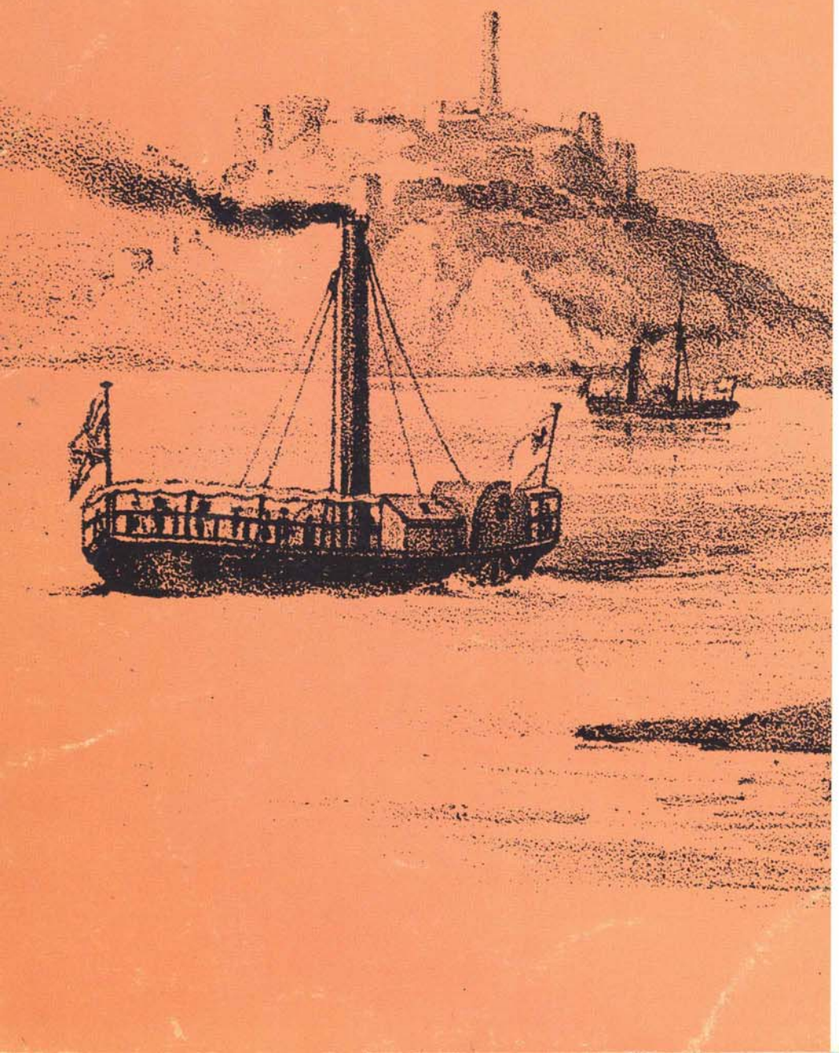

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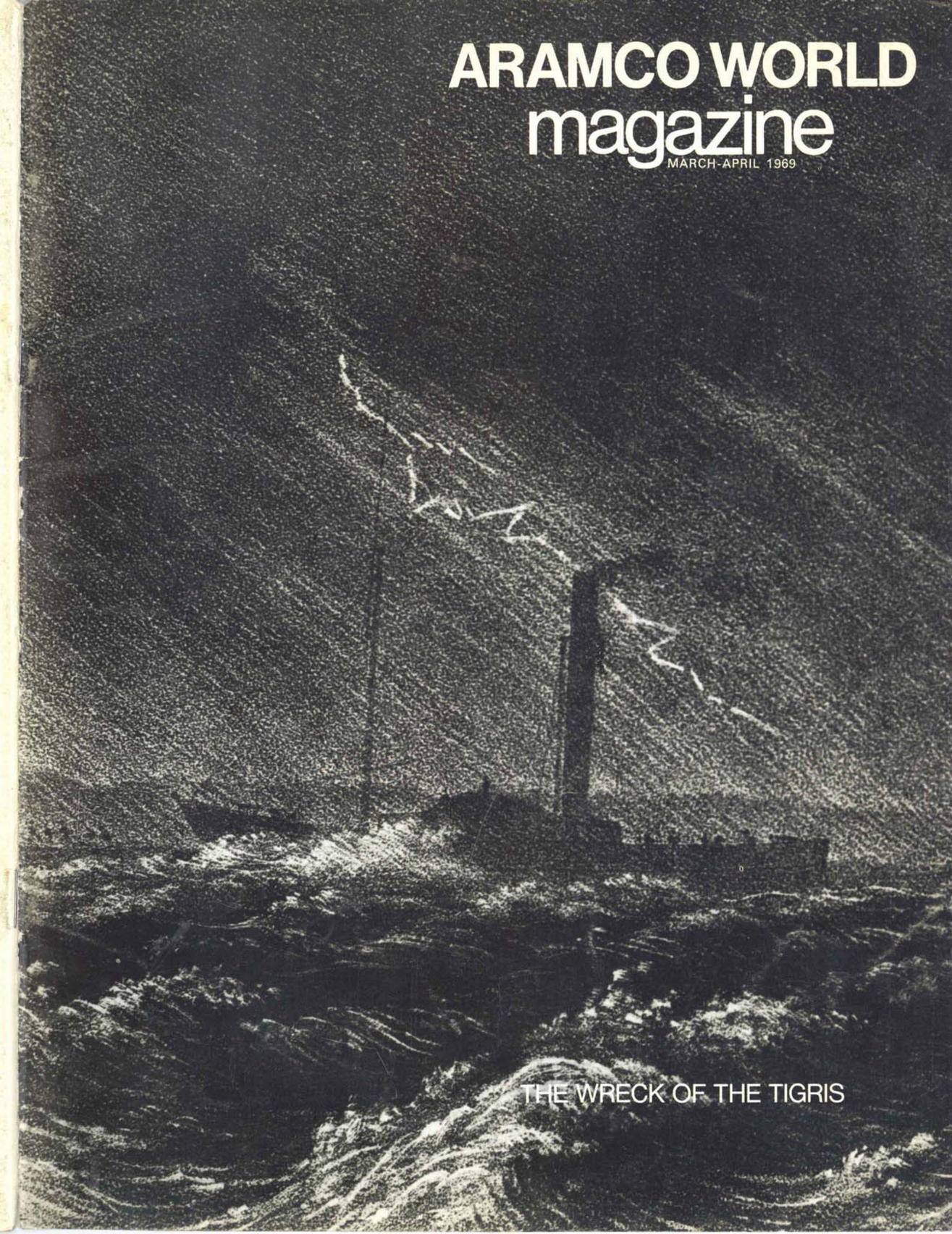
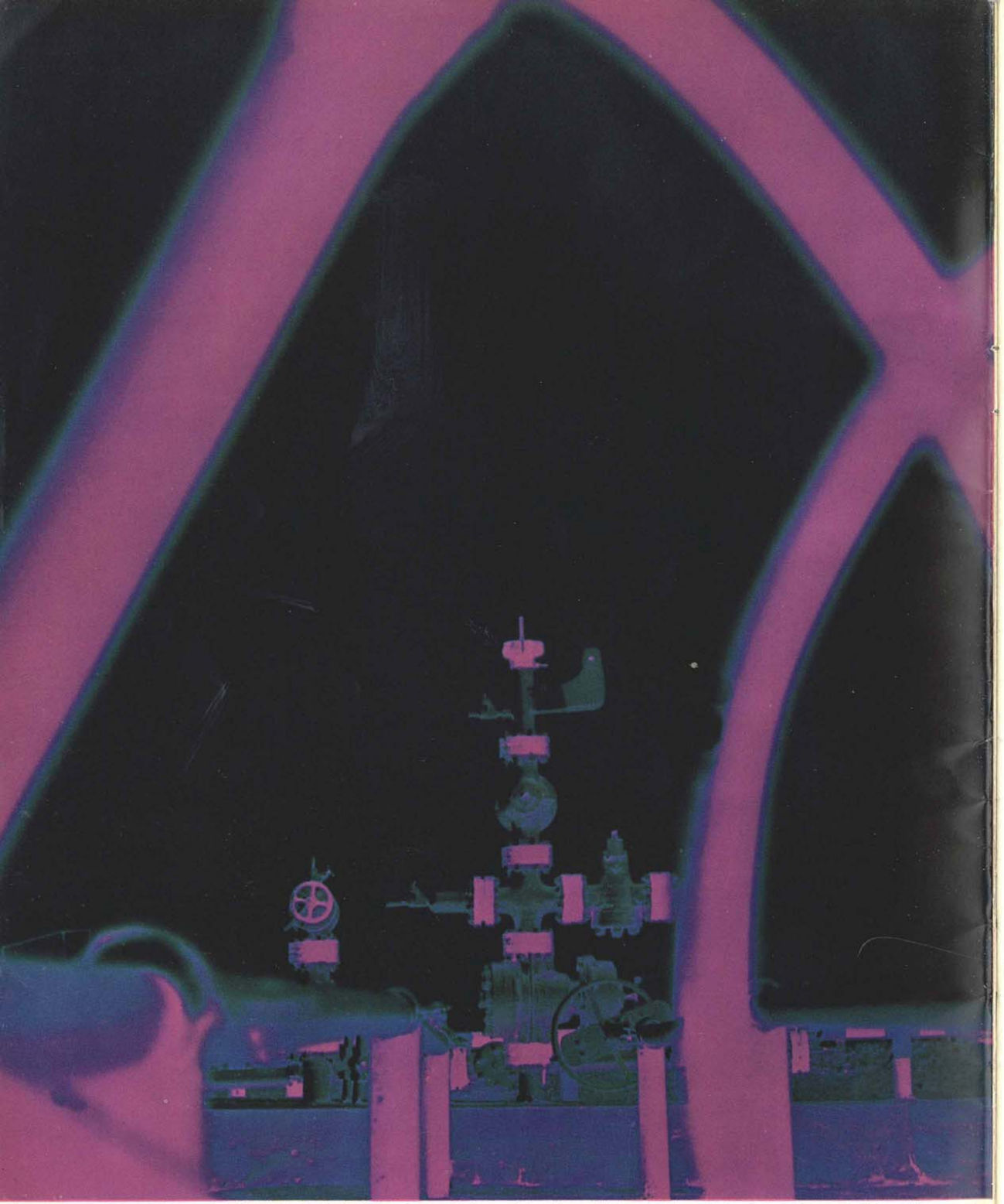


THE WRECK OF THE TIGRIS



What develops when Aramco's photo pros begin "doing their thing" with the latest lenses and darkroom techniques? It's positively psychedelic, as this shot of oil well Dammam No. 7 shows. Color on page 4.

ARAMCO WORLD magazine

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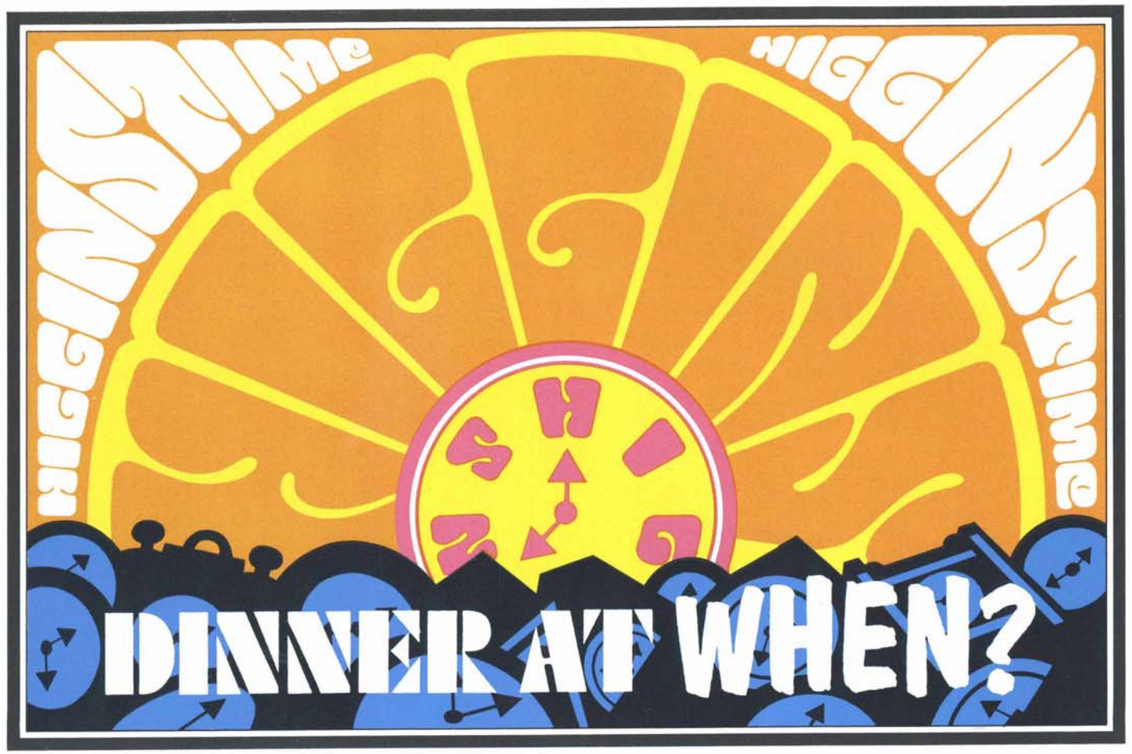
Cover: In this dramatic engraving from the book Expedition to the Euphrates the artist, probably A. A. Staunton, shows a paddle steamer called the Euphrates trapped in the midst of a freak tornado that roared across the Euphrates River on May 21, 1836, sank the Tigris, a sister ship, and drowned 21 brave men. That storm was the climax of a forgotten epic of the 19th century: Captain Chesney's heroic attempt to establish a new steamship link between England and India. Story on page 24.

BY ELIAS ANTAR / ILLUSTRATED BY DONALD THOMPSON



Or how a switch in time saved... ah... seven.

It was certainly time for a change.

• • •

For many years Saudi Arabia had seven different systems of keeping time. Then, about a year ago, the kingdom decided it was time to choose a single system and what is expected to be a long—and time-consuming—transition period began. In the meantime old timers from Jiddah to Dhahran began to rehash all the old time-worn stories about the problems that the kingdom's whimsical time keeping systems used to cause.

