



ARAMCO WORLD
magazine



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Oman: a new dawn



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Oman: a new dawn

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On April 11, Sultan Qaboos bin Sa'id, the ruler of Oman, visited the United States—an event that underscored both Oman's re-emergence from a century of isolation and the world's renewed interest in Oman.

Oman's important location—at the mouth of the Arabian Gulf, through which much of the world's oil now passes—is, of course, a key reason for the reawakening of world interest in Oman and news stories and magazine articles normally focus on this factor. This special issue of Aramco World Magazine, however, covers the reawakening within Oman itself, or, as Sultan Qaboos puts it: Oman's "new dawn."

To provide such coverage, contributing editor John Lawton made two swings through Oman with photographer Tor Eigeland, a veteran contributor to Aramco World. Eigeland also flew to Washington D.C. to cover the sultan's visit with President Reagan. Other material came from Paul Lunde, a contributing editor, Barbara Wace, thought to be the first woman journalist ever to be admitted to Oman, Dale Eickelman, associated professor of anthropology at New York University, and Joseph Fitchett of the International Herald Tribune.

—The Editors



LAWTON



EIGELAND



LUNDE



WACE



EICKELMAN



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Cover: Flags flying and bands playing, President Reagan welcomes Sultan Qaboos bin Sa'id of Oman to the United States at colorful ceremonies on the White House lawn. The sultan, reaffirming Omani-U.S. diplomatic links going back 150 years, spent five days in Washington this April, during which he, his ministers and his advisers conferred with the President, his cabinet and members of Congress and gave \$300,000 to endow a chair of music at the National Symphony Orchestra in the name of Mrs. Reagan. Back Cover: Sultan Qaboos arriving at Andrews Airforce Base to start his U.S. visit.

◀ Oman occupies the southeast corner of Arabia and the western flank of the Strait of Hormuz, through which most of the world's oil passes.

Oman: an introduction

PHOTOGRAPHED BY TOR EIGELAND

In a sense, Oman plays just as important a role in the world today as it did in the past. Heir to a long seafaring and trading tradition — it was the ancient world's chief supplier of copper and frankincense, and its merchants pioneered the sea route to China in the eighth century — Oman now commands the western shores of the strategic Strait of Hormuz, gateway to Arabian Gulf oil.

Though it once ruled a medieval empire, was a major maritime power, and was the first Arab nation to send an ambassador to the United States, Oman sank into obscurity in the late 19th century partly as a result of losing its African and Asian colonial interests and revenues, partly because the new western steamships easily outsailed its dhows.

