communists, led more than a million followers into exile on the island of Formosa, a Portuguese name meaning "beautiful."

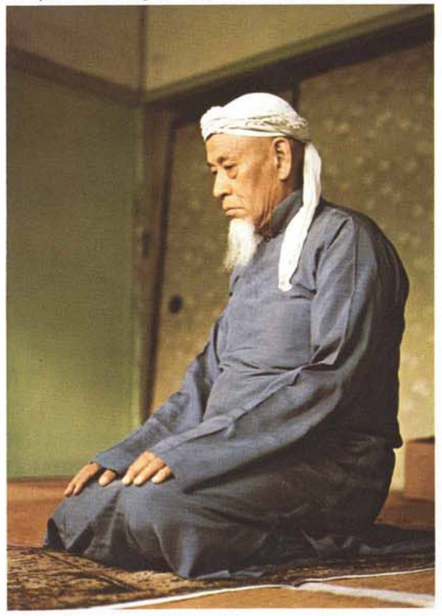
It is not known exactly how many Muslims accompanied Koxinga to Taiwan in the 17th century. The records suggest that there were only a few families, all of them from Fukien Province. They were the first Muslims to settle on the island, and in the course of time their descendants drifted away from Islam. As one generation followed another, they became almost totally assimilated into Taiwanese society, adopting Taiwanese customs and the Taiwanese religion (an eclectic mixture of local spiritism, Taoism, Buddhism and Confucianism). Cut off from effective contact with the large and vigorous Muslim community on the mainland, the Islamic faith on Taiwan simply atrophied.

The half century (1895-1945) of Japanese rule on the island provided the *coup de grace*—the Taiwanese were discouraged from practicing "foreign" religions. If there were a few Muslims on Taiwan under the Japanese, they were not native to the place and they practiced their faith as individuals and not as a community. In his *History of Taiwan*, written in 1918, Professor Lien Ya Tang said, "The spread of Islam in Taiwan is nil; believers are few, mostly from other provinces; hence there is no mosque in Taiwan as yet." Still, interesting traces of Islamic practices are preserved by the present-day descendants of the Muslim followers of Koxinga. The Kuo family in Lukang, for example, does not include pork among its offering at the family shrine even though the family is not Muslim. Two families in Keelung place copies of the Holy Koran before the tablets of their ancestors. The present owners are not Muslims and do not read Arabic, but they honor a book held sacred by their forebears. Two or three families in Tainan observe funeral customs of Islamic origin—including the ceremonial washing of the body and wrapping it carefully in white cloth—though in all other respects they are culturally Taiwanese.

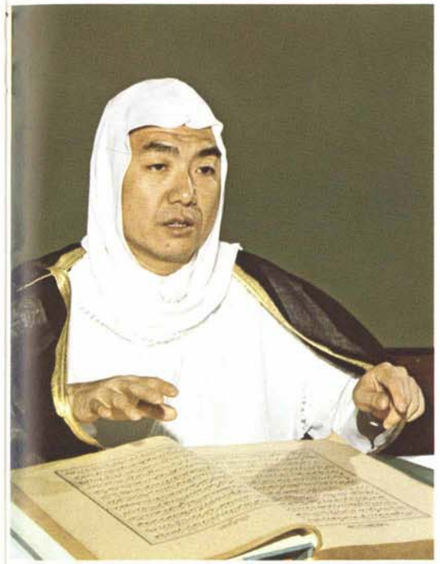


Unlike the temple-style mosques of mainland China, the Taipei Mosque, Taiwan's largest, incorporates Arabian and Persian features.

Muslims attend Friday service in the spacious Taipei Mosque.



Hu Shiao-lin, the 78-year-old ahong at the mosque in Taichung, in prayer.



In Taipei (below), Ma Chi-hsiang works on a new Koranic translation.

These traces and others of a similar nature are about all that is left of the Islamic presence on Taiwan introduced in Koxinga's time. Today not more than 200 out of some 10 million native Taiwanese (as the descendants of the early Chinese settlers are called) are Muslims. Practically all of them are recent converts, many because of marriage to Muslim mainlanders.

Among those who came over from the mainland with the Nationalists in 1949, however, were an estimated 20,000 Muslims. They came from all over China —which has 20,000,000 Muslims in all— but many of them had been born in the provinces where Islam was especially strong: Yunnan, Sinkiang, Ninghsia and Kansu—all in the western and northern regions of China. They are, like the other mainlanders, mostly soldiers and government employes, though there are now many shopkeepers and teachers among them.

A few Muslim leaders hold seats in the Legislative Yuan and the National Assembly. There are Muslims serving as ranking officers in the armed forces of the Republic of China, notably Lt. Gen. Ma Ching-chiang, formerly Deputy Commander-in-Chief of the Combined Service Forces and now one of the top advisers of President Chiang Kai-shek. Muslims also hold important posts in the diplomatic service, among them the Republic's present envoy to Kuwait, Ambassador Wang Shi-ming.

The beginnings of Islam in mainland China are obscure, but the year A.D. 651 is usually accepted as the date for the first official contact between the Caliphate and the Chinese Empire. In that year an embassy from the Caliph Uthman was graciously received at the capital of the T'ang dynasty. Later, Arab traders settled in some of the southern seaports, notably at Canton, and established a rich commerce with the Middle Kingdom. In 756, some 4,000 Arab mercenaries, sent by Caliph Abu Ja'far al-Mansur, assisted the Chinese Emperor in suppressing a Tartar revolt and were rewarded with land and permission to settle in the Empire. After that, particularly during the Mongol conquests of the 13th century, other Muslim peoples—Arabs, Persians and Turks—moved into China, settling principally in the northern and western provinces.

The Mongol rulers encouraged Muslim scholars, traders and craftsmen to make their home in China. It is said that certain Muslim arts and sciences, especially medicine, mathematics, astronomy and military science, flourished more vigorously in Mongol China than in Baghdad.