The basis of all time keeping in Saudi Arabia used to be Arabic time, the traditional method of telling the hour. Geared to the sun, it was very simple: every day at sunset you simply adjusted your watch to 12 o'clock—12 midnight, that is. If everybody had done it, there would have been no problem.

But then, unfortunately, some nameless foreigner introduced western sun time. This, in its way, was also simple. Every day at sunset, you set your watch to read 6 o'clock instead of 12 o'clock. Western sun time was probably devised so members of the foreign community could keep some sort of relationship with the time zones of their home countries although local wits say it was because the British Embassy couldn't bear the thought of serving afternoon tea at 11 o'clock.

Jiddah, on the Red Sea, is three hours ahead of Greenwich mean time, the standard time agreed to by most nations of the day at an international conference held in Washington in 1884. By design, western sun time was approximately equivalent to GMT plus three. Unfortunately, no day is *exactly* the same length as the one before so that the GMT plus three system and the western sun time system gradually drew apart as the seasons progressed. At the two extremes—the summer and winter solstices—the two systems were considerably different.

Just how complicated this could be was illustrated a couple of years back when an English lady of long residence in Jiddah sat down to write three invitations to a summer dinner party. One going to a Saudi Arab merchant, began "My husband and I would like you to join us for dinner at 12:30." Another, going to an airline pilot, read "... for dinner at 8:00." The third, to an American businessman, said "... dinner at 6:30." Yet, just after sunset on the appointed evening all three guests, each with a wristwatch showing a different hour, arrived within minutes of each other, dined well and later spent a leisurely evening chatting beside a lighted swimming pool—thanks to the cleverness of a hostess who knew that being on time depended very much on whose watch you were watching.

And had the dinner party been held in December, (when darkness falls about three hours earlier) the hostess would have had to invite the merchant for 3:30 Arabic time, the pilot for 8:00 GMT plus three and the businessman for 9:30 western sun time. Of the three invitations, only the hour on the pilot's remained constant throughout the year. The others fluctuated with the length of the day and the "exact" time of sunset with regard to the Greenwich observatory's standard. Only at the two equinoxes (March 21 and September 23) when day and night are equal and the sun rises and sets at approximately 6:00 o'clock (adjusted GMT) would western sun time have coincided with it. Only then would dinner at 8:00 GMT plus three (two hours after sundown) have also been dinner at 8:00 western sun time.

To be sure that things got really confused, the American Military Aid Advisory Group (MAAG) also introduced "Zulu time". Zulu time—which had nothing to do with Zulus—was nothing but basic GMT, but MAAG wanted to use it, so they used it.

Arabic time probably has its roots in the common and most logical system of timekeeping used most places in the world until about AD 1600. In those days, daytime was divided into 12 equal parts, and nighttime also into 12 equal parts. Depending on the season, hours used in the daytime were either longer or shorter than hours used during the night. The sundials and astrolabes used as timekeepers were calibrated to divide into 12 regardless of the seasons. Thus, the same sundial could divide both a long summer daylight period and a short winter day equally into 12. The "day" was made up of 24 hours and began at sunset. Twelve hours of darkness preceded 12 hours of daylight, although the hours in the daytime were not the same length as the nighttime hours.

This system of beginning the new "day" at sunset remained in use on the isolated Arabian Peninsula when it became the practice in Europe to commence the 24-hour period not at dusk, as had theretofore been the custom, but in the middle of the nighttime part—and to end it in the middle of the following nighttime part. Thus, roughly speaking, six hours of darkness were followed by 12 hours of daylight and then six more hours of darkness to make the complete 24-hour period.

No one is sure why the Saudis continued to set the clock to 12 at sunset, but one Arab authority said when the first clocks were introduced people were told the day began at the hour 12. Thus, since the Saudi "day" began at sunset, they set the watches to 12 at sunset.

As an outgrowth of retaining the original system, the term "Monday night" in Arabia generally meant the period of darkness from sunset Sunday to sunrise on Monday morning. Hence an unwary Westerner who made an appointment for "Monday night" (disregarding, for the moment, the "exact" hour) with a Saudi host could have arrived 24 hours late.

About the same time in the early 17th century it also became the convention in Europe to divide the 24-hour period into 24 *equal* hours, so that every hour took up a length of time which was exactly 1/24th of a day. Hence a reliable, portable timepiece could be constructed fairly simply, calibrated so that each hour was the same length of time and so that the hour hand made exactly two turns every 24-hour day.

Since Arabic time also used the principal of 24 equal hours, (except the *last* hour which varied) "portable timepieces" in the form of the wristwatch presented no problem, so long as everybody follows the system exactly. Well, almost no problem. Behind mountains the sun seems to set as much as an hour before it sinks behind the horizon at sea level. Hence the watch of a man living just a few miles inland in mountainous Taif could have been as much as two hours ahead of his cousin in Jiddah.

One element of stability was Saudair, the national airline, which used GMT plus three all over the country. But even Saudair made one exception. In Dhahran it used GMT plus four. And in the summer in the Eastern Province, there was still another factor to consider: at its Dhahran headquarters, the Arabian American Oil Company (Aramco) used to switch to daylight saving time to allow workers to get a head start on the day's heat. The Trans-Arabian Pipe Line Company (Tapline) which transports Saudi oil to a Mediterranean terminal in Lebanon, used the same system as Aramco—but only for its pump stations in eastern Saudi Arabia. Thus as you flew over the line heading west toward Lebanon, at a given point you suddenly become an hour younger, or even two, if it were summer.

To lessen the confusion, clever watchmakers years ago began to market a curious-looking watch in the bazaars of Jiddah and Riyadh. It had two dials and four hands, so you could set one half to Arabic time and join the crowd, and set the other dial to whatever time system you prefer. For the fast moving type with plenty of appointments it was invaluable, but considering the whole system of sunsets, seasons, intervening mountain ranges, daylight saving time and happy-go-lucky clocks, it wasn't surprising that westerners, even residents, still got confused. A man named Higgins, so the story goes, used to run a local power station. One day, the whole thing became too much for Higgins and he assembled his staff and laid down the law. "I've had enough of this," he shrieked. "It is now 12 o'clock Higgins Time, and from now on this station is going to run on Higgins Time." And so, until last year, it did.

Elias Antar, Egyptian-born correspondent for the Associated Press in Beirut, is a frequent contributor to Aramco World Magazine.

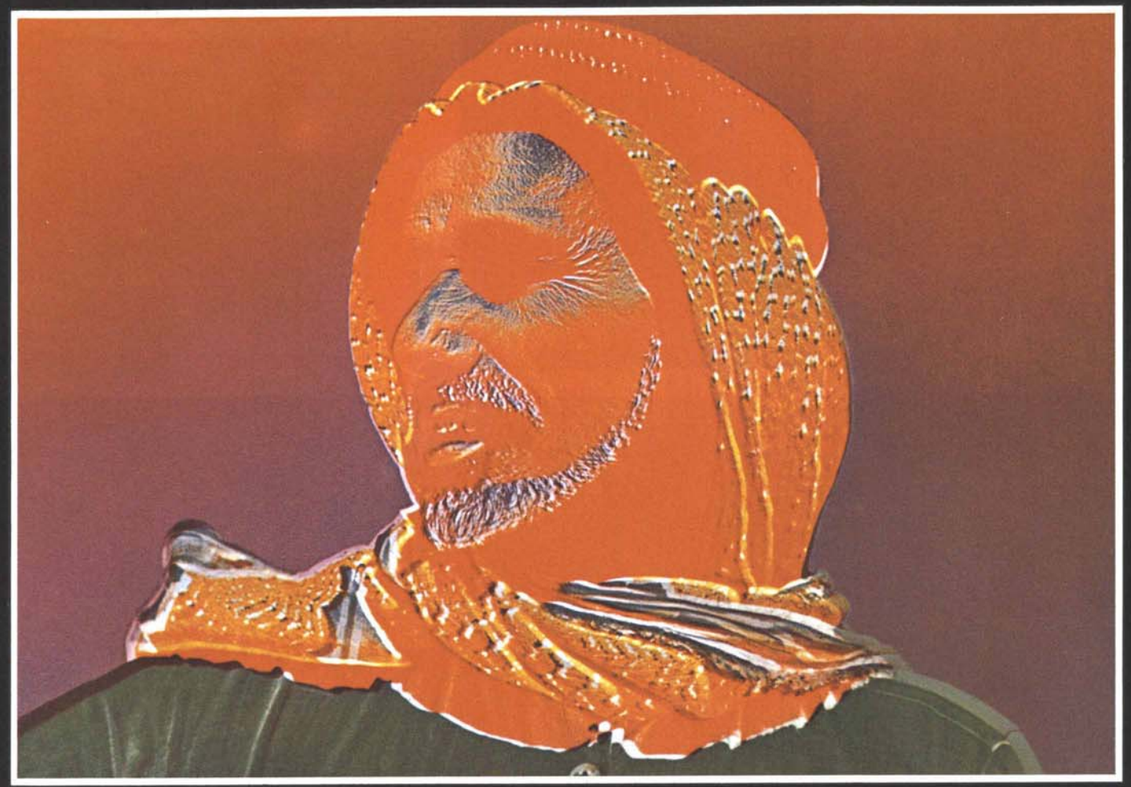
PSYCHEDELIC OIL

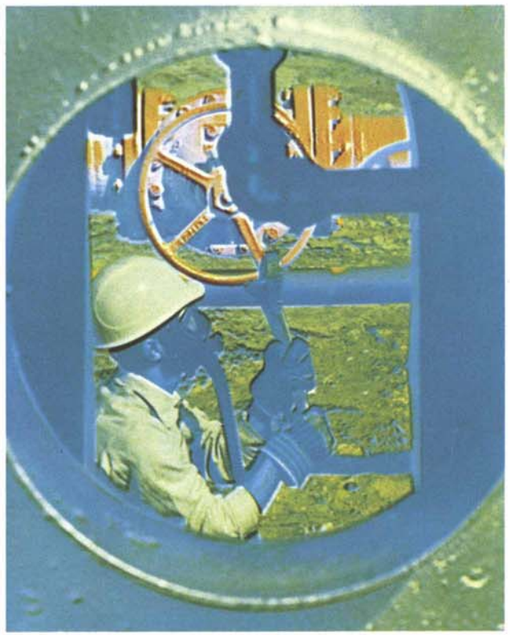
Aramco's seven full-time photographers thought they had recorded the company's installations from every conceivable range, angle, height—and in every conceivable color. In the last few years, however, with advancements in highly sensitive film, unconventional lenses and increasingly sophisticated darkroom instruments, they have found that the outer limits of creativity are still to be explored.

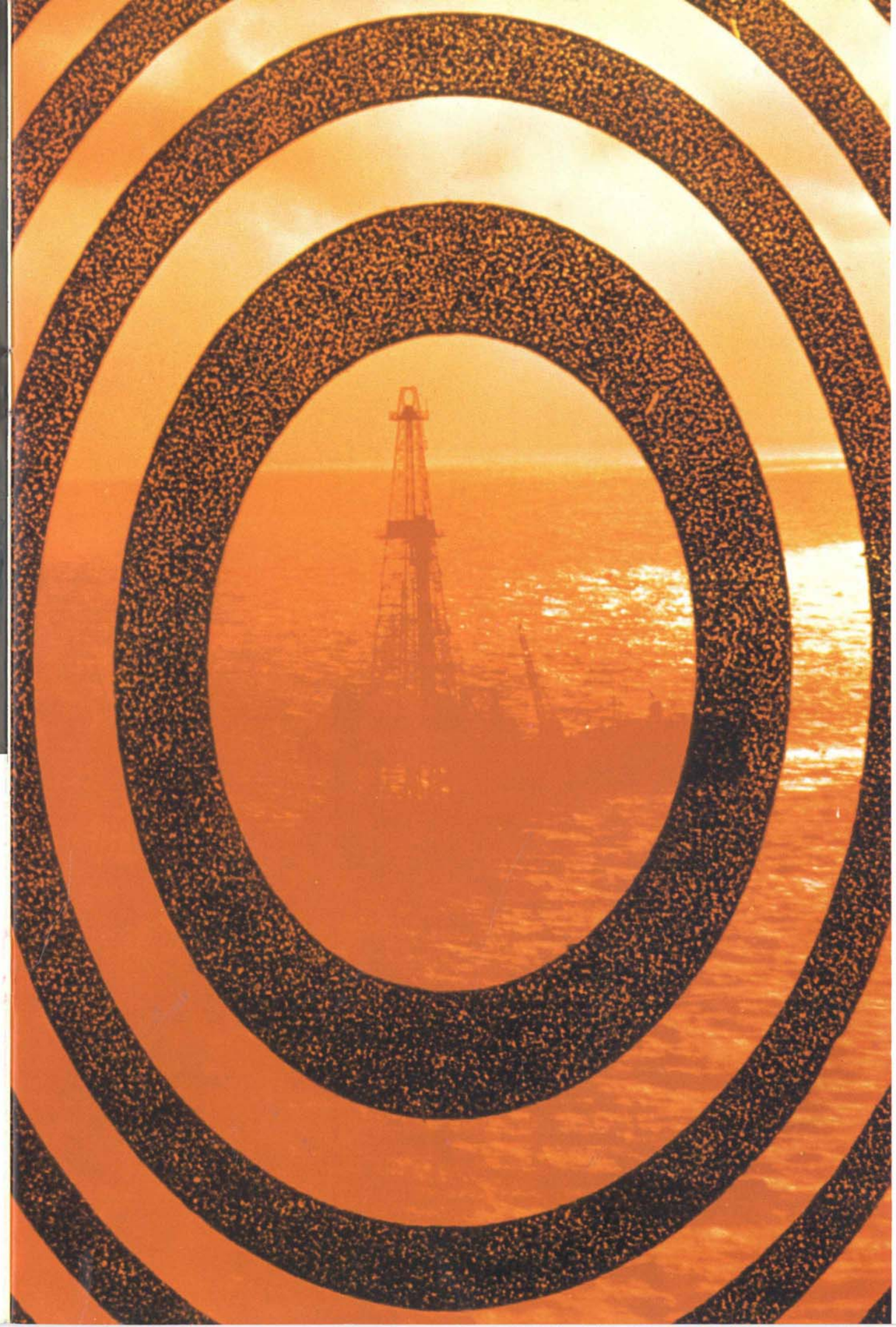
This spring, between such routine assignments as safety awards and the appearances of successively larger tankers at the Ras Tanura marine terminal, Chief Photographer Burnett H. Moody and his staff initiated some far-out experiments with color. What they wanted to find out was how Aramco's equipment, installations and people would look when subjected to a combination of photography's 1969 palette of hues and their own inventiveness. The results can be seen here.