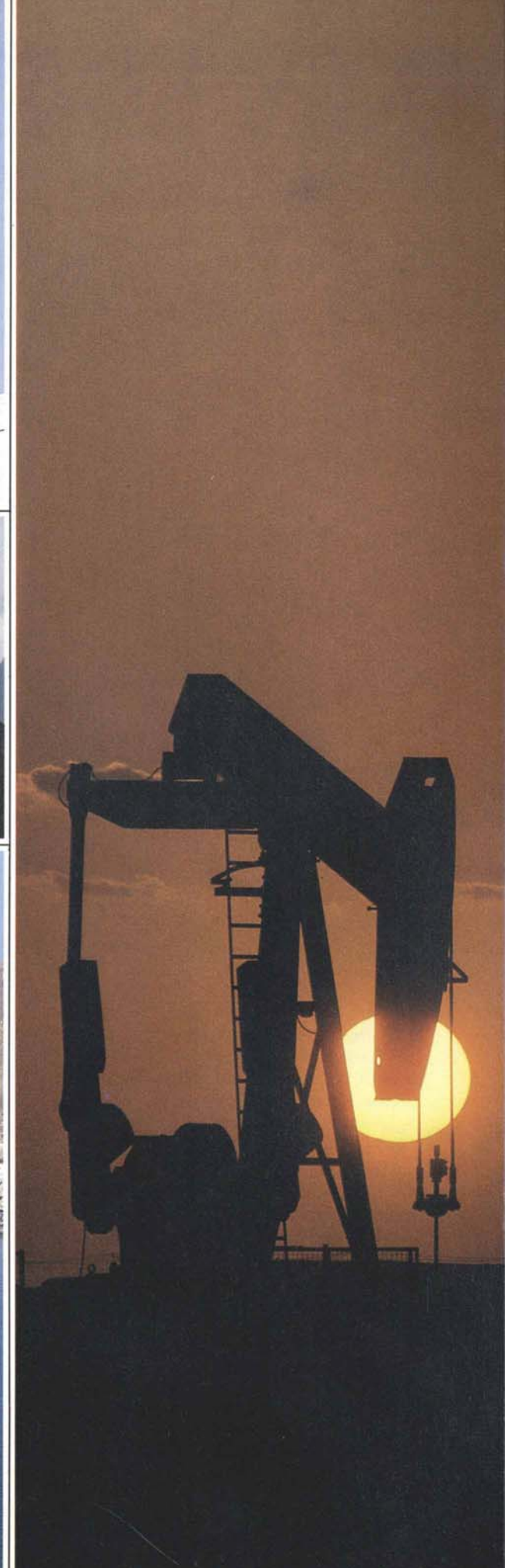
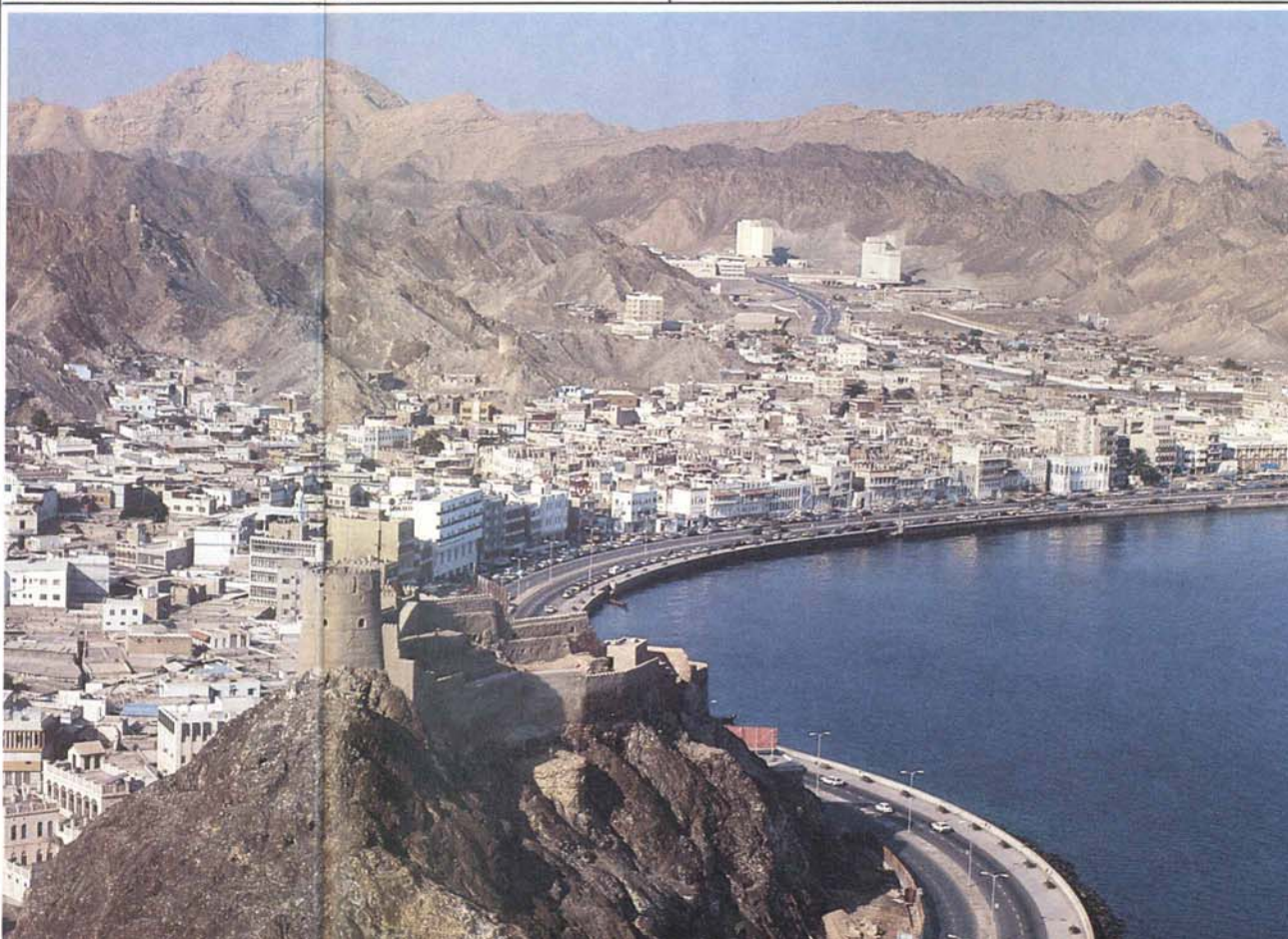
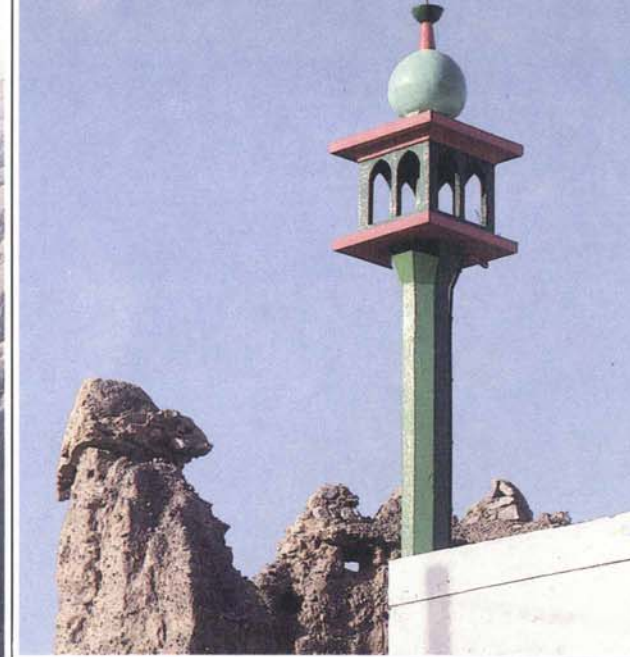
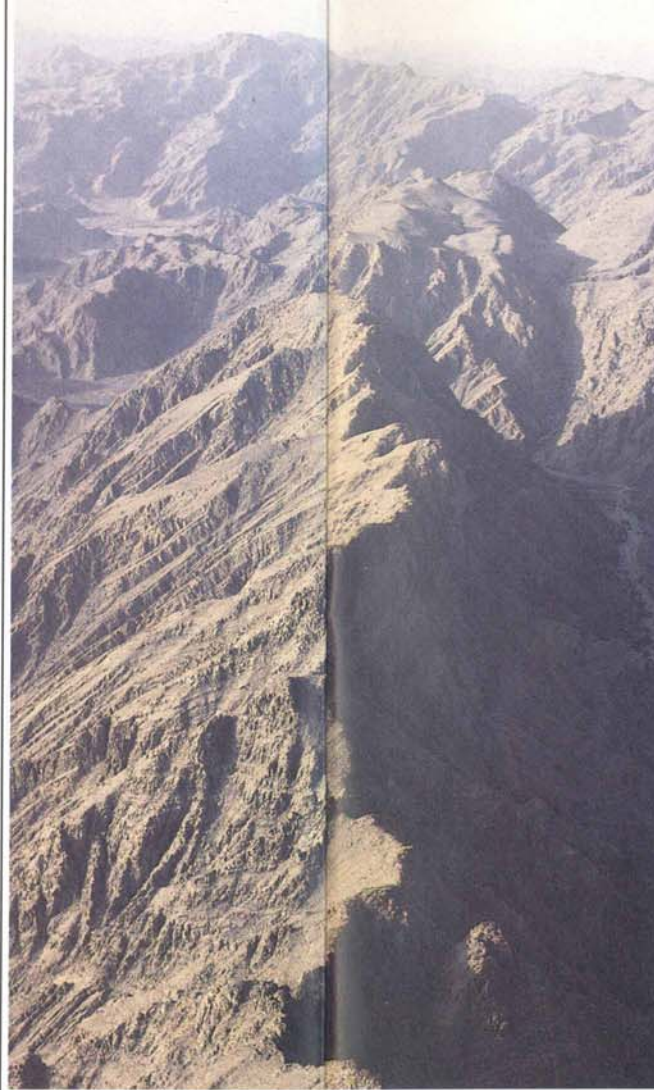
Plagued by poverty and racked by internal conflicts, Oman was bypassed by the 20th century — it had, for example, just one 12-bed hospital and had diplomatic relations with only three states — until, in 1964, oil was discovered and, in 1970, Sultan Qaboos bin Sa'id took power.