At first the Muslims constituted a distinctly foreign element in Chinese society, set apart by their dress, language, dietary laws and religious customs. In many places they lived in separate communities called *ying* ("barracks"), reflecting their military origins. But they took Chinese wives; their descendants adopted Chinese names and Chinese ways; and with the passing centuries they became racially and, to a high degree, culturally indistinguishable from the general society. Even so, psychologically and religiously they regarded themselves as a people apart. They refused to eat pork. They greeted each other with Arabic or Persian salutations. They wore turbans. They buried their dead in segregated Muslim graveyards. They followed their own Muslim marriage customs and laws. And they worshipped in mosques, receiving the ministrations of *imams* and *ahongs* (from the Persian *akhund*, a teacher and religious functionary) whom they chose from among themselves and trained in their own seminaries. Chinese Muslims followed a somewhat Sinicized brand of Sunnite Islam, adhering to the Hanafi School.

From time to time religious reformers would try to bring Chinese Islam more into

Ma Hsing-chih is ahong at the mosque in Chungli (top, center).

line with religious practices in the Middle East. In the 17th and 18th centuries a quarrel arose between "old doctrine" and "new doctrine" factions, the latter pressing for a "return to orthodoxy" and urging a centralized, institutionalized orthodox Muslim state. The quarrel continued into the 19th century and was the chief factor in the collapse of a Muslim rebellion against the Manchus in the western and northern provinces.

The revolution of 1911, under the leadership of Dr. Sun Yat-sen, liberated the Muslims from Manchu oppression and went on to recognize them, along with the Han, Manchurians, Mongols and Tibetans, as one of the five "races" constituting the Chinese people. Soon a "new, new doctrine" arose among the Muslims, supported by the Kuomintang, advocating a liberalized Islam, more accommodating to Sinicization and open to reform in terms of social customs, political theory and religious faith. Adherents of the previous factions united against this new threat believing that its real aims were to promote "pan-Hanism" and to destroy the influence of the traditional religious leaders. Thus, there crystallized a fresh division among the Chinese Muslims: the "old sect" versus the "new sect". The latter had many followers among Muslims in the large coastal cities.

To some extent this division is reflected in today's rivalry between Taiwan's two Muslim religious organizations: the Chinese Muslim Association and the Chinese Muslim Youth League.

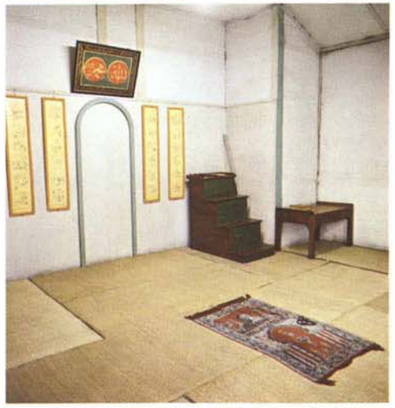
All Muslim Chinese on Taiwan are regarded as members of the Association, headed by Acting President Abubakr Chao Ming-yuen. Founded on the mainland in

Hu Shiao-lin first came to Taichung—and to Taiwan—in 1949.

1937, it followed the Nationalists to the island in 1949. It is the only organization officially recognized by the government as speaking for the Muslim community. Many of the Association's leaders are also government officials.

Working through its several local branches, departments and committees, the Association engages in many activities. Since 1959 it has produced two complete translations of the Holy Koran into Chinese. It publishes a monthly magazine devoted to Muslim interests. It sponsors a weekly radio program beamed to the mainland by the China Broadcasting Corporation. It conducts an educational program for young people and supplies reading material for Muslims in the armed forces. The Association, through its Overseas Affairs Commission, maintains lively contact with the World Muslim League and other international Islamic organizations. It also receives and entertains many foreign Muslim visitors to Taiwan; nominates pilgrims for the annual hajj (only five can go, by government edict); selects students for scholarship awards to study at Islamic centers abroad; and assists in arrangements for foreign Muslim students studying in Taiwan. Occasionally, in cooperation with the government, the Association organizes goodwill missions to Muslim countries.

The Association has its headquarters in the beautiful and impressive Taipei Mosque,



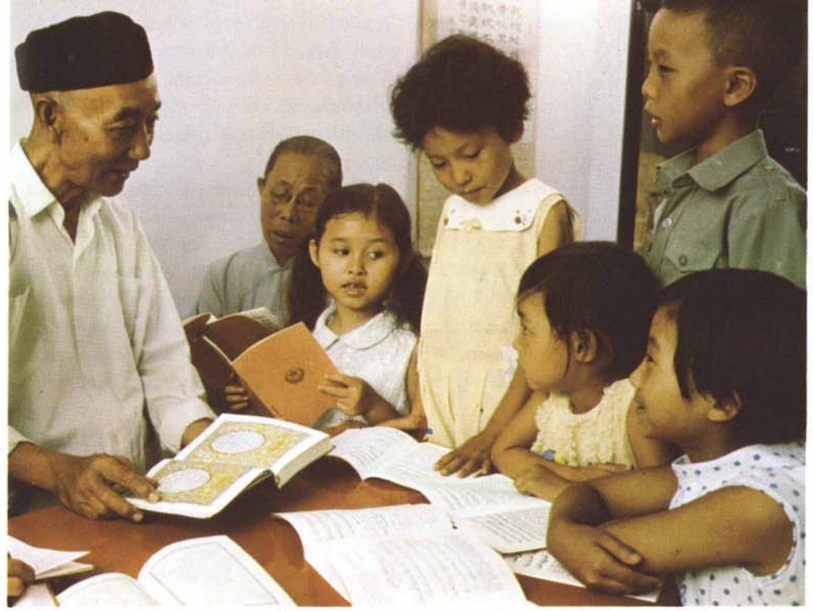
The mosque at Kaohsiung was formerly a Japanese family house.

which was built in 1960 under its leadership. It solicited funds from local and foreign friends (including Their Majesties the Shah of Iran and the King of Jordan) for the $150,000 edifice—and arranged a loan of $100,000 from the Nationalist Government which was only too happy to have a stunning mosque to show visiting Muslim dignitaries.