The photographers achieved some of these effects with the camera by using a special multi-prism lens, by zooming during a time exposure at night, by shooting through a variety of color filters. Others came out of the photo lab where multi-printing with infra-red color, montage slide duplicating, or the use of a moire pattern overlay and color filters attached to the enlarger transformed ordinary transparencies into displays of psychedelic color. What they depict, however, are simply onshore and offshore drilling, Aramco's discovery well, Dammam No. 7, the Abqaiq stabilizer plant, the new crude topping unit at Ras Tanura, a Saudi worker and the company's late, venerated chief guide, Khamis ibn Rimthan, as they never would appear to the eye of any beholder we know.

— The Editors







DISCOVERY!

the story of ARAMCO then

CHAPTER 8: INTO PRODUCTION

BY WALLACE STEGNER
ILLUSTRATED BY DONALD THOMPSON

SYNOPSIS — In some ways 1937 was an exciting year for the company that was now the California Arabian Standard Oil Company (Casoc). The first American wives—unveiled and nervous about it—came and settled into the raw camp at Dammam. Max Steineke, in what would turn out to be a historic trip, crossed and re-crossed Arabia. Crown Prince Sa'ud came to call and after him, England's Princess Alice - to the annoyance of Benito Mussolini. But in other ways it was a most discouraging period. Police interference became intolerable, pilferage got out of hand and Dammam No. 7 continued to produce nothing whatever.

In a sense Dammam No. 7, the first deep-test well, was to be the decisive chapter in a story that had begun 14 years earlier when Major Frank Holmes obtained the first concession to search for oil in Arabia. That step set in motion a chain of events that eventually brought American oil interests into the Middle East just as King Ibn Sa'ud and his advisers decided that better use of the Kingdom's mineral wealth might solve their chronic fiscal problems. Negotiations followed, then reconnaissance, exploration, the first test wells, and, on December 7, 1936 the spudding in of Dammam No. 7.

Casoc had high hopes for Dammam No. 7. But within ten months headquarters began to worry and early in 1938, they recalled Steineke to San Francisco for serious talks. Torn between his desire for more information on which to base a recommendation, and an enthusiasm that was based on not much more than an educated hunch, Steinke went, talked and told them the search should continue. In the midst of the great American depression it was a particularly hard decision to make, but fortunately headquarters agreed with Steineke. Fortunately, because on March 4, Ohliger cabled electrifying news: Dammam No. 7 was flowing 1,585 barrels a day. Three days later the figure had soared to 3,690 and three weeks later total production was over 100,000 barrels. When wells No. 2 and No. 4 were deepened to the same zone with the same results, San Francisco finally relaxed and the men in Arabia cheered. Dammam was a commercial oil field.

Bill Lenahan announced commercial production to King Ibn Sa'ud on October 16, 1938, making a special trip to Riyadh to do so. The King hardly needed to be told what the news, long anticipated, meant. There had never been a time when the money needs of his kingdom could be kept down to the level of the income. Besides that, he told Lenahan that he was personally gratified: some of his ministers had never been quite confident of Casoc's ability to push the exploration and test drilling through to the final end of producing commercial oil. He let it be known, through Abdullah Sulaiman, that Saudi Arabia had recently rejected approaches for concessions from other companies, and that it had done so because of its good will toward Casoc. And the King said again, as he had said to Fred Davies when the two talked in Hofuf in 1936, that he would like sometime to visit the oil installations in the Eastern Province.

They were, by late 1938, beginning to be extensive. There were the wells among the *jabals* at the place which in February of the next year would be officially named Dhahran. There was the permanent camp a few hundred yards southwest, a fenced, transplanted, prefabricated community with a recreation hall and a movie theater. There was the enlarged al-Khobar pier with its customs house and a small storage and shipping terminal from which oil had begun to go by barge to the Bahrain refinery in September. And 40 miles north on the sandspit of Ras Tanura, construction crews from Socal's engineering department, working under Walt Miller, were creating a major port facility.

On completion—to its first specifications—it would have crude oil tankage for 670,000 barrels, plus submarine loading lines and moorings for the anchorage of deep-draft vessels 3,000 feet offshore. It would be tied to the wells and camp at Dhahran by a service road and by a ten-inch pipeline. Still in blueprints, but shortly to be authorized, was a stabilization plant to remove from the "sour" oil of the Dammam Dome the toxic H_2S gas.

The whole Ras Tanura complex was scheduled to be completed by spring of 1939. And the King, Abdullah Sulaiman, Lenahan and the company management decided that on or about May 1, 1939, they would hold a great celebration marking the moment which five years of effort had been aimed at, the loading of the first tanker.

May 1, thereafter, was the deadline toward which everything worked. But before it could be reached, a major job of negotiation lay ahead for Lenahan, for the word he had got in Riyadh about the Government's turning down a bid for competing concessions turned out to be, to put it gently, premature. Stimulated by Casoc's strike at Dammam, competitors had begun to cast speculative eyes on the uncommitted parts of Saudi Arabia and on any possible territories that Casoc might relinquish according to the terms of the 1933 agreement.

In 1935, Petroleum Concessions, Limited, had been formed with the same ownership as IPC. Its function was to create affiliates in each country to develop concessions. In 1936, Hamilton's old competitor, Stephen Longrigg, signed a concession for areas of the Hijaz and Asir, and Petroleum Development (Western Arabia), Limited, was formed to develop the concession.

Then, in February, 1938, the Jiddah manager of Petroleum Development (Western Arabia), asked Lenahan if Casoc's preferential rights could be cancelled if the Saudi Arab Government repaid the loans Casoc had advanced it. Since the terms governing the preferential rights had never been published by the Saudi Arab Government, this was clearly a fishing expedition on IPC's part. In September, a little while before Lenahan went to Riyadh to announce commercial production, J. Skliros of IPC wrote to Hafiz Wahba making a blunt offer for a renegotiation of Petroleum Concessions Limited's agreement in order to include the parts of Saudi Arabia not previously granted, plus the two Neutral Zones. The offer was for £100,000 gold as a bonus, and a rental of £15,000 per year thereafter. This was the offer, presumably, that Lenahan was told the Government had rejected. But a few days later, in Jiddah, Najib Salha gave Lenahan to understand that it might be a good time for Casoc to make a matching offer for the same territory.

Lenahan thought so too. So did Hamilton in London. So, after consideration, did the boards of Socal and The Texas Company which by then was sharing in the Casoc venture. But when in early December Lenahan received authority to match the IPC offer, Shaikh Abdullah professed to be supremely scornful of such a pitiful proposal. The least he would transmit to the ministers was an offer for twice those figures.

This was the beginning of a negotiation as careful and drawn out as the one which Hamilton and the ministers had conducted in 1933. It brought Hamilton down to Jiddah in January, 1939, to try to deal directly with the King. He did but the result was disappointing. The King did not want to negotiate for anything but the Kuwait-Saudi Arabia Neutral Zone; moreover, he tried to talk the two Casoc men into agreeing to some relinquishment of their preferential rights.

This the Company refused to consider. It did, however, skirmish around looking for possibilities of some joint approach with a British group, perhaps IPC, to the Kuwait Neutral Zone. But when Lenahan came across from Port Sudan on the same boat with IPC's negotiator, who was again Longrigg, he took the opportunity of telling Longrigg the unpublished facts about the Casoc preferential rights to the Kuwait Neutral Zone. Longrigg agreed that Casoc was impregnable there, said that the asking price for the Kuwait Neutral Zone was too high in any case, and indicated that if he couldn't negotiate for the Najd he would go on home.

Lenahan chose to do nothing while Longrigg dickered for two portions of the Najd that his company wanted. Before Longrigg left Jiddah, however, he had demonstrated that the Government was, after all, willing to listen to that kind of proposal. Lenahan therefore put the central Arabian areas back in, and renewed his own offer of December to match the IPC proposal. When it was rejected, he withdrew from further negotiations. The King told Shaikh Abdullah to notify Lenahan that in that case the Company would have to relinquish its preferential rights to the Kuwait Neutral Zone. Lenahan, quoting the 1933 agreement, stood pat. Abdullah Sulaiman after a few days suggested some counterproposals. So it went. Through March they jockeyed each other closer to some mutually acceptable terms, and as they did so it became clear to Lenahan that others besides Casoc and IPC were interested in Arabian concessions.

One was a likable and very able German named Dr. Fritz Grobba, thought to be the head of the Nazi espionage system in the Middle East. He was accredited as German Minister to Iraq, where his principal monument would be the Rashid 'Ali rebellion which he apparently fomented. He flew into Jiddah with his entourage, sniffed around, dropped hints, and made everyone like him, but made no overt offers. He was allied, in ways which were obvious in their general direction but dark in their details, with the people in the Italian legation, who indicated a desire to bid on the understanding that if they got the concession they would develop it in cooperation with the Germans.

Then on March 26, a delegation of Japanese arrived in Jiddah from Egypt with the announced intention of signing a trade treaty with Saudi Arabia. In the delegation were the Japanese Minister to Egypt, a geologist from the Imperial Geological Survey of Japan, and a secretary. The minister went off to Riyadh almost at once, leaving the geologist behind to pump Lenahan with detailed and extensive questions on the oil operations of Casoc and the stratigraphy of Arabia. Lenahan gave him freely whatever information was public knowledge, and none of what was not. But he took no chances that the Japanese, hungry like the rest of the Axis for oil, might buy something with a fabulous offer in Riyadh. He telegraphed Floyd Ohliger, who was also in Riyadh, to keep his eyes open.

The Company could not have had a better representative there. By 1939 Ohliger was becoming something nearly like a son to Ibn Sa'ud. They had spent many hours talking, talked all night sometimes. Ohliger was completely convinced that Ibn Sa'ud was one of the great kings of history and the King looked upon Ohliger with trust and affection.

They had had several strong disagreements, but the effect was as it had been in Lenahan's case: a man who stood up to the King earned his respect. So now Ohliger talked to him with privileged frankness, learned that the King thought the Company's terms were too "strict," learned that the Japanese were indeed trying for an oil concession in the areas disputed between IPC and Casoc, and learned between the lines of the King's talk that he was much too acute to get caught in any such alliance, even though, as Najib Salha reported later, the Japanese offers reached "astronomical proportions."

The Japanese minister returned to Jiddah on April 13, but his talks with the ministers there did not trouble Lenahan. Though by the terms of the 1933 agreement Casoc was obligated to meet any bona fide offer in order to insure its preferential rights, the King had shown no signs of wanting to use the desperate Japanese offer as a lever under the Company. It was the IPC offer which needed to be met. March and April saw long epicycloidal arguments on what constituted "meeting" and suggestions that Casoc hurry up and relinquish some of its unwanted territory so that the Government could sell rights in it to someone else. Lenahan settled the relinquishment suggestion by reminding Shaikh Abdullah of the words of Ibn Sa'ud in their January conference, when he said

he wanted all of al-Hasa to be operated by no one but Casoc, and that he was therefore in no hurry to force relinquishments until the Company was ready.

That was where they were, writing letters full of mutual respect, but still a long way apart, when it came time to go to Ras Tanura and turn the valves that would change the future of Saudi Arabia.

In the months preceding that historic occasion there had been a subtle change in the men who had pioneered the great search. Of the first group of geologists—the ten-man beachhead team—not one remained since Krug Henry had departed for Egypt. Fred Davies, now manager of Bapco's producing division, was only temporarily back on Bahrain from the States for discussions concerning an additional concession area there, leaving Steineke and Bramkamp the oldest living geological inhabitants of Saudi Arabia. Of the earliest drilling crews a few, Ohliger and Bill Eltiste among them, remained; others such as Jack Schloesslin and Alex Zoll were scattered around Saudi Arabia drilling water wells. Bill Burleigh was in Jiddah. But in the main, Dammam camp was staffed by replacements.

One of the newcomers was a man named Phil McConnell, a seasoned production man who had met Floyd Ohliger in California and been talked into going to Bahrain. When he made that rather impetuous decision, Floyd's bride Dorothy invited him for Thanksgiving dinner east of Suez. Four months later he arrived and on November 23 made his first trip across to al-Hasa. He was in good and experienced company. His traveling companion was Charley Potter, who had brought the first rotary rig to Arabia and had developed the new drilling technique of the floating mudcap; the man running the launch was Felix Dreyfus.

Phil McConnell was an exceedingly companionable man, full of jokes, songs, anecdotes, insatiably curious about the life that he had come into in middle age, and still rather surprised at himself for what he had done. So lively a man was popular; most of the married group was at the al-Khobar pier to meet him—the Ohligers, Gavin and Erma Witherspoon, Don and Edna Brown, Oliver and Edwina Boone. Immediately McConnell got an initiation into the difficulties that Ohliger and Witherspoon dealt with daily. At the customs house, a small masonry shack on the barren shore, the door was locked, the place dark. Ohliger swore: he had arranged to pay the Government extra in order to have a customs man on duty there 24 hours of the day. Soldiers appeared and explained that the customs man had gone to the town of Dammam. The passengers went on to camp leaving their baggage behind, and the Ohligers and McConnell started for Dammam to root out the customs officer.

There were no roads that McConnell could see, only sand, rocks, the stare of a *barasti* in the headlights, the straining blackness beyond the lights that suggested an appalling emptiness. Then they stopped and Ohliger backed a little and started on another tack and McConnell saw what the blackness was: their wheels were practically in the Gulf.

By methods which McConnell observed with awe, Ohliger found his way along the black coast, into the black town, up black openings to a building. They pounded on a door. Somewhat grimly, they advised the customs man of his duty; somewhat grimly, he prepared himself and came along. Back at the customs house an hour later he gave their bags the most excruciating and careful examination and let them through.