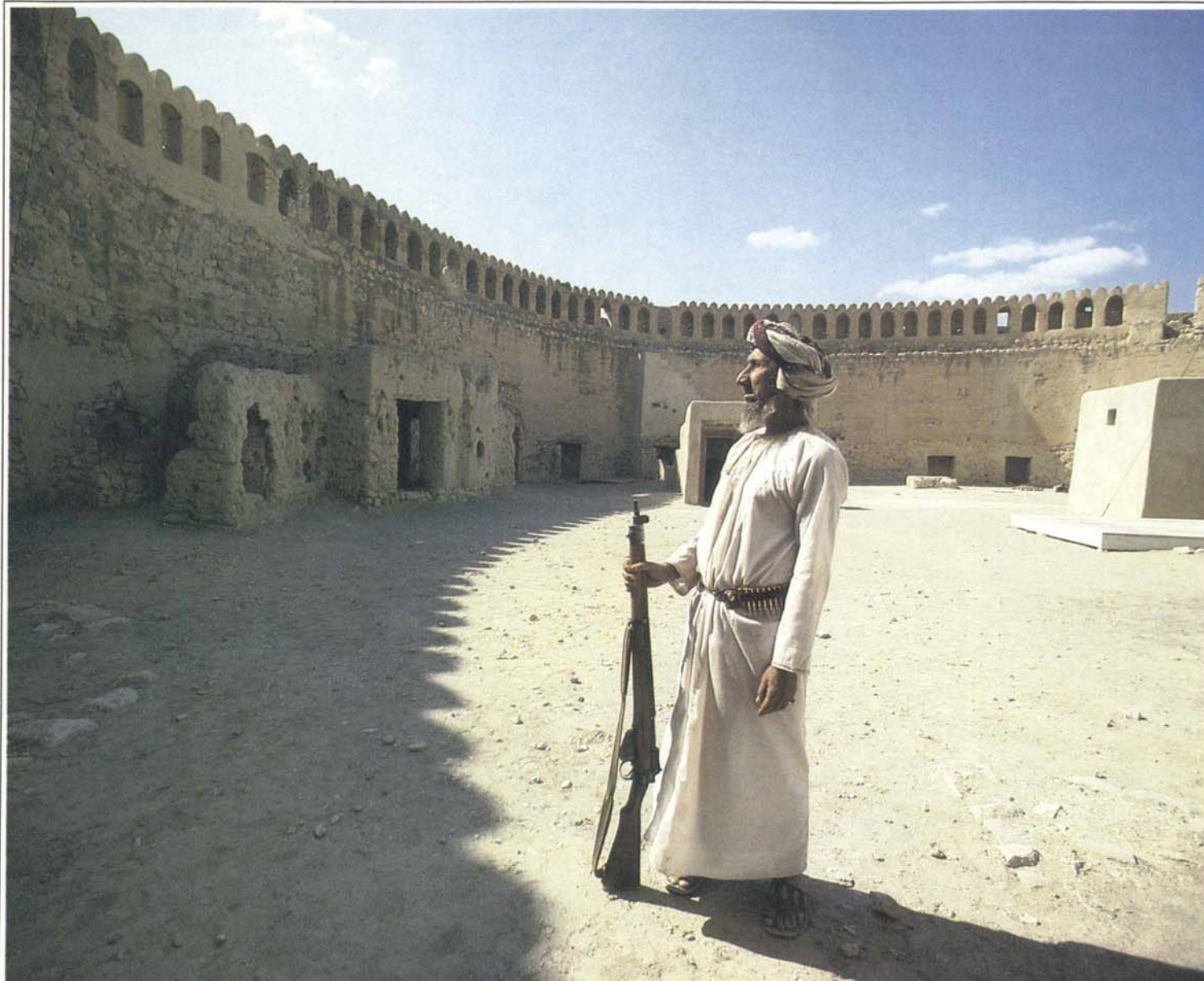
Known affectionately as "Super-Q" among expatriates in Oman, Sultan Qaboos immediately launched a sweeping development program at home, and reactivated Oman's once-important role abroad. Among the results: Oman has more hospitals today — 14 — than it had hospital beds in 1970, and has diplomatic relations with over 70 states.