Rivaling the Chinese Muslim Association in enthusiasm, though not in numbers or influence, the Chinese Muslim Youth League has its offices in the Culture Mosque, a converted Japanese house also located in Taipei. The President of the League is Hajji Ishaque Shiao Tung-tai who serves as imam of the mosque as well.

Hajji Ishaque was one of the founders of the League in the city of Mukden, Manchuria, in the early 1930's. At that time it was called "The Chinese Muslim Youth Cultural Improvement Association" and its purpose was to unite Muslim youth against the Japanese and their puppet regime in Manchuria. During the Nationalist-Communist civil war of the late 1940's, Hajji Ishaque and many members of the organization migrated to Kwangtung Province where, at Canton in July of 1949, they reorganized themselves, with other interested Muslims, into "The Chinese Muslim Youth Anti-Communist and Nation-Building League." Later that year the League moved to Taiwan. The members, including Hajji Ishaque, were at first active in the Chinese Muslim Association, but in 1951 they withdrew in order to preserve their separate identity as a Muslim religious organization. The League adopted its present name in 1957.

The Chinese Muslim Youth League



Among his duties as ahong of the mosque in Chungli (preceding page), Ma Hsing-chih instructs children in the Arabic language.

Hajji Ding Han has sons studying Arabic in Libya and Lebanon.

Girl in Lukang village is descendant of 17th-century Muslims.

requires formal registration of its membership and as of mid-1969 it recorded 560 members, including 55 Taiwanese converts. Most of the members live in and around Taipei, though some are scattered throughout Taiwan. The League, according to Hajji Ishaque, represents a continuation of the "new sect" faction which had existed on the mainland. It is liberal and reformist in attitude and is usually more accommodating to Sinicization and change than is the case with the Chinese Muslim Association. In ritual matters the League incorporates some minor differences vis-a-vis the Taipei Mosque. For example, while the larger mosque offers its prayers in Arabic, the prayers in the Culture Mosque are rendered in Chinese, reserving Arabic only for the recitation of a few verses from the Koran.

In general, the League feels that it has appeal to a younger and more progressive group than is represented in the Association. It conducts regular classes for young people and stresses instruction in Islamic law and theology rather than in Arabic language and ceremonial concerns.

Neither the Association nor the League engages in active evangelizing for converts. Yet some converts are won to Islam each year. There are those, especially the Taiwanese converts, who embrace Islam as a condition of their marriage to Muslims. But the rest are attracted to the faith through contact with Muslim leaders or general reading. Both organizations put literature into the hands of inquirers and give a cordial welcome to those who are curious about the faith. The Taipei Mosque reports some 100 conversions annually and the Culture Mosque attracts about half that many.

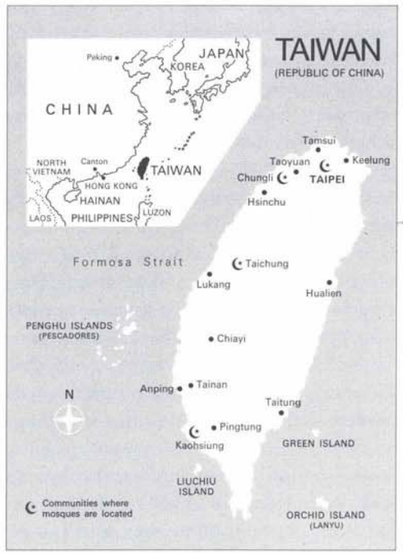
Despite the winning of a number of converts, and the natural increase within Muslim families, there does not seem to be a substantial numerical growth annually in the Muslim community. There are no official figures available but one observer feels that birth and death rates within the community are about balanced and that if there is a net gain each year it is only slight. The Chinese Muslim Association claims that there are 40,000 Muslims on Taiwan (it has made that claim every year since 1959) and that about half of them are "Taiwan-born

descendants of Chinese Muslims who came . . . with the hero Koxinga." There may well be 20,000 Taiwanese descendants of Koxinga's Muslim followers by now, but they most definitely are not Muslims today—and from all appearances they do not want to be, despite the efforts of the Association to resuscitate Islam among them. Twenty thousand is probably a good working figure for the size of the Muslim community, though within that number it is hard to say how many are "practicing" Muslims.

Only five mosques serve the religious needs of Taiwan's Muslims—two of them in Taipei and one each in Chungli, Taichung and the large port city of Kaohsiung. The Taipei Mosque is the largest and most attractive of all the mosques on Taiwan. Unlike the temple-style mosques of the China mainland, it incorporates Arabian and Persian architectural elements, including two stately minarets. The spacious, high-domed central hall can accommodate up to 1,000 worshipers. The building also has an auditorium seating 400 persons, a reception hall, several offices and ample facilities for ritual ablutions.

The mosques on Taiwan are completely autonomous and are rather simply organized. The elders in each mosque choose a board of directors which oversees the material concerns of the community. The board in turn selects an imam or ahong to take general charge of religious affairs.

There is little difference in function between an imam and an ahong. The former is the more prestigious title and is reserved for one especially well-versed in Arabic and the teachings of Islam. Both of the mosques in Taipei are headed by imams



who are highly qualified and trained for their posts. Hajji Ishaque, imam of the Culture Mosque, was educated in Manchuria. Hajji Ma Tse Chiang, imam of the Taipei Mosque, is a China-born citizen of Saudi Arabia, educated in Mecca and Medina. Incidentally, he is also Professor of Arabic at the National Chengchi University in Taipei.