Nothing in the slightest unusual happened on that three-day visit. McConnell had the best steak he had had since leaving the States, he ate waffles for breakfast until he had a heavy list to starboard, he took a ride through the countryside and up as far as Qatif with Floyd Ohliger, he saw all the stigmata of great hurry, great expansion, the pipeline heading out for Ras Tanura, the new bunkhouses and cottages and shops, the derricks of wells that were being drilled or deepened. In Dammam he saw a sword dance put on by the villagers to mark the end of Ramadhan and at the Ohligers' belligerently American house he watched Floyd Ohliger make his first attempt to carve a turkey. It did not seem odd to him or to any of them, probably, that the resident manager of an operation involving millions of dollars of investment should be a youthful-looking man of 32 who had never dissected a Thanksgiving bird.

Next morning he had the opportunity of observing the qualities of decision and firmness that were there under the freckled boyish look. As they were starting on a drive, the new Government representative for al-Hasa, Ahmad Lary, appeared to protest Ohliger's action in returning after Ramadhan to a daily schedule of eight hours and fifteen minutes of work. Ohliger told him that working hours were supposed to be a matter between the Company and the central government. Ahmad Lary leaned on the door and talked, while Dorothy Ohliger sat patient but immovable. Ahmad Lary was unhappy that Mr. Ohliger was angry. Obviously he had not understood Ahmad Lary's meager English. Ohliger assured him that his English was excellent, and that he had understood all of it. But working hours were not the concern of the local representative.

Ahmad Lary suggested that Mr. Ohliger get out of the car and come and talk it over under more appropriate conditions. Ohliger indicated that there was nothing to talk over. They sat for two hours while the manager politely turned away the representative's arguments, and then they drove on.

Across the peninsula in Jiddah meanwhile other newcomers were settling in. One was Anita Burleigh.

Anita Burleigh was the first American woman to live in Jiddah and at first she didn't mind a bit. Living with the Philbys in the "Green Palace" outside the wall, she and Bill found the social life bright and lively, with many dinners and receptions and teas, moonlight fishing excursions on the Red Sea, visits to ships anchored in the harbor, and sometimes a dance over which the stained glass at the end of the Philbys' court cast a diffused glow of colored moonlight that for an hour or two made every romantic preconception of the mysterious East look true.

Later, in her own house, she encountered a few of the East's problems. Water, for instance, was of three kinds, each with its own system of supply and distribution. Drinking water came by ship from Egypt in oversized bottles. Cooking water came from the city's condensers. The rest was delivered to street-level tanks by a water boy with a cart (unless he missed, in which case the house ran dry for a day) and pumped to the roof tanks by hand.

In its devious course to the kitchen and bathroom taps it followed a labyrinth of pipes installed by Jiddah's best plumber. He was a hard and persistent worker, although at first he spent hours trying to make the bath tub drain fit into the washbasin, and once tried to hook up the pipe supports for the shower curtain so that the water would flow through them. The Burleighs had a lovely apple-green bathtub from Germany, but hot water had to be carried in gasoline tins because their hot-water heater, coming across to them from Dhahran, had been dropped somewhere in the desert by one truck and picked up by another. It still hadn't shown up.

Like other Jiddah houses, theirs was open, or nearly open, on two sides of each room. The wooden shutters started at waist height and went to the ceiling, the windows slid up or down to cover either the upper or lower half of the shutter. No matter how they juggled it, something was half-open always, a condition which gave them lively times moving the kerosene heaters around when the wind was cold, and filled them with despair when the sand blew. For greenery they had some sick nasturtiums, zinnias, bachelor buttons, petunias, constantly dying and being replaced, and one durable white-flowered vine given them by the Italian minister. And they slept under cumulus masses of mosquito netting in an atmosphere smelling aseptically of Flit.

On the other hand, they looked out over the Medina Gate and the sea beyond, and in the evenings the air was soft and mild, and at parties the women wore filmy dresses and the men "Red Sea kits"—whites with cummerbunds. At all times the city clamored and howled and brayed and snarled with a bedlam of animal noises, with once in a while a midnight shot as some irritated Englishman potted a prowling pariah dog. The street merchants pushing carts or carrying baskets through the street had their little songs, plaintive, tentative, ending always on a minor.

It was a pretty romantic place, actually. It was even more romantic when Anita Burleigh found that she had permission to cross Arabia (which no western woman but Princess Alice and Lady Rendel, wife of Sir George Rendel of the British Foreign Office, had ever done) to attend the festivities at Ras Tanura on May 1. Most romantic of all, she would wear the clothes of an Arab man, to keep from being conspicuous.

The Burleighs and Bill Lenahan left Jiddah together on April 15, 1939, traveling in the caravan of Abdullah Sulaiman, and this was very different from the rough pilgrimages of the geologists. True, their two hundred cars crawled in an antlike line across the highlands, hanging up on high centers, sticking in sand, sending downwind a long high dust like a bank of fog. But despite the terrible road, there was not even a pretense of roughing it. At Haddah they had coffee and tea while they waited for the trucks to catch up. At al-Jumum they met a group of merchants on a five-day picnic, and took lunch and more coffee with them in their rose-lined tent while a musician played a homemade stringed instrument called a *rababah* and sang tribal songs. In the warm spring weather the Wadi Fatima was lovely, every water station pleasant. They had dinner at as-Shariah, coffee at Sail al-Kabir, another dinner at Ashirah Wells where they were greeted by Abdullah Sulaiman's nephew

Sulaiman ibn Hamad at his hunting encampment. Their tent, put up for them in a great hurry by servants and soldiers, was lined with bright striped cloth, floored with Persian carpets, furnished with cots, mattresses, chairs, a table, a Coleman lamp.

Their boy woke them at five bringing hot water and coffee. Their breakfast was chicken, goat, hot Arab bread baked over an open fire. While they ate, the tents came down so swiftly that it seemed jinns must have struck them, and they were off before six o'clock, to come to rest again at al-Muwaih, where the Finance Minister had pitched his tent while he went hunting. To the tent of Abdullah Sulaiman, here and at the night camp at Afif, came visiting desert Bedouins, dignified and holding themselves below no man. They came as guests or hosts or equals, drawn by the word that went ahead of the caravan by "Bedouin telegraph," and drank coffee as befitted guests, or proffered wooden brass-studded bowls of camel's milk as befitted hosts, or gave gifts as befitted equals: sometimes a camel, their only one. At Afif there were encamped 450 people, with many tents and a multitude of fires after dark. Here the desert "lived," the sheep and camels had been grazing. Sitting before the tent on Persian rugs with the smell of sweet desert wood smoke fragrant across the camp, and sipping spiced coffee and sweet tea, Shaikh Abdullah gave Anita a gazelle head with twenty-one rings in the horns.

Their road was sparsely dotted with forts, settlements, way stations with echoing names: al-Qai'iya, ad-Duwadami, al-Kufaifiya. The fort at ad-Duwadami provided the first bath of the trip, the welcome variety of a room, a dinner of chicken, mutton, bustard, Turkish sweets, an evening of relaxation with Shaikh Abdullah, Najib Salha and Muhammad Ali Reza, one of the great Jiddah merchant families and later Minister of Commerce, who often left his car to ride with the Burleighs.

On the fourth day they rose at 2:30 to cross the Nafud "while the sands were sleeping," and after hours of beautiful changing light on the mesas and buttes came into Marrah, the walled city of the poets, for a 10 o'clock breakfast. A siesta, another meal, another magical folding of the tents, and they were on their way through colored rock formations and old dry ruins to Riyadh. There they found Jack Schloesslin, the driller, living as a cherished guest in the palace.

That in itself was a sufficient marvel, one of the quaintest meetings of irreconcilables in all the contacts between Arab and American. Sent to Riyadh to drill a water well at the King's request, Schloesslin changed his accustomed manners not by the slightest hair. His mouth was as full of innocent obscenity as when on Bahrain he had distributed Christmas presents to every ragged kid he could find. Watched by the lowly and great alike as he spudded in the well with the old cable rig, he went about his business with a wad of tobacco the size of a tennis ball in his jaw, and in defiance of all he offered a chew to any Arab who expressed interest.

At one point Shaikh Abdullah asked him to pull the bit to show the King how the thing worked. Jack replied that that was too damn much unnecessary work. Shaikh Abdullah, not used to being argued with, insisted pretty sharply. The King stood by, an interested spectator. Jack refused again. Abdullah angrily ordered him to do as he was told. Schloesslin spit in the sand. "Who's diggin' this well, you or me?" he said. His truculence so tickled Ibn Sa'ud that he named him Mr. Jack the Engineer, and had him in frequently for conversations, like Harun al-Rashid making merry company with Abu Hassan the wag.

Now, here he was in a real palace of a real ruling king, a fat and grubby roughneck with a heart of 24-karat gold. He was already legend, and it would not be long before he won the British upper crust of Jiddah as thoroughly as he had won the royal family of Saudi Arabia. He was as remarkable an exhibit as there was in Arabia, what Sir Reader Bullard called "one of Nature's gentlemen."

Anita Burleigh was herself something of an exhibit. She slept in the Queen's palace after a sybaritic hot bath, and waking between pink satin quilts to what she was sure was the screaming of damned souls, looked out on palm gardens and saw the donkeys trotting back and forth in sloped runways, drawing up *ghirbas* of water that tipped and flowed in the ditches. In the *suq*, people stared at her and speculated whether she was woman or boy. To those who inquired, Najib said she was the wife of the American Minister—a thing that did not yet exist. Here in Riyadh the contact between the ancient world and the modern was lightest; neither in Jiddah nor in most of al-Hasa would the sight of a woman's face have caused this amount of staring, but then Anita Burleigh was only the third of her kind to pass this way.

The addition of the King's caravan, which they joined at Ibn Sa'ud's hunting encampment at ar-Rumahiyah, brought their total numbers to nearly 500 cars and 2,000 people. The dust was choking, the heat intense, the metal of the cars too hot to touch and charged with static from running in the sand as they labored and rocked and scraped up over the ar-Rumah escarpment. The King's soldiers paraded late in the afternoon, and the guests had the experience of ducking as machine-gun bullets whistled over their heads in a demonstration of war. That evening Anita was led into the King's tent in her *agal* and *ghutra* and *aba* and presented first to Ibn Sa'ud and then to the Crown Prince. Like the ladies at Dammam camp, she found the contact with royalty exhilarating. Najib told her that not over a dozen foreign women had ever been presented, and that not even wives of ministers rated an audience.

Others of the Company who had crossed this way—Hamilton, Miller, Dreyfus, Steineke, Thornburg, Floyd Meeker, Jim Staton, Ted Lenzen, Ike Smith—had had business on their minds and discomfort for a traveling companion. Anita Burleigh need not worry about the attitudes of the King or of Abdullah Sulaiman: she was their guest. And she needn't worry about discomforts, for insofar as that thousand-mile automotive steeplechase could be made comfortable, this was how it must be done, with swarms of servants, feasts every night, rugs, cushions, silk-lined tents. They were no lonely little clot of cars struggling across the desert, but a mighty caravan, of the proportions and the color of a Crusade, or a counter-Crusade. Saladin, if he had traveled by automobile, might have headed such a procession as this, and been guarded by just such a bodyguard hung with just such festoons of warlike hardware. As the caravan boiled out of Riyadh and headed out along the ar-Rumah plateau toward ar-Rumah Wells they seemed to Anita a most exotic host indeed.

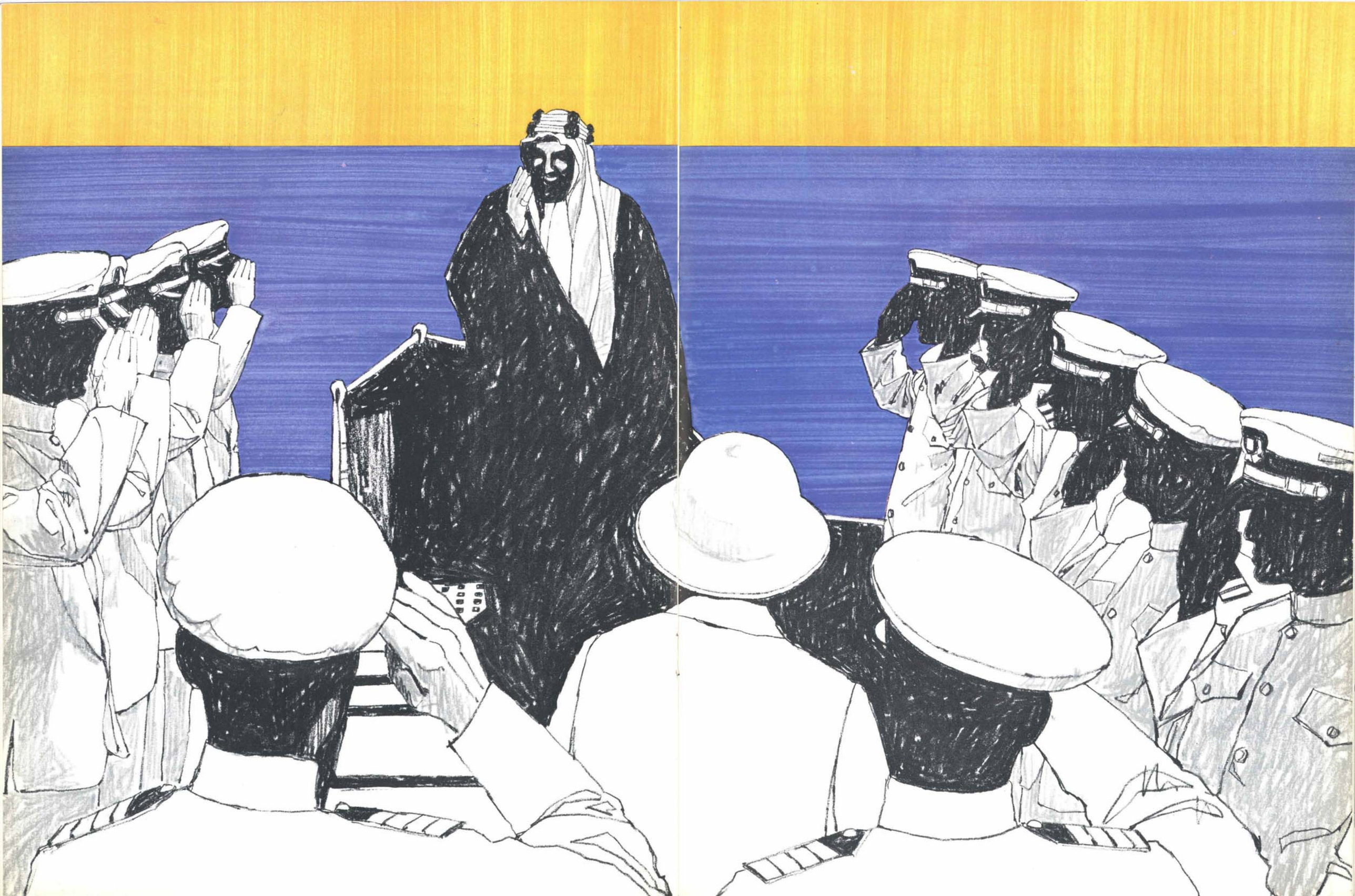
For their crossing of the red sands of the Dahna, which Anita noted in her diary, perhaps not quite accurately, as "the second most feared desert in the world," they were lucky: the wadis were running muddy water from the night's rain, and the choking dust cloud that had hung over them most of the way was quenched. They drank from a wadi, straining the sand out through a handkerchief and blessing water that for a change did not taste of tallow, and they filled their radiators and all their extra *ghirbas* before taking out across the 50-mile river of sand. Even so, radiators were boiling dry, and the royal party and its guests were sustaining themselves on canned fruit juices and oranges, before the King's guide brought them out of the sands at Ma'aqala.