Oman today is also a full-fledged member of the United Nations, Non-Aligned Movement and Arab League, and it played an active part in setting up the Gulf Cooperation Council (GCC), the potentially important economic and mutual security pact linking Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

The second-largest country, after Saudi Arabia, on the Arabian Peninsula, Oman was one of the first nations to embrace Islam as it swept out of western Arabia in the seventh century. The religion has acted as a unifying force among Oman's diverse groups and still serves as the foundation of its legal and political systems today. Though a monarchy, Oman has a Consultative Council that was set up in 1981 and allows some participation in government by the people.

The transformation of Oman, in little more than a decade, from the region's most-backward country to one of its fastest-developing states, has been achieved even though the sultanate is only a modest oil producer. And though some social dislocation has inevitably occurred because of the speed at which change has taken place, by and large Oman has emerged from the experience with its institutions intact and its future promising.





A masterpiece of fortification, the great circular fort at Nizwa, cultural, religious and economic center of the interior, played a crucial role in the turbulent history of Oman.

Oman: a history

WRITTEN BY PAUL LUNDE

Until very recently, almost nothing was known of the pre-Islamic past of Oman, the rugged, almost inaccessible, sultanate stretching along the southeastern corner of the Arabian Peninsula. During the past 10 years, however, with the support of Sultan Qaboos bin Sa'id, scholars have begun to reconstruct the remote past of this fascinating country. They have, for example, identified archeological sites dating from the third millennium B.C., thought to be contemporary with the Barbar culture of Bahrain and with the great Riverine cultures of Mesopotamia and Mohenjodaro, and have found, even this early, evidence of trade between Oman and far-off Sumer.

Among the more exciting finds are the remains of what may be one of the raised platforms with stepped sides called "ziggurats" in Mesopotamia, found at 'Arja (See page 18), which may indicate some early influences from Mesopotamia.

Archeologists have also discovered that ancient Oman had a flourishing copper mining and processing industry. The copper obtained was traded, and even exported; in fact, it is almost certain that the mysterious country of "Makan" or "Magan" mentioned in Sumerian tablets refers to Oman.

Dhofar, now part of Oman, was also the source of another of the ancient world's most-prized commodities—frankincense, offered by Sheba's queen to Solomon, and

by the Magi to the infant Jesus (See page 26).

Despite this economic activity, however, there is, so far, no evidence in Oman of a developed urban civilization at the earliest period—possibly because the area lacks a river system around which to organize a centralized society. Another factor is the distinctive geography of the country, which has had such a profound effect upon its history.

Oman has three basic types of landscape, each linked to a particular human economy: the coast, the mountains and the desert. The coast, and particularly that part known as the Batina, is intensively cultivated, by means of irrigation, and has traditionally been

outward-looking, producing fishermen and merchants. Historically, it has been the coastal strip, with its active ports, which has come under foreign domination, and hence undergone foreign influences. Inhabitants of the mountains, on the other hand, have always been fiercely independent and organized into small, self-sufficient communities of farmers and pastoralists, while the foothills to the west, and the desert beyond, have been the province of nomadic peoples.

Although each of these three groups is relatively self-sufficient, commercial exchanges between them have linked them together—without, however, making any one group totally dependent upon the others. An indication of how isolated some of these mountain regions are is the survival in Dhofar of several tribes speaking varieties of a non-Arabic semitic language, akin to the languages spoken in ancient times in Yemen, while at the tip of the Musandam Peninsula there is a small group speaking an archaic form of Persian (See page 38).

Because of its proximity to Iran, the coast of Oman came under Persian domination early in history. The extensive *falaj* irrigation system, for example (See page 28), was introduced by Achaemenid Persia about 600 B.C.—greatly increasing the prosperity of the Batina—and for almost 1,000 years this coast was sporadically under Persian control.

In pre-Islamic times, tribes from Yemen filtered into Oman—from, legend says, Marib, site of the famous dam in South Arabia (See *Aramco World*, March-April 1978). Recent discoveries near Salalah in Dhofar of south Arabian inscriptions show that some of these Yemenis were colonists sent out by their king, almost certainly in an effort to control the lucrative incense trade.

Later, another tribal group entered Oman: the important tribe of Azd, from which the present ruling family is descended, migrating in the sixth-century for reasons not yet known, from what, today, is Saudi Arabia's Asir province. After settling in the highlands, the Azd contacted the Sasanid Persians, who controlled the coast, and negotiated an arrangement: a measure of autonomy from the Sasanid governor in return for controlling the inhabitants of the mountains, and collecting taxes. The head of the Azd confederation was given the title "Julanda," a Sasanid administrative title taken by early Muslim historians as a personal name, and used to identify the early Azd rulers of Oman.

With the advent of Islam, 'Amr ibn al-'As, later famous as the conqueror of

Egypt, and one of the most important political and military leaders of the early Muslim community, was sent to Oman by the Prophet Muhammad. This was probably in the year 632, for while he was in Oman he learned of Muhammad's death that year in Medina, and hastened back. His mission, however, was successful: the two sons of the Julanda of Oman accepted Islam, and immediately, with their Azd kinsmen, set about driving the Persians out of the country: they sent a letter to the pagan Sasanid governor at Rustaq, inviting him to embrace Islam and, when he refused, defeated him in battle. The Azd then besieged the Persian garrison at Sohar, forcing the governor to surrender and leave the country. The Azd subsequently played a major role in the Islamic conquests. They were one of the five tribal contingents that settled in the newly founded garrison city of Basra at the head of the Arabian Gulf: under their great general al-Muhallab ibn Abi Sufra, they also took part in the conquest of Khurasan and Transoxania.

HOYE



The remains of what may have been a "ziggurat" at 'Arja.