The other three mosques on Taiwan are in the care of ahongs. In mainland China, ahongs were of different grades, performing different functions. On Taiwan there are six or seven ahongs, all more or less of the same grade, able to read some Arabic, preach the doctrines, explain Islamic law, adjudicate minor disputes within the mosque community, officiate at ceremonies (such as name-giving, circumcision, weddings, funerals) and lead in the public prayers. Both the Taipei Mosque and the mosque in Kaohsiung employ a sort of "minor ahong" whose main duty is to slaughter animals according to Islamic law. None of the ahongs presently functioning on Taiwan has received the standard training for his office. They are older men, retired soldiers most of them, chosen for their piety and above-average religious learning.

On the mainland, some of the larger cities such as Peking and Mukden had mosques exclusively for women, with women ahongs in charge of them. No such development has occurred in Taiwan. When women do go to the mosque, and few do, they accompany the men, though at the mosque they are usually separated by a cloth screen. Women have traditionally enjoyed considerable freedom in Chinese Islam, and they have the same freedom on Taiwan. There are no harems and no veils. Polygamy and divorce are both quite rare.

Religious instruction is given to children by their parents in the home, but classes for older boys and girls are conducted at the mosques, usually during the weeks of school vacations in the winter and summer. Only the Taipei Mosque is able to have an educational program which runs throughout the year. Some 30 youngsters are currently enrolled in classes which meet two hours a day on Saturdays and Sundays.

While there is general awareness that the Hanafi School of Islamic jurisprudence is traditional in Chinese Islam, on Taiwan there is little application of the religious law outside the mosque because, of course, Nationalist China is a secular state and recognizes no law but that of the state. Within the mosque community, however, offenders are judged and punished by a council called and presided over by the ahong.

Abstinence from pork and alcohol are among the usual marks of a Muslim society, though the Muslims on Taiwan honor the prohibition against alcohol more in the breach than the observance. Even the rule against pork is very hard to maintain in pork-eating Taiwan. Until recent years, the Taiwanese did not generally eat beef because they regarded it as an unconscionable offense against cattle from whom they otherwise receive so much—milk for the children, work on the farm, transportation, etc. The fact that Muslim restaurants —and there are more than twenty on Taiwan—do not serve pork, but do serve beef, makes them something of an oddity.

The Chinese Muslim Association cultivates and maintains relations with Muslim leaders and groups throughout the world, particularly in the Middle East and in Southeast Asia. Because Taiwan's Muslims are mostly exiles from the Communist-dominated mainland, it is not surprising that in their contacts with world Islam they are advocates of a strong anti-Communist and anti-Peking position. The hajjis selected to go to Mecca each year are zealous missionaries of Nationalist China's opposition to Communism. Indeed, their travel is even subsidized by the government. After the pilgrimage they are expected to visit various Muslim countries, calling on political and religious leaders and exchanging views on ways to protect Islam from Communism.

A significant link between Islam on Taiwan and the Muslim world exists in the small group of Chinese Muslims studying at Islamic centers overseas. At present some nine students are studying Arabic, religion and other subjects in Saudi Arabia, four in Libya and one in Lebanon. Taiwan has no seminaries for the training of Muslims for religious leadership so the education these students are receiving abroad is of vital importance to the future of the Muslim community on the island.

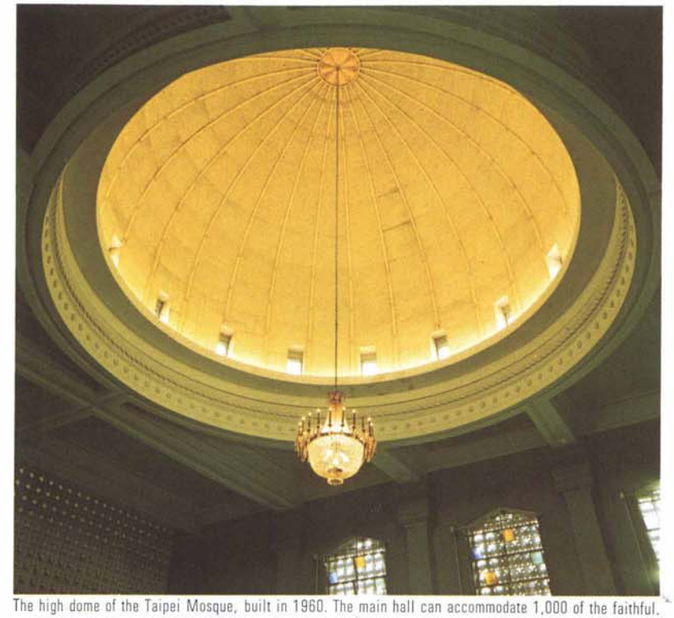
In talking about the problems they face in the practice of their religion on Taiwan, the Muslims mention the hardship of performing their Friday religious duties in a society which treats that day like any other. No special considerations are given them on Muslim holidays or during Ramadan, the month of fasting. The fact that most Muslims on Taiwan are of the middle and lower middle class causes them to despair of having adequate resources for future development and progress as a religious community. In addition, there is a problem of leadership which grows more acute each passing year. The present leaders have carried their responsibilities for many years, and there is apparently little interest on the part of the younger generation to relieve them. One ranking Muslim leader has stated that of the 14 students now studying abroad, only two or three in all probability will return to take up active leadership roles in the community.

In short, the small Muslim community on Taiwan confronts the problems inherent in being a tiny minority in an overwhelmingly non-Muslim nation.

Even so, Islam *is* present and alive on Taiwan. The Muslims there are loyal to the Nationalist Government and feel that their future is bound up with that government. They are cut off from their coreligionists on the mainland, but even after two decades of exile they continue to hope that the separation is only temporary. Should Taiwan remain permanently separated politically from the mainland there is no telling what would happen to Islam on the island. The Islam which accompanied Koxinga in the 17th century eventually died out largely because it was cut off from its mainland roots. History might repeat itself.

Then again, it might not. Far more Muslims came to Taiwan with Chiang Kai-shek than with Koxinga. They are better organized and are very much in touch with the Muslim world. If the present generation of Muslims can transmit to the next generation only half of its courage and tenacity and loyal devotion to its Islamic heritage, then the future of the faith on Taiwan is assured, come what may.