At Ma'aqala, after seven days of disguise, Anita met the 20th century again in the form of 11 young Americans, applying seismograph and gravity-meter to the reluctant Arabian crust. It was reassuring to find them there; as the Burleighs breakfasted with them the next morning they seemed the finest of young men. One of them, Tom Barger, spoke remarkably good Arabic; two others named Olson and Phillips good-naturedly devoted themselves to following them and pulling them out whenever their hard tires spun and settled them to the axles in the sand.

Twelve miles west of the wildcat camp of Abu Hadriya, another American car came tearing out to meet them. It held Dick Kerr, in charge of the seismographic party in that area. Poor Kerr, unprepared by any precedent either American or Arabian to have the all-male world of exploration invaded, did not recognize Anita Burleigh in her Arab robes. He blistered the air, Anita, and after an appalled moment his own soul, with the profanity of his greeting to Bill Burleigh. But then, recovering, he charged ahead of them into Abu Hadriya and introduced them proudly to an innovation as unprecedented as Anita herself: an air-conditioned house. To Anita, after the open desert, the cottage seemed stifling. She liked better the great camps that rose as if at the rubbing of a lamp and came down the same way, the rituals of Arab hospitality and politeness, the fragrance of many fires, the overarching stars.

The geologists at Ma'aqala and Abu Hadriya, however, were inclined to show off the wonders of Modern Industry. They had received new, improved transmitters, and suggested that the King might like to talk by voice radio with Shaikh Abdullah at Abu Hadriya. Tom Barger may have been especially interested in showing the radio off because he had been the object of Dick Kerr's considerable scorn during the days when they had all had to learn Morse code and use a bug. Barger was one of those to whom Kerr, who knew Morse as well as he knew English, used to give sarcastic advice about taking his foot off the key.

Now they had this modern improvement that removed such embarrassments and gave the King a chance to see what they were doing in his Kingdom. They cranked up the generator and got it going and called Abu Hadriya and got it among the customary squawks. Barger motioned for the King to speak. The King, apparently not quite sure how loud one should



speak into a transmitter, shouted one word: "Abdullah!"

That was all. The static howled him out. But on the other end Shaikh Abdullah, hearing that sudden royal shout, sprang to the instrument and shouted back. It howled at him. The sweat came out on his brow: the King's word might have been the beginning of a command, a reprimand, a cry for help, anything. The crew fiddled and cranked and adjusted in vain. At the Ma'aqala end, Barger and Ibn Sa'ud yelled tentatively into the dead machine. But it was in vain. Modern Industry had fallen flat on its face.

From Abu Hadriya the great caravan went on to Dhahran, the cars sticking by the dozens in the *sabkhas* and being pulled out by Company trucks posted along the road. After the ten-day trip, Anita Burleigh shed her romantic disguise and reluctantly began to learn again to sleep under a roof and in conditioned air. But not the King's party. They decided against the cottages which had been evacuated for their use, and eastward from the *jabals* a white tent city arose like a bed of mushrooms from the sand. And that evening from the hill above the camp, Florence Steineke and her two little girls watched more than 2,000 Arabs at their prayers, facing in long lines back westward toward Mecca, with the King before them all leading them.

Not only the Steinekes came out to watch. Man, woman, and child, the population of Dhahran hung around the great encampment like village children around a newly-arrived circus. They poked noses and cameras into the great kettles where whole sheep were boiled, they peeked at the fringes of the crowd before the outdoor *majlis*, they gawked at soldiers, drivers, shaikhs and amirs. At night, under a blue-black sky, with hundreds of campfires flickering back the flicker of the stars, it might have been a camp of the host of Sennacherib—if Sennacherib had had certain modern conveniences. In preparation for the city of 350 tents, which was to house the King and 17 other members of the royal family, besides 400 Hijazi police, numerous ministers and dignitaries and amirs, the Shaikh of Bahrain and his brother and a party of a 100 guests, and servants and police to bring the total population of the camp to 2,700, Modern Industry had laid down 15,000 feet of three-inch water mains.

Ibn Sa'ud had reached Dhahran on April 28. After two days of banquets and inspections, during which the American population of Dhahran shot up all the film it owned, and during which the whole number of women and children was presented one by one to the King in his great pavillion tent, they moved on to Ras Tanura.

The royal party, as well as the Socal dignitaries—A.S. Russell, a director, plus Davies, Ohliger, Lenahan, Burleigh, Gester and James Stirton, the engineer who had designed the Ras Tanura complex and would live to design practically every Company installation of the next 20 years—were entertained on the broad deck of the tanker *D.G. Scofield* after which they went ashore and read telegrams of congratulation from William Berg, president of Socal, and Torkild Rieber, chairman of the board of the Texas Company, now in partnership with Socal. The King and Abdullah Sulaiman were presented with automobiles, Najib Salha with a watch and chain, others with gifts in proportion. Then Ibn Sa'ud reached out the enormous hand with which he had created and held together his kingdom in the first place, and turned the valve on the line through which the wealth, power and responsibilities of the industrial 20th century would flow into Saudi Arabia. It was May 1, 1939. No representative of the United States was present, even as an observer. The United States had not yet accredited any representative to Saudi Arabia.

Following the celebration Ibn Sa'ud paid a visit to the Shaikh of Bahrain, where Phil McConnell, destined later to be a wheel horse of the al-Hasa operations, caught his first glimpse of the Saudi Arabian King whose legend lay from the Red Sea to the Gulf like the shadow of a colossus. He talked with exhausted Americans from the mainland, unanimous in admiring the King and equally unanimous in believing that if his camp at Dhahran had stayed another week they would all be in the hospital. On May 10, returning to the mainland, Ibn Sa'ud entertained the whole American force of 200 at a banquet in his tent city. It was everybody's conclusion when his caravan boiled away through its own dust toward Riyadh that his visit had been worth every riyal and every foot-pound of energy it had cost.

One effect of the big visit was that it gave Lenahan a chance to talk over the Najd and Neutral Zone negotiations with other Casoc officials. Steineke and the geologists were optimistic about the Kuwait Neutral Zone, having found a structure just below the border that might well lap over on the north. About the two portions of the Najd they were by no means optimistic; exploration had shown no promising signs in either.

On April 30, Lenahan cabled San Francisco from al-Hasa proposing that the Company let IPC have a free hand in negotiating for the Najd in exchange for the same in the Kuwait and Iraq Neutral Zones. But at that time, all Government Relations correspondence went to London, and was passed on to San Francisco with comments and recommendations. London recommended avoiding all collaboration with IPC for fear the Saudi Arab Government might suspect collusion of some sort. In the end, they let Lenahan's last offer stand for both Neutral Zones and the two Najd areas.

On May 9, 1939, the day before he gave his banquet for all the 200 Americans, Ibn Sa'ud asked for the resumption of negotiations. Yusuf Yasin came into the discussions with demands for many additional changes, all of which Lenahan rejected. The King also rejected them, assuring Lenahan that he wished to deal with no one but Casoc, but he insisted upon certain changes of his own, which Lenahan thought it wise to grant.

They were ready to sign when Ibn Sa'ud saw the map of the supplemental concession with its corridor through the central Najd joining the north and south concession areas. That would not do; that was the heart of the old Wahhabi country; he did not want any exploration by foreigners in that section around Riyadh, because it was too likely to cause tribal unrest and uprisings.

Redrawing the map reduced the area under consideration, and Lenahan conferred by cable with San Francisco. San Francisco thought he had better close, even without a corresponding reduction of the bonus and annual rental. He wired for, and got, an invitation to follow the King to Riyadh, and on May 23 he was there. For a week, living in the palace he hammered out the conditions point by point with Yusuf Yasin and the King, won a few and lost a few, and finally brought the negotiation to an end.

The supplementary agreement which he and Shaikh Abdullah signed in Riyadh on May 31, 1939, gave the Company a 60-year right to an area of 49,900 square miles in the north, against the Trans-Jordan and Iraq borders, and of 66,900 square miles in the south, backing up against Asir, Yemen and the Hadhramaut, besides the Kuwait Neutral Zone of 2,000 square miles and the Iraq Neutral Zone of 2,500. The bonus was £140,000, the annual rental £20,000 per year after the first year. The Company obligated itself to build a small refinery and to provide the Government free of charge with stipulated quantities of gasoline and kerosene. The Government for its part reaffirmed the Company's preferential rights in the central Najd for 60 years from the date of the supplementary agreement, and agreed by a separate letter not to negotiate with anyone for that area for a period of five years.

These additions, together with the preferential rights extending westward from the Dahna to the contact between the igneous and sedimentary rocks, gave Casoc rights to an impressive share of the potential oil lands in the Arabian Peninsula except the Qatar Peninsula and the coastal regions south of it.

In mid-1939 the fashion was to be optimistic, to count the long tons of crude flowing into the tanks at al-Khobar and Ras Tanura, to emphasize good relations, to minimize problems, to take satisfaction in having beaten out the Company's competitors again. On June 26 the old tanker *El Segundo* started regular trips every 60 hours to Bahrain from Ras Tanura. In August, the United States government finally gave belated and limited recognition to Arabia by accrediting the Hon. Bert Fish, Minister to Egypt, as Minister to Saudi Arabia as well. He paid his first visit to Jiddah and expressed himself as most struck by the scrupulous and balanced code of relations by which the Casoc management had been guided in dealing with the Saudi Arabs. The Company thought his praise both pleasant and deserved, and history concurs in that opinion: the five years of Casoc's operations in Arabia, from the original concession to the supplementary one, from exploration to commercial production, had been an entirely new sort of foreign economic development in a so-called "underdeveloped" country. The Company had operated by agreement and not by coercion; its status, in fact, was markedly tentative and insecure, subject to interference and the political and economic whimsies of the Saudi Government. It had tried, and only the men in the field knew how hard, to be scrupulous in living up to its agreements and to be careful in avoiding clashes of religion and culture between its people and the Saudis. At the time of its discovery by the American State Department, it was something of a showpiece, a markedly successful demonstration of cooperation between the industrial West and the conservative East.

Everything was coming along, they had a right to congratulate themselves. Then on September 1 Germany invaded Poland, and the shadow of the swastika fell across the world.

TO BE CONTINUED

gaily go the lorries

BY FUAD RAYESS / PHOTOGRAPHY BY KHALIL ABOU EL-NASR

On the side of a bus recently I read a quotation that made me stop and think. It was a line from a song made famous by an Egyptian singer named Shadya: "The nights of life are numbered," a sobering thought. What caught my attention, however, was not the sentiment of the song, but how gay the bus looked with the verse written along the side in lovely Diwany calligraphy. It was the first time I ever noticed this delightful art form which, for want of a better term, I'll call "truck art."

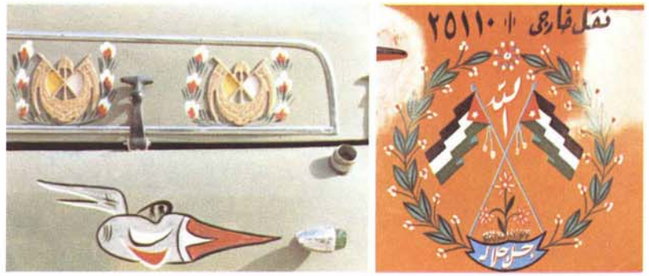
Truck art—which embraces buses, taxis and the ubiquitous Beirut "service" cars—is no more than the decoration of the hoods, hubcaps, door-panels, tailboards, railings, fenders, bumpers, or any other surface that strikes the fancy of the artists or drivers. It takes a variety of forms—from brilliant Kodachrome postcards on the dashboard of Beirut taxis to plastic-covered but elegant carpets in Jiddah taxis. Some drivers simply paint the trucks in bright colors, while others hang up silk scarves, silver coins and wax fruit. A few owners have hammered out iron designs on roof racks and wired lights to them. At night the effect is rather like that of a cruise ship sailing into a harbor.