Another important group in Oman's history was the Kharijites, who fled south following the battle of Siffin, in 657, when the forces of Ali, son-in-law of the Prophet, fought the armies of Mu'awiya, the governor of Syria, and founder of the Umayyad dynasty, over the issue of the succession to the caliphate. The Kharijites refused to accept either Ali or Mu'awiya as the legitimate successor, believing the caliphate should be elective, and many took refuge in Oman, far from the authority of the central government. In 750, when the Umayyad dynasty was overthrown by the Abbasids, an Omani branch of the Kharijites known as the

Ibadis picked as their spiritual leader Julanda ibn Mas'ud—a descendant of the same Julanda brothers who first embraced Islam, and despite an expedition to Oman sent by the Abbasids, these Imams ruled in Oman thereafter.

During the Middle Ages, Oman was in regular contact with Persia, India and even southeast Asia. With maritime trade flourishing, Arab dhows built by Omani shipwrights at Sur (See page 30), were riding the monsoon winds eastward as far as Ceylon and in the eighth century an Omani trader Abu Ubaida 'Abd Allah ibn al-Qasim, made the first sea voyage from Arabia to China. In the late 10th century, Omani merchants founded the trading city of Kilwa, on an island off the coast of Tanzania and by the 12th century, an amir from the Nabhani clan of Oman was permanently resident on the East African coast, trading in gold, iron, and slaves. It is probably at this time that Omani merchants first began to reside in Zanzibar.

The 15th century brought two events that profoundly changed the political and economic life of the Gulf, and indeed, of the world. First, the Ottoman Turks conquered Constantinople—in 1453—and by 1517, had also taken Egypt and Iraq, and so come into control of the Red Sea and the Arabian Gulf. Second, the Portuguese succeeded in finding a sea route to India—when Vasco da Gama rounded the Cape of Good Hope in 1498. Ironically, it was the great Omani navigator, Ahmad ibn Majid, who guided da Gama on the last vital leg of his historic voyage—effectively ending Arab domination of eastern trade. Other Portuguese ships quickly followed, and, in 1507, Albuquerque brutally sacked Muscat. By the end of the year, the Portuguese flag had been raised all along Oman's coast. The Portuguese also took Kilwa—the Omani outpost in East Africa.

In 1550, an Ottoman fleet set out to relieve Muscat, sailing from Suez with 30 ships and 16,000 men, under the command of the aging cartographer and admiral Piri Reis, maker of the first Ottoman map of the New World (See *Aramco World*, January-February 1980). The Ottomans captured the city, but the Portuguese soon re-occupied it.

Meanwhile, 60 years of rule in the interior by the Nabhani clan—who were secular rather than religious leaders—were coming to an end and a national hero was about to appear.

This was Nasr ibn Murshid, of the Ya'rubi clan of Azd, elected Imam in 1624. At this time, the Portuguese still controlled the coast, while control of the interior was

divided among at least five self-styled "kings." Nasr ibn Murshid saw that the country could only be united against a common enemy, and determined to drive out the Portuguese. It took 25 years to do so. Nasr himself died without seeing the last of them go, but his successor, Sultan ibn Saif, finally took Muscat in 1650, ending almost a century and a half of Portuguese presence on the coast.

Sultan ibn Saif built up a powerful fleet and carried the war into the waters of the Indian Ocean. Soon what had started as a war of liberation led to the establishment of a wealthy and centralized state, with revived trading colonies in East Africa and a merchant class dependent upon a strong government.

The Imam Sultan fortified his capital of Nizwa and for perhaps the first time in Omani history appointed local officials in the towns and villages who owed their obedience to him. He spent large sums on repairing and extending the *falaj* system, which greatly added to the prosperity of the country. Just before his death in 1679, he appointed his son as his successor.

Until this date, the imamate had always been elective, and this departure from custom is perhaps an indication of an awareness of the need for continuity in the government. Sa'id, another son of Imam Sultan, succeeded to the Imamate in 1692, and ruled until 1711, continuing the policies laid down by Imam Sultan. He enlarged the cultivable area of the Batina by planting palm trees and expanding the irrigation system; he also increased the power of the Omani fleet until, by 1700, Oman was the dominant sea power in the Indian Ocean.

In the first quarter of the 18th century, civil war broke out in Oman between two factions, one claiming descent from an eponymous ancestor of south Arabian origin, the other from an ancestor of north Arabian origin. The factions were called respectively "Hinawi" – the "southern" faction – and "Ghafiri" – the "northern." The leaders of the two factions both met their death in the same battle at Sohar in 1724, but antagonism between the groups has persisted until recent times.