Peter G. Gowing is Professor of History and director of the Southeast Asian Studies Program at Silliman University in the Philippines, author of Mosque and Moro, *and a regular contributor to scholarly journals in Asia, Europe and America.*



The high dome of the Taipei Mosque, built in 1960. The main hall can accommodate 1,000 of the faithful.

Muslim restaurant in Taipei specializes in beef dishes.

Children of the Chen family in Taipei do Arabic homework.

Little Siao-lan pretends to study too.

New GOSP for Safaniya

BY BRAINERD S. BATES / PHOTOGRAPH BY BURNETT H. MOODY

Last year, over an oil field lying under the waters of the Arabian Gulf, a new, low, and decidedly ungainly framework of steel rose up against the horizon some distance off the coast of Saudi Arabia. For the Gulf, it was just another addition to such offshore oil facilities as marine drilling platforms, production wells and huge steel islands for tankers. But for the Arabian American Oil Company, it was another in a continuing series of innovations designed to improve Aramco's production of oil. The framework was the beginning of a unique offshore gas-oil separation plant, called in the trade "GOSPs", whose function is to separate gas from crude oil before the crude can be sent any distance through pipelines or manufactured into products.

Normally, GOSPs are located on shore. Aramco has 26 such plants spotted strategically near groups of oil wells in its far-flung fields. Even the plant assigned to separate the oil and gas of Safaniya, the largest offshore oil field in the world, was located on the shore overlooking the field. Now some of the separation takes place in a multi-unit plant standing on legs 25 miles out in the Gulf, relatively close to some of the field's production wells.

In an industry as complex as the petroleum industry numerous factors contribute to decisions, but in the decision to build a GOSP offshore one factor was paramount: it would raise the throughput capacity of the trunkline through which oil moves ashore and therefore increase the potential of the Safaniya field. By placing the GOSP nearer to the wells, engineers agreed, back pressure would be reduced on the trunkline and the trunkline—which would then carry only crude instead of crude plus dissolved gas—could hold and move more oil.

The plant consists of three platforms standing out in the water in a line, all connected by metal-grating walkways. The easternmost platform supports the equipment which carries out the first stage of the separation process. The structure is dominated by two huge horizontal trap vessels designed to operate in parallel to separate gas from a maximum of 450,000 barrels per day of crude oil. The rest of the gas-oil separation takes place in spheroids of a second Safaniya GOSP on the shore.

On the same platform are three booster pumps for raising the degassed crude to a specified suction pressure before the oil goes to two shipping pumps nearby which send the oil landward, through an underwater line. The separated gas is flared at a standpipe tip to the eastward.

Many gas-oil separator plants depend on an external source of electric power to work the pumps. Aramco's land-based GOSPs, for example, get their electrical power from the company's utilities system. The new offshore Safaniya GOSP, however, must be self-sufficient. The installation's central platform supports the GOSP's utility system. Inside a large windowless building on the structure is a 13,500-kilowatt gas combustion turbo-generator, usually fueled by gas just separated from crude on the adjacent platform. It is the job of this big generator to supply electric power and compressed air for the operation of the GOSP. Below the generator space on the first deck of the utilities structure is the offshore GOSP's nerve center, a commodious control room where operators superintend the running of the GOSP and the main generator which powers it.

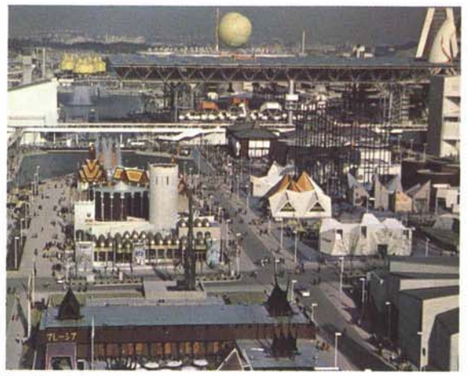
The third platform carries a two-story building used as living quarters for the operating crews and foreman. Atop the housing structure is a helicopter port and below it, near water level, a boat dock.

Built into the gas-oil separator and utilities structures are provisions for avoiding pollution of surrounding waters caused by accidental leaks of the crude oil running through the installation. A sump system carries off drainage to special tanks where the oil separates from water by gravity and the oil collected is pumped ashore.

The remoteness of Aramco's newest GOSP requires radio communications between it and key operations centers ashore to be of a very high order of reliability. Communications via telephone are carried over a frequency diversity microwave link with the field's shore base (which in an emergency can shut the plant down with the same system). Operators in the GOSP's central control room are able to talk directly by phone with company oil and marine people. Company specialists are now working on the technical practicability of running the entire offshore operation on automatic control, which would put an end to the stationing live-aboard crews on the GOSP and eliminate several of the loneliest assignments on Aramco's roster.

EXPO EAST:

FUN, FANTASY AND FUTURISM



The Kuwait and Abu Dhabi pavilions (center) and general view of Expo skyline.
Among the more innovative structures at Expo '70 were, clockwise, Wacoal-Riccar, the Japan Gas Association, Australia, the United States and, center, Suntory.

OSAKA.—In a word, Expo '70 is a frolic. They've mixed Disney with Darwin, Wright with Hiroshige, MIT with Coney Island. They've flung together vast quantities of plaster and rubber, stone and plastic, silk and steel, aluminum and canvas and twisted them all into absurd cubes, spheres, saucers, loops, cones, doughnuts, domes and mushrooms. Then, with an exuberant disregard of both taste and logic they have applied liberal coats of garish color, twinkling lights, laughing hostesses, raucous music and bubbling fountains. The result, you won't be surprised to hear, is a gaudy, occasionally brilliant and consistently fascinating excursion into fun, fantasy and futurism.

As anyone who can read must know by now, Expo '70 is Japan's—and Asia's—first world's fair. For that reason, perhaps, the nation's team of planners concentrated on the exposition with the same energy, imagination and intelligent ingenuity that in two decades lifted Japan out of the wreckage of World War II and into second place in the world's industrial sweepstakes.