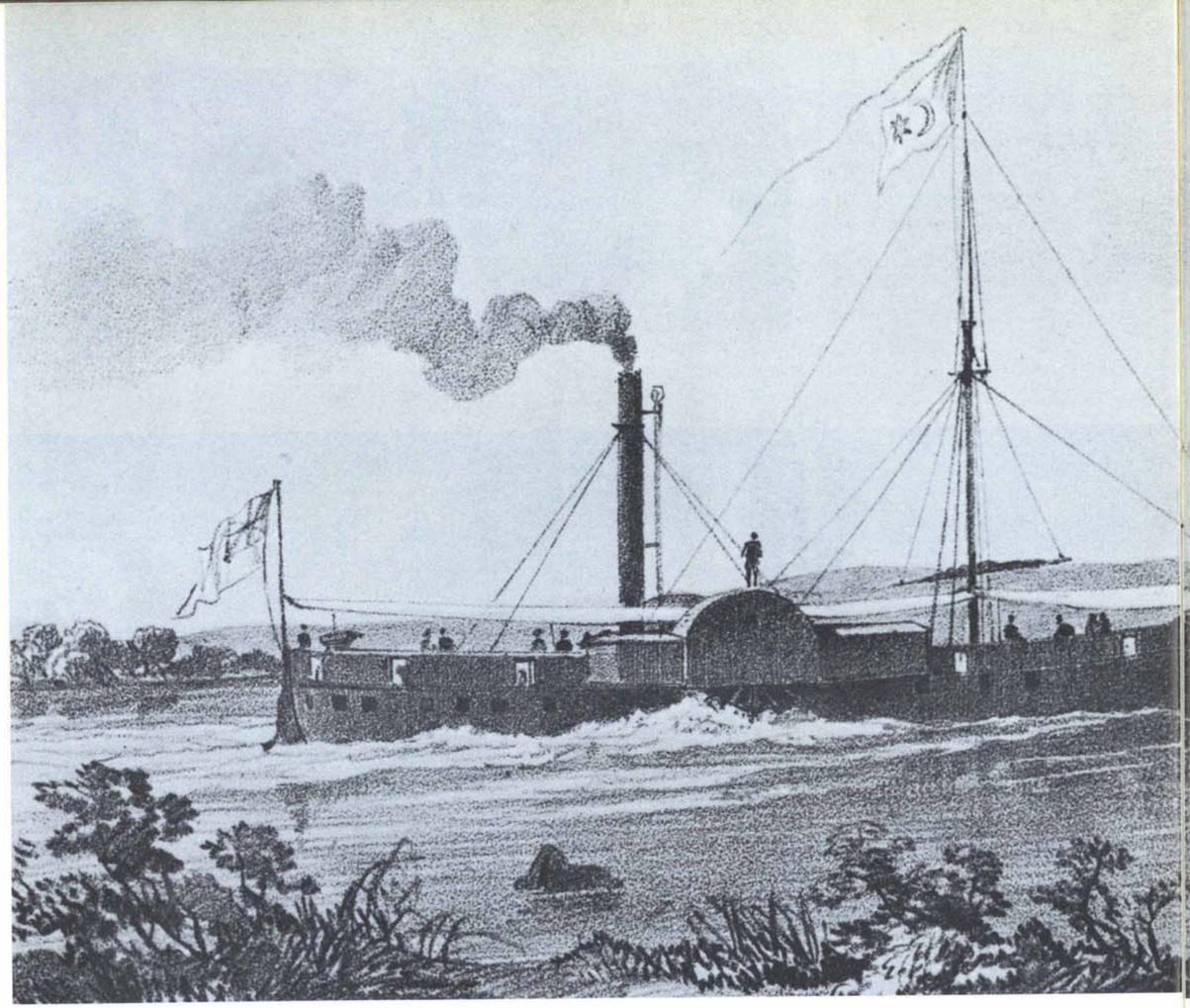
No one knows just why the decoration of vehicles is so popular among Arabs. In Saudi Arabia and Jordan, I think it might be a response to the monotony of desert driving. But however it began, it is so widespread today that it is a rare passenger in the Middle East who rides in a taxi without finding at least a small Persian carpet underfoot.

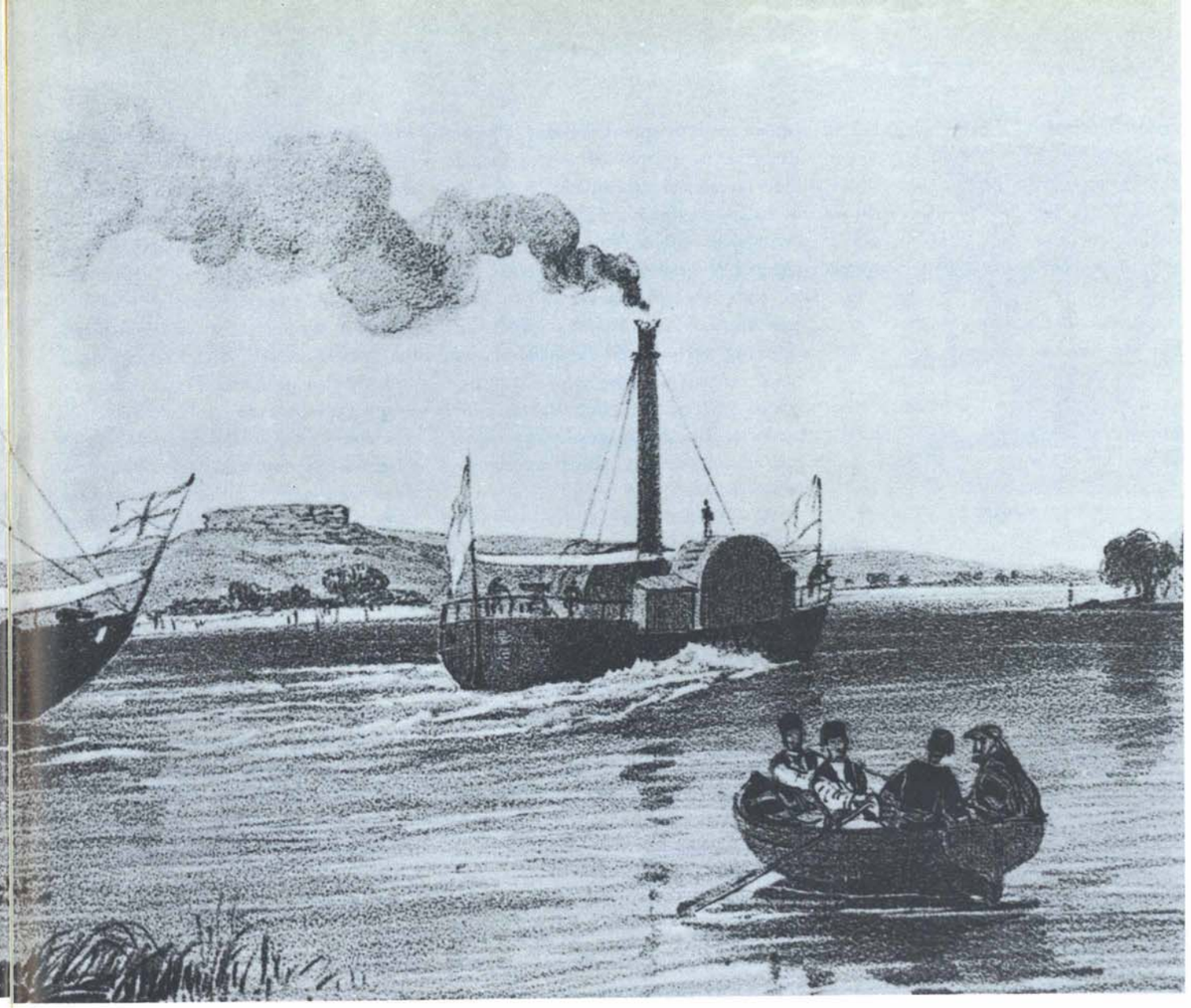
Like much folk art, vehicle decoration is the essence of simplicity. The colors are bold, the execution primitive, and the themes ordinary: flowers, trees, birds. Some drivers make ingenious plumes out of feather dusters. Others write or paint excerpts from popular songs, the names of actresses, or titles for their vehicles like "The Magic Carpet," "Conqueror of the Desert," and "Lover Forever." Also popular are safety slogans ("With slowness comes safety, with speed repentance.") and quotations to safeguard the driver: "Returning with Allah's wish," "My success is with God's help," "May safety accompany you," "Come back safely to us." Above all there are the excerpts from the Koran.

Some decorations are concessions to local superstitions (*Aramco World* September-October, 1968). To ward off collisions, flat tires and other hazards of long distance driving that an unfriendly spirit might wish on them, drivers often paint large eyes above the headlights or on the tailboards. The eyes, like blue beads, horseshoes, baby shoes and other amulets, are supposed to ward off the effects of the evil eye. How effective they are is anyone's guess, but they certainly add an air of dashing insouciance to the great lorries as they go gaily off into the deserts in a blaze of bold color—mobile exhibits of a simple and original form of art from the Arab East.

Fuad Rayess is general supervisor of the Arabic press and publications division of Aramco's Public Relations Department.







WRECK OF THE TIGRIS

BY JOHN BRINTON

Engravings reproduced from the book "Expedition to the Euphrates" by General Francis Rawdon Chesney

Several years ago a broken piece of discarded marble was found in Basra, a port in southern Iraq. On it was engraved a brief legend commemorating a spectacular, if now forgotten, 19th-century adventure and 21 men whose only grave was a storm-roiled river in the Middle East. The legend, now mounted in the British Consulate General in Basra, reads: "This fountain commemorates the awful event which visited the Euphrates Expedition, 21st of May, 1836, near Is-Jaria, about 85 miles above Ana."

The "Euphrates Expedition" was a direct result of 19th-century England's desire to find a Middle Eastern shortcut between English industry and India's raw materials and markets. According to some men the only possible shortcut was a canal between the Mediterranean and the Red Sea. Others insisted that an overland route from Alexandria to the Red Sea was the only way. To Captain Francis Rawdon Chesney, however, the most promising route led through the historic Euphrates river valley.

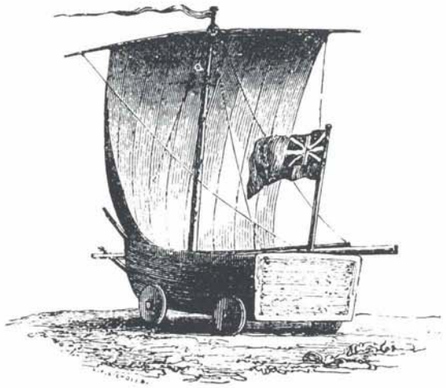
Captain Chesney was the son of an Englishman who had emigrated to South Carolina in 1772 and made the unfortunate choice of fighting on the British side during the American Revolution. He was taken prisoner by George Washington and returned penniless at war's end to Ireland, where young Chesney was born on March 16, 1785. Fortunately Lord Cornwallis (the same Cornwallis who lost the crucial Battle of Yorktown to Washington) remembered the elder Chesney's loyal service to the crown and offered the boy a commission in the British Army. The boy accepted and became a distinguished soldier—so distinguished that in 1825 he was picked to go out to the Middle East to explore possible new routes to India.

Heading first to Egypt, Chesney meticulously surveyed the 80 miles of land separating the Red Sea and the Mediterranean and—despite the prevailing fear among supposedly able engineers that the Red Sea might drain into the Mediterranean—reported that a canal *was* feasible. (Years later in Paris he was greeted by DeLesseps as "the father of the canal.") But then, in 1831, he made an amazing overland journey to the Euphrates and went down the valley by raft to the point where the Euphrates and Tigris rivers join and flow into the Arabian Gulf. Convinced that this was the real shortcut to India, he proposed an expedition to prove that steamships could navigate the Euphrates and provide a fast new link to the Orient.

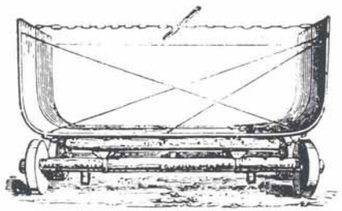
His proposal immediately attracted the interest of King William IV. The King conferred his special patronage on Chesney, and assigned him to survey the northern part of Syria, explore the Tigris and the Euphrates river valleys, investigate the possibility of establishing railway or steamer connections with India, and keep an eye out for possible markets and investment opportunities.

It was an overwhelming challenge and the first stage of it seemed impossible: getting two special steamboats built, shipped to the Middle East, transported overland and launched on the river.

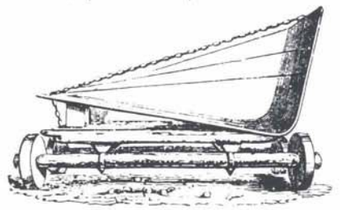
In retrospect, it seems incredible that they even dreamed that two huge paddle steamers, one 103 feet long, the other 70 feet long, could be moved 140 miles across a range of mountains, a swamp and a desert. But with the fantastic courage that seemed to inspire so many of the 19th-century explorers, Chesney and his men in the spring of 1835



The launch on wheels.



Midship section of 'Euphrates' steamer.



Section of 'Tigris' steamer.

landed at the mouth of the Orontes River set up a depot and began to plan the rest of the expedition.

In hopes that the ships could make their own way at least partly up the Orontes, Chesney's first decision was to rivet the dismantled *Tigris* back together again and launch it. The swift river was too much for the little steamer, however, and Chesney's band of engineers, boilermakes, ironworkers, carpenters, marines, sappers and seamen had to turn to the job of moving the boats overland.

As he wrote later, it was a "near-Herculean" challenge. To move the heavy, unwieldy iron plates of the paddle steamers, along with ponderous boilers, paddle wheels and masts, they had to construct a fleet of 27 sturdy wagons, sledges and carts. Then they had to round up the hundreds of oxen and mules they would need to haul the vehicles, and find workmen. More importantly they had to cut a road through the foothills that barred their way to the Syrian plains.

On top of the purely physical problems there were also political headaches. Egypt's Muhammad Ali, who ruled Syria at that time (much to the annoyance of the Ottoman Sultan) was not at all happy at the thought that the Euphrates route to India might lessen the value of the overland route across Egypt which Thomas Waghorn was then developing. (*Aramco World Magazine*, Nov.-Dec. 1968) He could not, of course, openly oppose a British expedition, but he could and did make it as difficult as possible. Food suddenly was scarce. Laborers drifted away. Precious draft animals were hastily diverted to other tasks.

Chesney, however, refused to be discouraged. By alternately invoking the influence of the British ambassadors in Cairo and Istanbul and stirring up the ready wrath of the Sultan, he foiled most of Ali's efforts, ignored the rest as best he could.