At one point after 1724, the "northern" faction called for Persian aid, and in 1737 Nadir Shah invaded Oman and besieged, without notable success, Muscat and Sohar. The next year the Persians and their mercenary army were driven from the country. They soon came back, however, and as with the Portuguese occupation, foreign tyranny once again produced a national leader – this time from the Bu Sa'id clan, of which the present Sultan is a



Heir to a long seafaring and trading tradition, Omani dhows, like the one above, carried copper to Mesopotamia and pioneered the sea route to China in the eighth century.

member. His name was Ahmad ibn Sa'id. Governor of the fort at Sohar when a Persian fleet attacked the town, Ahmad ibn Sa'id not only held out for nine months, but finally forced the Persian commander to come to terms. Within a very few years, in fact, Ahmad ibn Sa'id succeeded in driving the Persians from the country altogether; he was elected imam about 1749.

Ahmad ibn Sa'id was succeeded as imam by his son in 1783, who, retaining the title of imam, withdrew from temporal power and left his son Hamid in charge with the title "sayyid"; no subsequent ruler of the Bu Sa'id clan has taken the title of imam.

In 1792, Sayyid Sultan, the fourth Bu Sa'id ruler, took power and resumed the struggle against Persia. He captured Hormuz, Bandar Abbas, and a number of other ports. In 1798 he signed a treaty with Britain allowing the East India Company to construct a trading post at Bandar Abbas. It was during these years that the country came to be known as "Muscat and Oman," a name mirroring the increasing social and economic division between the coastal trading cities and the people of the interior with their more traditional ways. Sayyid Sultan himself, and his successors, were active and wealthy merchants, but this wealth, and that of the coastal cities, does not seem to have percolated into the interior, which began to be strongly affected by the influence of the religious and political revival then sweeping the Arabian Peninsula.

More important to the fortunes of Oman's ruling dynasty were its increasingly close ties to Britain. In 1820, Sayyid Sa'id received military help from the East India Company against his enemies. In 1829 he occupied Dhofar, the ancient incense land, at that time one of the poorest and most backward areas in Arabia. In 1832, Sayyid Sa'id moved to Zanzibar – the Omani trading colony – and turned his interest to East Africa. Nevertheless, it was precisely in these years that a series of treaties with Britain led, in stages, to the abolition of the slave trade – treaties being signed in 1822, 1839, 1845, and 1873. They were a serious blow to the economy of Oman, and as the century wore on, the economic depression grew worse.

In 1856, when Sayyid Sa'id died, Zanzibar was given to his son Majid and Oman to his son Thuwaini. It is a mark of the growing influence of Britain over Omani affairs that the disputes arising from this division were settled by the governor general of India, Lord Canning.

As economic conditions in Oman worsened, large-scale migration to Zanzibar took place. Conditions were made worse by the 1873 treaty that finally abolished the slave trade, and was much stronger in its terms than those that had gone before. As might be expected, there were a number of popular uprisings, and Muscat was attacked in 1874, 1877 and 1883; in the last two cases British warships were forced to come to the aid of the government. When the capital was again attacked in 1895, the British refused to become involved, and the sultan (for this was the title by which the ruler was now known) only saved the city by making concessions to the rebels. The British then loaned him money, and as the government debt rose, increased their influence. The authority of the sultan over the interior of the country was by this stage so weak as to be practically non-existent.

In 1913, an imam was elected in the mountains, and with support from both the "southern" and the "northern" factions, went into open revolt, attacking Muscat in 1915. The British sent a well-trained force of Baluchi soldiers to assist the sultan, and the rebels were defeated. In 1920, the British political agent in Muscat arranged a peace treaty between the government and the rebels, but resentments still smoldered. The financial disarray of the sultanate led to the appointment, by the British, of a succession of financial advisors to the sultan. Their efforts to impose order, even when sincerely undertaken, were unsuccessful.

When the father of the present sultan, Sa'id ibn Taimur, took power at the age of 21, in 1932, Oman was poor, backward and crippled with debts. Sultan Sa'id, during his 38-year-long reign, attempted to bring financial order to the exchequer. He was personally very frugal, and lived most of his reign in Dhofar, in his palace at Salalah, where he was virtually inaccessible – though he maintained contact with his officials by means of a two-way radio, and was said to know everything that went on in his country.

For most of his reign, Sultan Sa'id's authority was limited to the Batina and the area about Salalah. The interior of the country was under the jurisdiction of the imam. Though the sultan had begun to permit a degree of modernization, he was forced to abdicate in 1970, and permit his son Qaboos bin Sa'id to take power. Educated at Sandhurst and helped by oil revenues, the present sultan has set about developing Oman into a modern state (See page 14), healing old wounds, and improving the living standards of the entire population. ■



The sterns of wooden dhows pulled up on a beach on the Batina coast. Dhows, like many other things in Oman, are gradually being replaced by modern equivalents.