For any nation the problems inherent in putting on a world's fair are large. For small, crowded, highly-urbanized Japan they seemed staggering. Where, for example, would they find space to accommodate not merely pavilions from 76 countries, 9 states, provinces and cities, and 34 corporations, but the auxiliary construction as well? How could they transport, house and feed an expected 50 million visitors from every corner of Japan and most corners of the world? Who would put up the $2.9 billion it would cost?

In fact, Japan had solved its basic problem as early as 1965, by setting aside 815 acres of land in a bamboo grove nine miles northeast of Osaka. Two years later, when the International Exhibitions Bureau announced its approval, a team of 13 leading architects turned its attention to the others: erection of the pavilions and the gaudy recreation area, development of 64 acres of traditional garden, excavation of lakes and rivers. Almost simultaneously the Expo association let contracts for five new expressways, began to construct a new railroad and to manufacture the burnished aluminum trains that would ply the new line. They built a town big enough to sleep 150,000 people, laid cables to feed a million kilowatts of power a day into the fair and water mains able to manage a throughput of 67,000 tons daily.

Construction of auxiliary facilities was just as challenging: parking lots for 20,000 cars and 1,500 buses, the lanes in each lot painted a different color; 181 restaurants which, along with pavilion restaurants, can feed 200,000 people a day; an automated electric monorail nearly three miles in circumference and tied into what is one of the central attractions: the moving sidewalk. This, a $5 million system of tough, elevated conveyor belts, nearly two miles long, moves 8,000 people an hour across Expo, part of the time through clear plastic pipelines from which visitors get a protected but unobstructed view of the fair. As a final touch they built a lavish communications center with worldwide cable and Telex connections, a post office, national television tie-ins and desk space for 100 reporters.

It was a monumental undertaking, but Japan completed it right on time. When, on March 15, Emperor Hirohito stepped to the microphone to intone Expo '70's ambitious theme—"Progress and Harmony for Mankind"—he was just 60 seconds behind schedule.

What is at least as interesting as the pavilions and exhibits at Expo '70 are minor yet crucial touches. Touches like the two-part numbered tags for children. Mother pins half on the tot, puts the other half in her purse. If the child strays, she simply telephones the lost child center and asks for Child No. 987.

Similar foresight is visible everywhere. Exhibition and highway signs—as far away as Tokyo—are in two languages. The symbols—for restaurants, stairways, toilets—are models of clarity. Train conductors announce everything in English. There are free strollers, umbrellas and wheelchairs. There are guides trained in sign language. For the weary, the old or the just plain lazy there are silent, six-passenger, lavender-tinted electric cars with melodious chimes instead of horns. And for everybody there are the specially recruited guides, a corps of pretty, usually bilingual girls whose uniforms are colored according to their assignment and who can mix formal bows with impish grins and get you almost anywhere with a minimum of delay. Lastly there are the guards, a disciplined group equipped with battery-powered bullhorns to help control formidable weekend crowds that mass at the gates two hours ahead of time and come into the fair at a dead run.

The crowds—up to 400,000 a day—are a particular problem to tour guides. To keep track of their groups, guides outfit their charges in a variety of gay insignia: yellow terry cloth knotted around the neck, bibs the size and shape of life jackets, derbies, plastic baseball caps in psychedelic shades. Nearly every guide waves some kind of flag and one, solemnly bearing a huge, two-handed banner, looked like Cortez taking Mexico.

As for the pavilions there are simply too many to describe, but some, like the American and Russian pavilions, need mention since many thousands wait for hours every day, rain, fog or cold winds, to see them.

The American pavilion, scooped out of the ground and covered with a quilted plastic skin held up by air pressure shot from pumps as big as howitzers, has but one trump to play: its imposing collection of used space hardware. The rest of the exhibit is a low-keyed assemblage of such nostalgic memorabilia as a magnificent yellow Stutz Bearcat, some Louisville sluggers, rubbings from quaint New England gravestones, a few tavern signs and paintings by Frederic Remington, Gilbert Stuart et al. The Russians offer towering statues of noble workers, three dimensional panoramas of Russia, films, books and photographs of, by and about Lenin and, in case anyone has forgotten, the space capsule in which Yuri Gagarin became the first spaceman.

Japan, with 32 pavilions, has the most as well as the most memorable. The five-section government pavilion, housed in huge steel tanks, is dazzling and so is the "Tree of Life" in which an incomparable combination of art, science, design and engineering captures man's agonizing ascent from slime to moon rock. That, plus the damndest roller coaster ride in history, makes it all worthwhile.