Through 1835, and into 1836, the work went forward. The road, such as it was, crawled up the slopes of the mountains, squirmed down and into the dreadful marshes near Aleppo, and struck out across the flat rocky deserts of what is now northern Syria and southern Turkey. And along the road, painfully dragged by weary men and straining animals, came the dismantled boilers, the paddle wheels, and all the other disassembled segments of the ungainly steamships.

It was brutal work. Despite masses of powerful oxen and well-muscled laborers the wagons and sledges often moved no farther than a half mile per day. When the road zigzagged sharply upwards, as it had to, Chesney's engineers had to use pulleys and jacks just to move the wagons a few inches, then anchor them in place and rig the pulleys again. On the downward slopes they had to use chains to prevent the wagons from sliding downhill and tipping over. In the marshes the huge diving bell proved too heavy and sank out of sight; it was found by ingenious probing with long bamboo poles and hauled to firmer ground by teams of oxen. To get one very heavy boiler through the mud they built a road of planks. To replace a cracked beam on a sledge they went so far as to buy a house and use the roof beam. Once they even rigged a sail on a wagon, hoping the wind would help move the great load.

But if progress was slow it was also steady. On February 27, 1836, in one final magnificent effort, more than 100 straining oxen, with the last section of boiler in tow, lurched through a triumphal arch that had been built at the river to mark the success of the first stage. And on March 17, just 13 months after leaving England, the *Euphrates* backed into the river for a trial run.

With Bedouins and villagers gathered from miles around to watch, the crew unfurled the Turkish and British flags, fired a 21-gun salute in honor of the Ottoman Sultan, and steamed out into the river, black clouds of smoke pouring out of the tall funnels, and English voices shouting the typical, "Hip Hip Hurrah!"

In the excitement a child fell from a nearby minaret and landed unhurt—which led to all sorts of conjecture as to what this implied for the future of the expedition. Shortly after they began to descend the river.

The two vessels carried an interesting complement of men. Aboard the *Euphrates* was a Dr. Helfer, a German botanist, and his wife who joined the expedition in Syria and later wrote a lively account of the journey. There were also 22 officers and scientists, 13 Arab seamen, an American Negro cook and an Iraqi interpreter called Mr. Rassam, who later became British consul in Mosul. On the smaller ship, the *Tigris*, were 20 officers and scientists, 12 Arab seamen and a certain Mr. John Bell who was later known as "Theodore's Englishman" after he went to Ethiopia, became Emperor Theodore's prime minister and confidential advisor and later died saving Theodore's life.

The northern stretches of the Euphrates are extremely treacherous waters. Until just recently the river was alternately drying up or overflowing its banks and the voyage downstream was a constant struggle with sand bars, rapids and sudden storms. The river would suddenly fork or turn in unexpected directions. Islands would appear from nowhere. With charts it would have been difficult; without, it was a nightmare.

Chesney had calculated that the distance from Birecik to Basra, near the head of the Gulf, was approximately 1,400 miles. He was dismayed, therefore, when, after 34 days, the boats had only covered 100 miles. At that rate it would take them well over a year to complete the voyage.

On the other hand, there was no help for it. The sounding boats had to go ahead to mark rocks and shoals before the *Tigris* and the *Euphrates*, traveling in eight-hour stretches, could proceed. Then the two steamers would have to tie up and wait for the clumsy barge on which they carried the three-ton diving bell and all their coal. Time also had to be found too for preparation of the day's charts. It did try their patience. Only the Helfers, by their own account at least, were pleased. They could always jump ashore and collect plant specimens and strange insects—of which there seemed to be an unlimited supply.

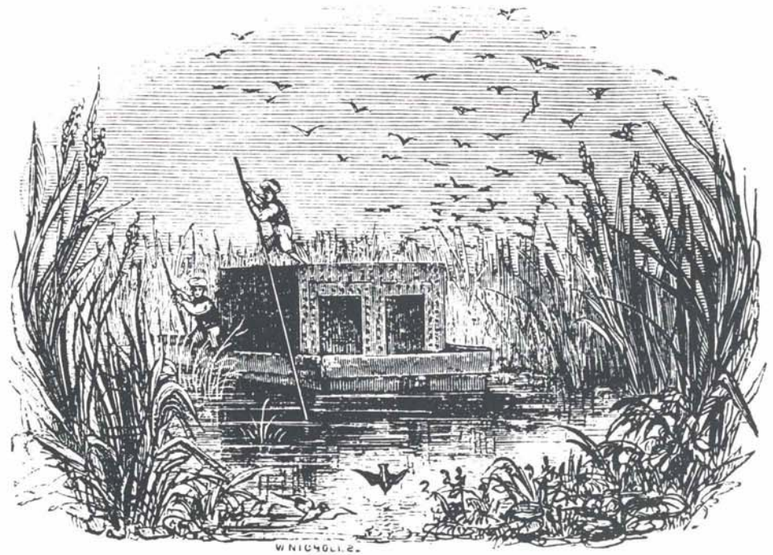
If they were impatient, however, they were never bored. Each turn in the river bank brought a new, fascinating sight. There were untold numbers of birds. There were wild boar, deer and ostriches. Once they even saw a lion ambling along the bank. As for the inhabitants, according to Dr. Helfer, they changed constantly. In the north there were peaceful river people who swam in the swollen river with inflated sheep skins but shied in fear from the thunder and smoke of the two paddle steamers. Further south there were nomads armed with swords and slings, and one day as they steamed around a bend in the river they saw nearly 1,000 Bedouin tents pitched on an open plain. There were always brigands in the hills and Chesney later confessed that his only comfort was a recollection of King William's final words: "Remember, Sir, that the success of England depends upon commerce, and that yours is a peaceful undertaking, provided with the means of opening trade. I do not desire war, but if you should be molested, due support shall not be wanting."

For all that, the first two months were not unpleasant. If changeable, the river was still navigable. Messengers came overland with mail and the latest English and European periodicals. Dr. Helfer, in fact, noted that he was always able to find the latest copy of some scientific journal aboard ship. In turn the expedition members could send letters and reports back to England.

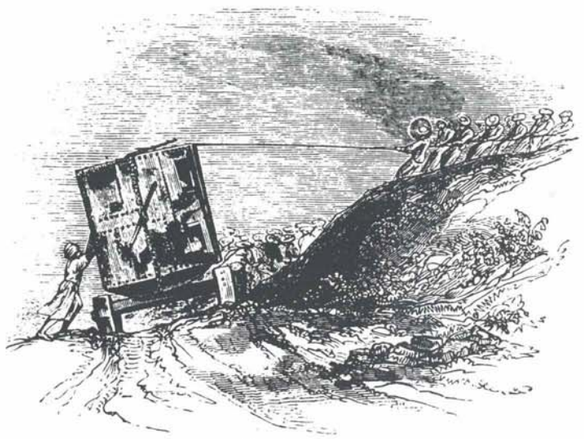
Then, in April the barge hit a submerged rock and sank with 15 tons of coal. Even using the diving bell Chesney was unable to salvage anything. Grimly, he ordered four pontoon rafts built and lashed together as a replacement, and added wood cutting to the daily chores. The rafts worked, but progress thereafter was even slower because they had to stop periodically to gather firewood.

They went on. First south, then east. Past ancient castles. Past deserted fortresses. Past the ruined city of Raqqa, and the "harsh clacking of storks perched along its old walls".

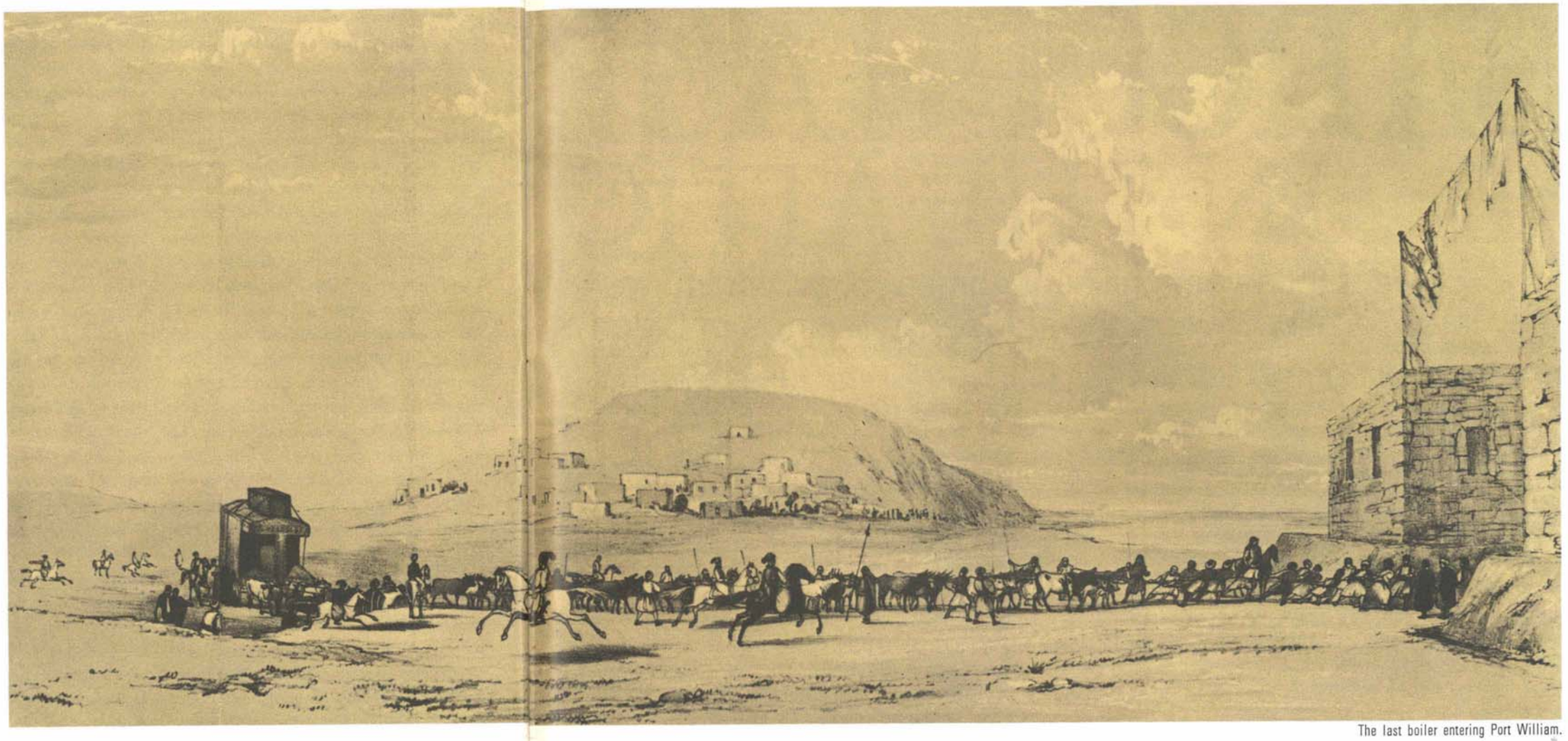
Three hundred miles downstream from Birecik they came to the first



Native boat with the boiler on the Lake of Antioch.



Boiler almost upset.



The last boiler entering Port William.

settled dwellings at El Deir where Captain Chesney optimistically wrote in his diary, "Tomorrow we are to make 130 miles to Ana; we must make up for lost time."

They tried. Up early, they cast off lines and steamed downstream with even more than their usual determination. During the morning all went well. Then, at 1:20 on the afternoon of May 21, dark clouds boiled up in the northwest sky, forewarnings apparently of a heavy thunderstorm. The air became sultry, the sky darkened, and the masses of black clouds came nearer and nearer. Beneath them the yellow sand of the desert whirled into the air.

"The sky assumed an appearance such as we had never before witnessed, and which was awful and terrific in the extreme. A dense black arch enveloped the whole horizon, and the space beneath the arch was filled up with a body of dust of brownish, orange color, whirling around, and at the same time advancing at us with fearful rapidity ... At this moment the hurricane came on us—a warm, dry wind, laden with the fragrance of the aromatic plants of the wilderness, followed a few moments later by a tremendous blast of wind with some rain in large drops. The crash broke upon us like the boom of artillery, and the hurricane seemed as if bent upon hurling both steamers at once to the bottom of the foaming river."

Realizing that this was no ordinary storm—it was in fact a tornado—Chesney ordered both ships to make for the river bank and tie up, but the *Tigris* struck the bank with such force that the recoil prevented the sailors from making her fast. With the wind at her bows she swung back into the middle of the river and into the path of the oncoming *Euphrates*. The *Euphrates* avoided a collision by reversing paddles at full speed, but then backed four feet onto the bank. The crew scrambled ashore and with superhuman efforts managed to get an anchor into the ground. But as they did, Dr. Helfer and his wife, clinging to the mast on deck, heard a shout from below: "Water in the stern cabin!"

Rushing below, Helfer found water streaming in through a porthole. Jamming his feet against the opposite wall and heaving his back against the porthole shutter, he closed it. Back on deck with his wife, he found the river flooding over its bank and waves dashing over their heads. Through the rain and the whirling sand he caught a glimpse of the *Tigris*. The steamer was motionless and her tall funnel was bent to one side. Then she rolled over and sank.

In 25 minutes the storm was over. It had come, slashed across the river at the exact point where the ships were, and passed on. In minutes the sun emerged and Dr. Helfer and some of the officers jumped ashore and ran to where they had last seen the sister ship and began to search the riverbanks. They found Captain Chesney—who had miraculously been swept safely onto a field where he was presently joined by the sodden remains of his own Bible. But the *Tigris* had vanished with her captain and 20 men aboard. Several bodies washed ashore downstream, along with a few cases of Sheffield goods, and some casks of salted meat, but of the *Tigris* itself there was not a trace.

For all practical purposes the expedition was over, and a few days later the British government made it official: because of the delays, a tapering off of public interest in the Euphrates route and a shortage of funds, the expedition was to pack up and come home.