THE ARABS AT OSAKA

continued from page 3

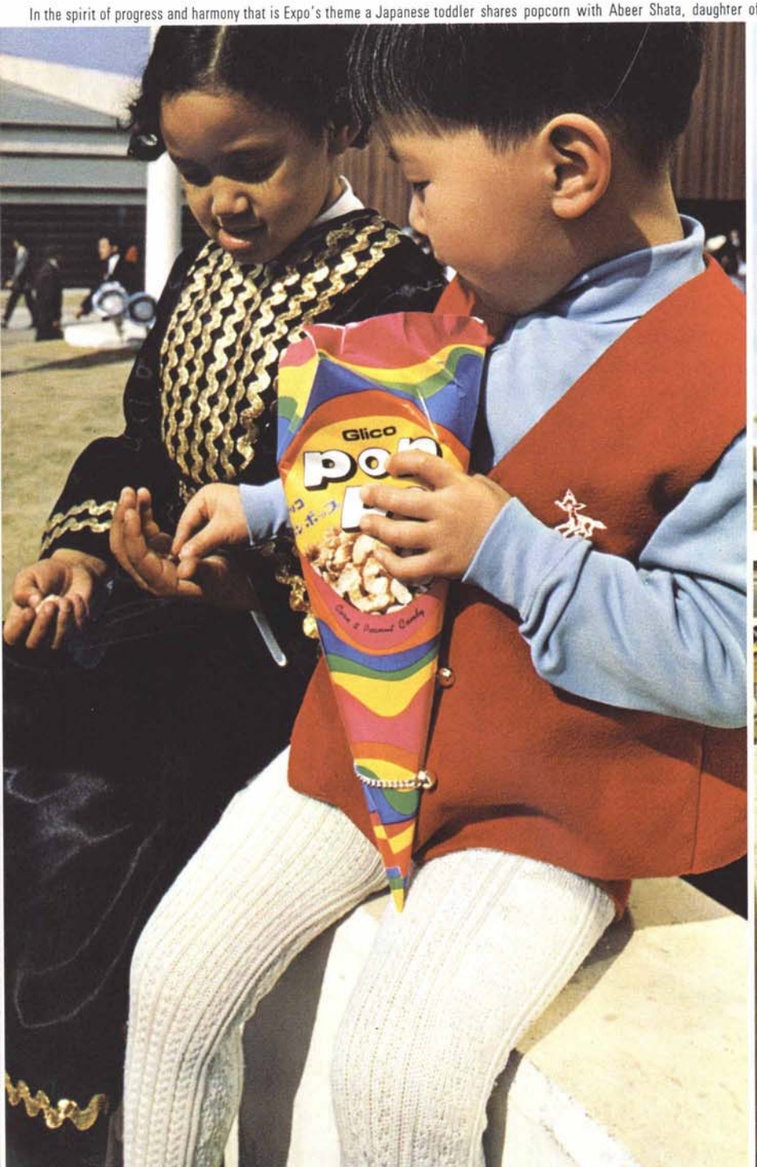
simple displays of handicrafts; Malaysia focuses on industry; the U.A.R., housed in a simple replica of a pyramid, displays such items as plastic hassocks and bottled wine, and Algeria, in a handsome, Paris-designed building, stresses the progress it has made since it broke free of France.

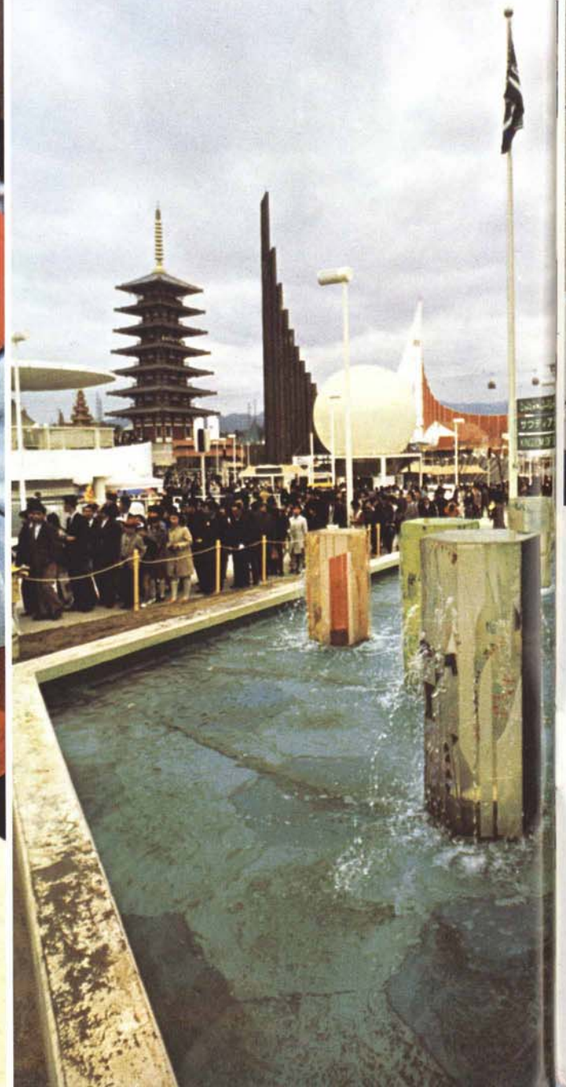
Of the five Arab pavilions the Algerian building is easily the most elaborate. Done in handsome, free-form stucco, it includes a cool, chic French restaurant and a swift escalator that lifts the visitors from the ground floor to a theater showing one of the multi-projector, split-screen documentaries that are such an integral part of nearly every major exhibit at the fair. Algeria's, like New Zealand's, Ontario's and Ireland's, is superb. In what is no longer than a 10-minute film, a series of brief, brilliant, overlapping yet complementary vignettes and scenes, the size, beauty and potential wealth of an entire nation is captured—without a word being spoken.

Unhappily, Algeria, for all its excellence, wound up, as did the neighboring United Arab Republic, too far from the major exhibits. The results are much smaller crowds: not more than 22,000 according to their public relation director, at the time that Saudi Arabia, Kuwait and Abu Dhabi, all close to the popular Canadian exhibit, were winning a small but satisfactory victory for the Arab East.

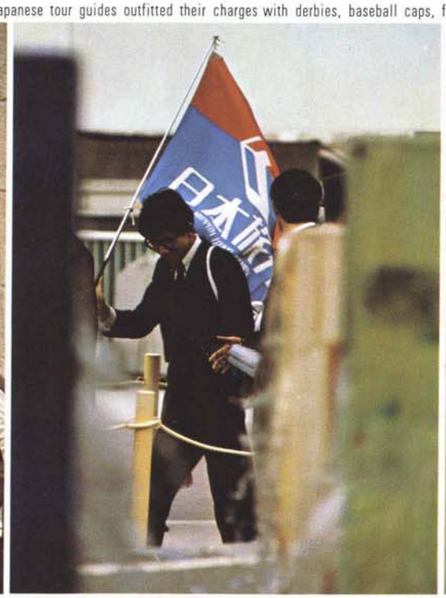
For their themes, Kuwait and Abu Dhabi turned—more successfully—to the history and geography of the Arabian Gulf. Khalid al-Far, a Cairo-trained government architect, designed, for Kuwait a low, square structure with 82 fiber glass domes painted gold, 10 tiled panels in green and gold depicting life in Kuwait, and a pool in which floats a model of a pearling dhow. Inside the pavilion hostesses in pale orange mini-skirts and capes guide the crowds through a one-story series of exhibits that include

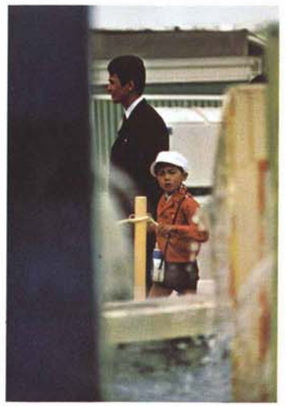
In the spirit of progress and harmony that is Expo's theme a Japanese toddler shares popcorn with Abeer Shata, daughter of Saudi Commissioner General. At right: abstract fountains decorating pavilion exterior.

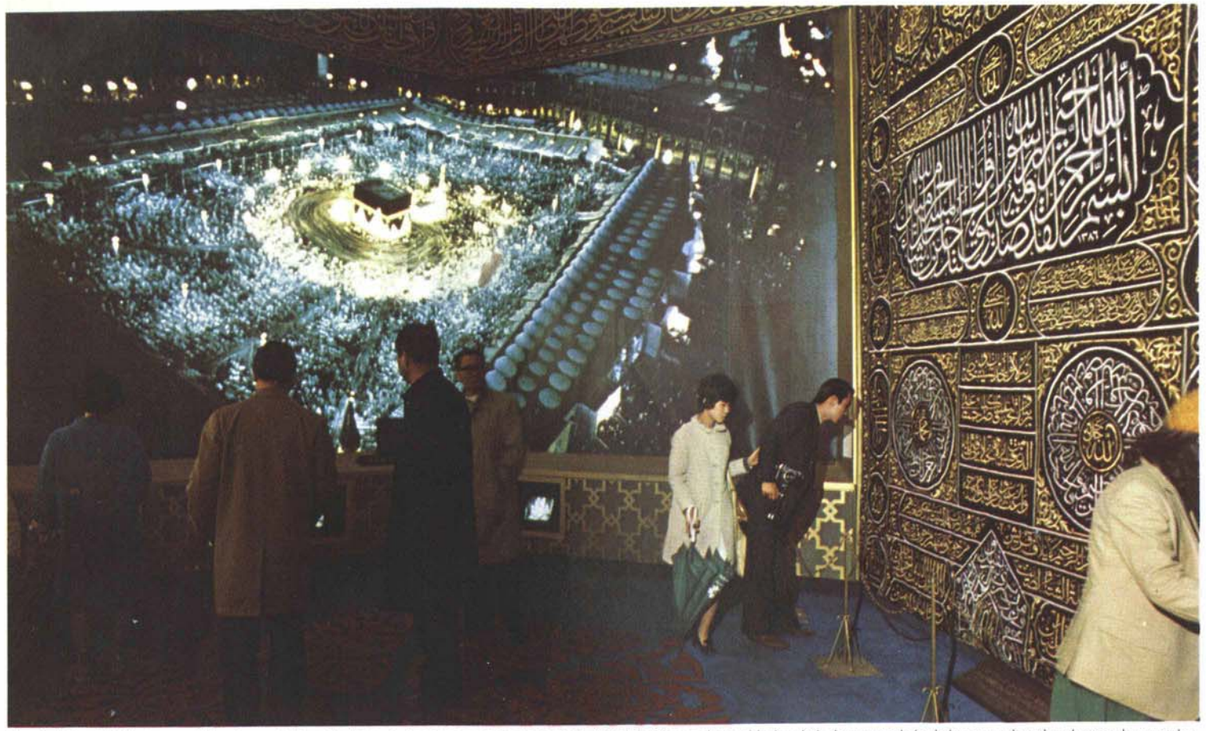




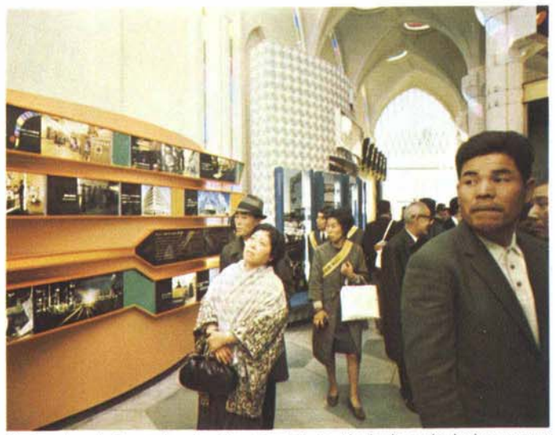
To keep tour groups together in crowds of up to 400,000 people, Japanese tour guides outfitted their charges with derbies, baseball caps, flags with tour's name and other ingenious and amusing insignia.







The Religious Hall features wall-sized excerpts from the Koran in Japanese and this photo of the Ka'bah in Mecca along with the cloth that covered the holy stone when the photograph was taken.



Photographs, charts, graphs show the extent of the kingdom's modernization program.

340 flashing color slides, Arab swords and pistols, packaged shrimp from Kuwait fisheries and one enormous brass coffee pot big enough to hold a dancing girl.

Abu Dhabi, right next door, is equally simple. From a palace in the country of Shaikh Zayed Bin Sultan and an old fortress called Alain, city planner Abdul Rahman Makhlouf has duplicated a fortress which combines the square crenelated parapets and tall cylindrical towers so common to old Arabian Gulf mud brick forts. Inside are two central exhibits, one a carpeted Arab room, the other a handsome display of brass lanterns hanging from the inside of the cylindrical tower and splashed with iridescent patches of soft color pouring through stained glass apertures at the top. It's a memorable display and, according to the Commissioner General, Abdullah Daoud, a symbol of the bright future awaiting Islam and the Arab world. ——