The survivors, however, unanimously decided to at least complete the survey of the river and on May 24 the *Euphrates* continued its journey. It arrived in Basra on June 18 having quickly completed the charting of the river which, ironically, offered no further challenges or major problems once it entered the broad plains of Iraq. But for Chesney his hopes of finding a shortcut to India were in ruins. The consensus in England was that a Euphrates river service was not practical, Chesney was reproached by both the British and Indian governments and it was to be 30 years before he would complete the official report of the expedition—finally doing so at the express wish of Queen Victoria herself. His only consolation was a gold medal awarded him by the Royal Geographical Society for his contribution to the scientific and geographical knowledge of western Asia.

As so often happens, others were more astute than the government. Following in Chesney's footsteps, merchants and traders did eventually establish a steamship service, and as a result of Chesney's vision England gained the initial influence in the area that would lead to construction of a railroad along the route that the Euphrates Expedition pioneered and for which so many gallant men gave their lives in that "awful event" of the 21st of May, 1836.

John Brinton, whose hobby is collecting old books, writes regularly on forgotten but fascinating fragments of Middle East history.

SARCOPHAGI IN THE ATTIC

BY MARY GARVIN EDDY

PHOTOGRAPH BY TOR EIGELAND

Who carved these magnificent tombs? For whom were they intended? Why were they hidden in the hills of Sidon?

Mary Garvin Eddy is the widow of the late William Alfred Eddy, first United States Minister Plenipotentiary to Saudi Arabia (1944-46) and the sole interpreter at the famous meeting of President Roosevelt and King Ibn Sa'ud on board the U.S.S. Quincy in 1945.

Last summer, in preparing to return to the United States after 25 years in the Middle East, Mrs. Eddy came across photostats of some yellowed newspaper clippings that recalled for her a forgotten chapter of family history. Pleased by her discovery she wrote about it in a letter to her grandchildren—a letter on which this article is based.

—The Editors

My Dear Grandchildren:

I don't imagine you have even had the pleasure of exploring a family attic. American houses don't have attics any more do they? What a pity! I have just spent more than a week in my attic sifting through the memorablia of more than 100 years of our family's history in the Middle East and it was just fascinating. As a matter of fact the chief reason I am writing is to tell you about some newspaper clippings that I found. They concern a little-known chapter in our family's long history of involvement in the Middle East: how your great-grandfather discovered and saved a magnificent and mysterious Greek tomb.

As I hope you remember, your grandfather, William Alfred Eddy, was born and grew up in Sidon, a city in what is now southern Lebanon. In those days—he was born in 1896—Lebanon was governed as part of Syria and Syria was a part of the Ottoman Empire. His father, your *great*-grandfather, the Rev. William King Eddy, had also been born in Sidon. He became one of the founders (in 1881) of Gerard Institute for boys and *his* father, your *great-great*-grandfather, the Rev. William Woodbridge Eddy, was the founder of the Sidon Girl's School in 1862. He had come out to Syria in 1854 and later took part in the opening ceremony of the Syrian Protestant College — what is known today as the American University of Beirut.

At the end of the 19th century Sidon was a lovely old city. Centuries before it had been captured by the Crusaders and even to this day you can see the remains of castles and of the wall they built around the old city. Your grandfather and his brothers lived in a house near the sea and close to an old Phoenician wall. Between their house and the castle called St. Louis was a great mound of murex shells where the ancient Sidonians extracted the famous royal purple dye from sea snails. (Remember the phrase, 'Born to the purple'?) Also near the house was a Crusader church which had been converted to a mosque and a large beautiful caravansary called the "Suq Frangi" where foreign merchants could stay and keep their wares. To hear him tell it, it was a wonderful place for a boy, with narrow, twisting streets sometimes covered with stone vaults and only wide enough for a mule to pass with a load.

One night, in 1887, a man came to your great-grandfather's house breathless with excitement. While quarrying stone just outside the city he had found a room cut into the rock. He thought of Rev. Eddy at once because your great-grandfather had always shown an interest in archeology and had a fine collection of Roman glass, old coins and clay lamps found in Sidon. (I myself still have two jugs—complete with hardly a crack—which were found when someone was digging a basement for a house near Sidon. I asked a friend who is a professor of archeology about the age of these pieces and he replied, "Only about 4,000 years," and now I'm afraid to handle them.)

Rev. Eddy, of course, hurried off with the man. Can't you just imagine them walking quickly through the narrow lanes of the darkened city and out through the orange groves to a field above the city? It was quite black by then and the two men had to light candles as they lowered themselves nervously into the deep shaft. The air was musty and heavy and as they reached the bottom the candles flickered uncertainly. Yet even in that dim light Rev. Eddy could see enough to realize that it was a discovery of great importance.

Four rooms led off of the bottom of the shaft, and they were full of huge, magnificently-carved stone coffins—sarcophagi. One, as Rev. Eddy later wrote, was "of black marble highly polished," another, "of purest white marble of dazzling brilliance and enormous size."

Dazed by this discovery Rev. Eddy left the tomb, immediately hired a guard to stand watch and—as the law required—cabled the Turkish authorities in Istanbul.

Years later your grandfather used to point out to me the approximate site of his father's discovery. Somewhere nearby, he told me, but now lost again, was the shaft where Rev. Eddy had first seen the sarcophagi. And your grandfather's sister Dora (Mrs. Harold Close), who was about 10 years older, told me once that the sarcophagi had been discovered just at the time of her birth. She remembered her mother saying years later what a hectic time it had been for her with a new baby on her hands and all the college and missionary people journeying down from Beirut to see the tombs. As the only American woman in Sidon at the time she had to offer hospitality to all the visitors since in those days the trip from Beirut (which today takes less than an hour) took all day by horseback and necessitated fording several rivers.

In the meantime, Rev. W. K. Eddy had sent a short account of his discovery to his father, W. W. Eddy, your great-great-grandfather, who was living in Beirut and teaching there. The senior Rev. Eddy showed it to a colleague who sent it on to a friend in London and very shortly after the discovery there appeared in the *Times* of London the first of the clippings that I found in the attic last week. This is how it read:

THE TIMES, WEDNESDAY, MARCH 30, 1887. DISCOVERY OF A TOMB TEMPLE AT SIDON.

TO THE EDITOR OF THE TIMES.

Sir, — I have just received through Dr. Henry Jessup, of Beyrout, the following letter regarding the discovery of a most interesting tomb temple at Sidon. Rev. Eddy's observations were made under great difficulties, and do not claim to be complete, but his hasty descriptions will awaken widespread interest. Dr. Jessup adds that no inscriptions have yet been discovered, but Phoenician letters might easily escape notice during a hurried examination in bad light. Professors Porter and Fisher, of the Protestant Syrian College, Beyrout, have left for Sidon, with photographic apparatus and magnesium wire, in the hope of obtaining pictures of the sculptures. A Turkish guard is standing over the shaft to prevent the removal of the statues ...

The discovery at Sidon may turn out to be of very great importance artistically and archaeologically. The treasure will probably be consigned to the archaeological limbo at Constantinople. If they cannot be brought to London for the use of the world, could they not be preserved *in situ?*

I have the honour to be yours obediently,

W. WRIGHT. DD.

British and Foreign Bible Society, 146, Queen Victoria Street, London E.C., March 28.

The *Times* followed Mr. Wright's letter with the one written by your great-grandfather:

LETTER OF THE REV. W.K. EDDY, AMERICAN MISSIONARY, DATED SIDON, SYRIA MARCH 12, 1887

About a mile northeast of the city, in an open field above the line of the gardens, was found a shaft, open at the top, about 30 ft. sq. and 35 ft. or 40 ft. deep. When this was excavated, doors were found on the four sides of the perpendicular walls leading to as many chambers. Entering the south one first, we found it about 15 ft. sq. cut out of the solid rock, roof and sides all of rock, but a built wall between it and court of shaft. Entering, two sarcophagi met the eye ...

One was 11 ft. long, 5 ft. wide, and 12 ft. high ... partly covered with stones, so that we could not see it. The workmanship of this was good, but not remarkable. A hole had been broken in the front through which the contents had been rifled, but in general it was in a fine state of preservation. Three skeletons and five dogs' heads. From the long noses of the latter it is easy to infer they were hunting dogs.

The east chamber had also two sarcophagi, one small, and plain, but on the left; while the larger one was on the right. This was the finest thing I remember to have seen in stone. A Greek temple, formed of finest marble, translucent as alabaster ... with a porch of columns all about it; and in the porch between these stood 18 statues, about three feet in height, not discoloured not touched by dirt, as beautiful as if finished yesterday; of the finest art, muscles and form showed through the drapery. Each one of these 18 would be a gem of itself—not a scratch nor a flaw anywhere ...

While all this was being written and published, the Turkish authorities had sent back instructions to Rev. Eddy to spare no expense to guard the site. They also gave permission to local archeological authorities to begin excavations. Soon after it was also learned that Hamdi Bey, the able, Paris-educated archeologist who headed the Department of Antiquities for the whole Turkish empire, was on his way to take charge personally.

For Rev. Wright of the British and Foreign Bible Society, however, such measures were inadequate. Excited by the find and lacking your great-grandfather's confidence in the ability of the authorities to preserve the treasures, he was soon in print with another letter on April 7, announcing that the total of sarcophagi found was now 16 and suggesting that pressure be applied to persuade the Turks to leave the sarcophagi where they were found, It is clear, he said,

"...that the discovery at Sidon will prove of surpassing interest. The Sidonian treasures, however, are in a fair way to be lost. Legally the Turks have a right to do what they please with the sculptures, but I think they might be induced to let them remain where they are. The cost of guarding and preserving the tombs *in situ*

might be covered by a small fee for admission and Sidon would be come a new centre of attraction.

I have the honour to be yours faithfully,
W. WRIGHT

Along with that suggestion Rev. Wright also sent the *Times* the latest letter from your great-grandfather, forwarded like the first by Dr. Jessup in Beirut.

"The large tomb ... exceeds all other sarcophagi seen before. Professor Porter, of the American College in Beirut, says that he saw nothing to equal it in the collection at Athens, and very little in sculpture finer anywhere ... The main features are battles. Two classes of warriors are represented—soldiers with casque helmets, tunics, greaves, and short swords. Some wore flowing cloaks painted red, but their tunics were blue; eyes also painted blue. These were mostly mounted on horses. The other class of soldiers had a peculiar headdress, a peaked cap with tassels, and a cloth wrapped about the sides of the head and also across the face ...

"On the main body of the sarcophagus there was ... a fierce battle, the dead and dying, horses rearing and plunging, a very spirited and vigorous representation. On the other side a hunting scene; a hunter, barbarian, stands up with outstretched arms, having just discharged an arrow; a man on horseback, as if thrusting with spear; then, in front, another horseman, and a lion has fastened upon the neck of his horse ..."

Despite Rev. Wright and the *Times*, Hamdi Bey did come to Sidon. He arrived by ship on April 29, called at once on your great-grandfather and began to make arrangements for the removal and safekeeping of the treasures. This was a very difficult task because the sarcophagi were big, they were heavy and were located in deep, subterranean chambers. They were also covered with fragile carvings which had to be preserved undamaged.

To get to them, Hamdi Bey superintended the cutting of a horizontal tunnel through the hillside into the chambers. He then rolled the huge sarcophagi out through the tunnels. Outside, workmen encased them in wrappings and put them into wooden crates. To preserve the coloring the workmen wore gloves, and Hamdi Bey himself stuffed the cotton wool behind each of the carvings and had them covered by layer upon layer of soft material. Lastly he ordered construction of a temporary railway through the groves to the seashore where a special wharf was constructed on piles. When all was ready, a special ship was brought from Constantinople and a large hole cut in its side. Then the sarcophagi were rolled over the tracks to the wharf, loaded on barges, floated out to the steamer and placed in the hold for their journey to Constantinople, where your great-grandfather—who went along—was made an honorary member of the Turkish Archeological Society.

For Sidon, that was the end of the excitement, but in London interest continued for a while. On December 8, 1887, Professor T. Hayter Lewis, Chairman of the Palestine Exploration Fund, turned in a detailed description of the carvings after a visit to Constantinople. In his description he discussed the most puzzling aspect of the discovery: for what great leader was this splendid tomb constructed and concealed?

"The seventh sarcophagus is the grandest of all. It is out of one block of white marble, about 11 ft. long ... with sculptures of marvellously fine execution. On two of the sides the subject is the chase; on the other two are represented combats between warriors both on horse and foot. One prominent figure reminded Hamdi Bey of that of Darius in the famous mosaic from Pompeii (and having seen this recently I quite agree with him), and certain characteristics on another of the principal figures induces him to assign it to Alexander.

In any case, there can scarcely be a doubt that the sculptures represent a battle between Greeks and Persians, and most probably between Darius and Alexander ...

The architectural details of all these sarcophagi, so far as I can judge from the photographs, are of the Greek type of the best period, without a trace of Roman influence, and the sculpture appears to be of the highest class ...

But it is not only by the sculpture that this monument has been adorned. It has been so, in the most careful and artistic way, with colouring, which was (and I trust still is) in a perfect state of preservation ...

The absence of any inscription is not surprising, in as much as very few of the sculptured sarcophagi (chiefly Greco-Roman) left to us are inscribed, and I have Hamdi Bey's authority for saying that there is not a line, not a word, which could give a clue to the date, nor anything definite as to the persons for whom these splendidly adorned tombs were made.

How was it that a great sepulchre should have been hewn 50 ft. deep in the solid rock, chambers carved out from it, these immense blocks of the finest marble brought from Greece, carved by the best Greek sculptors, painted (it would seem) by the best Greek artists, and then lowered into their resting-places in times of no great antiquity, and yet not a single record of any kind be left to give a clue to the names of those for whom such great works were done? ...

It will be months before the sarcophagi can be seen by any one, as it would be highly dangerous to expose them, however slightly, to the dust and damp of a Constantinople winter, as would be the case if they were uncovered before being placed in the building now being erected for their reception ...

T. HAYTER LEWIS

As you see from the clippings, no one knew with any certainty then whose tomb it was. And to be honest, no one is certain to this day. But when you are in Istanbul someday be sure to go to the Archeological Museum, find the room with the Sidon treasures, and ask for the Sarcophagus of Alexander the Great. They'll be very cautious, of course, and tell you no one is certain it was really intended for Alexander. But look at it anyway—carefully guarded and preserved in a huge glass case—and remember my letter. For that's the tomb your great-grandfather found.

Much love always,
your grandmother
Nona