Oman: a recollection

WRITTEN BY BARBARA WACE

For a long time, I had wanted to go to Muscat and Oman – as Oman was then called – because it was still, in 1961, one of the most romantic, least-known countries in the world. But since it was also one of the most inaccessible countries, and the sultan, Sa'id ibn Taimur, was known to distrust journalists, it was most unlikely that he would ever admit me.

I reckoned without my old mother, however, who, in her late 80s, was still an avid reader of *The Times*, and a great sympathizer with her daughter's adventures. "I see the sultan had tea with the Queen yesterday," she told me on the telephone one afternoon. "Why don't you try to see him while he's here?"

Mostly to please her, rather than with any real hope of getting an interview, I found out from the Foreign Office that he was at the Dorchester, and left a letter there, addressed to his Minister of Defense, Brigadier Waterfield.

To my amazement, Brigadier Waterfield called me the next morning to find out more about me and followed this up the next day with a letter saying the sultan would be able to see me the next afternoon at four o'clock.

It was a meeting I will never forget. His Highness rose to greet me, a small, bearded, very dignified figure in flowing Omani robes and turban. Alone together, we sat a few feet apart, facing each other, on two straight-backed chairs in the middle of the sitting room. He spoke excellent English, for he had been educated at the School for Princes in India, and we made small talk. When I asked about the desert he jumped up to fetch me a little bag filled with sand, which he let trickle through his fingers to show the many colors of the tiny grains.

But when, at last, I took my courage into my hands and asked if I could go to his country and write about it, his eyes flashed. "Journalists tell lies," he snapped. I explained that I was a travel writer, not a political writer, and that I always tried to write the truth – at which, charming again, he bade me goodbye and told me that when I was in the Middle East I should let him know and he would consider my request.

With that encouragement, I immediately began to organize a trip to the Middle East, which I had, in fact, not considered before. What I did in the various other Gulf countries is another

story; suffice it to say that I spent weeks in the area without hearing from Oman. Then, as I was about to fly home from Bahrain, a message reached the British Political Agency there to issue me a visa to visit Muscat, Matrah, and the Batina coast – only – for a total of nine days. Afraid His Highness might change his mind, I took the first of two weekly planes to Bait al-Falaj, the army headquarters outside Muscat, without organizing any hospitality on the other end – a risky thing to do in those days since there was not a single hotel in the whole country.

The flight itself was interesting. We took off with a full complement, dropped a couple of Western oilmen and a large party of Arabs at Qatar, left two British servicemen and two Trucial Oman Scouts at an airforce base in Sharjah and went to Muscat with an engineer who, it turned out, serviced the sultan's planes at Salalah in the Dhofar Province.

It was a nerve-racking leg – flying through ominous black mountains, frighteningly close to the peaks and shelves of rock, then landing on the small strip a few miles out from Muscat's walled city and learning, as I walked down the ramp, that Brigadier Waterfield was away.

Fortunately, his wife, who was seeing off some visitors as I came in, took me back to her quarters at a nearby army enclave.

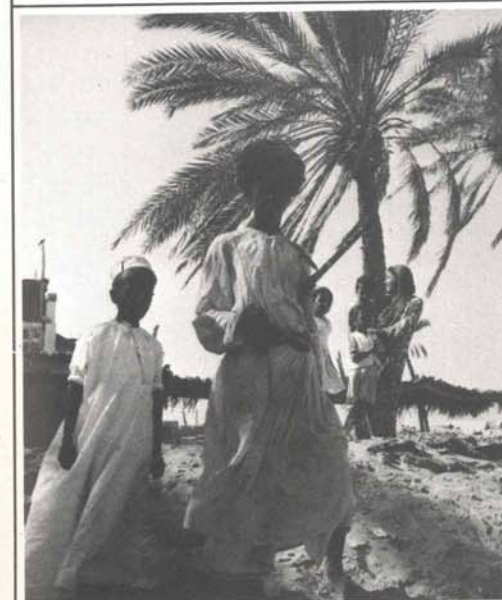
My problems, however, were still not entirely solved; getting into the country was not getting around it. There were no trains, buses or taxis, and even if I could have borrowed a jeep with desert tires, I could not have driven it since women were forbidden to take the wheel. Furthermore, only a few people had private cars; every import had to be personally approved by the sultan.

But I was lucky. The sultan's development secretary, an Englishman named Bill Clark, had been recently appointed to advise on a modest medical program and he was leaving next day "on trek" to inspect medical centers already started and to open a new dispensary. I could go too.

It was quite a party: two trucks loaded with furniture and medical stores for the new dispensary, and the two tents and a third truck to carry servants, drivers and armed guards. We took almost everything we needed with us, including two live chickens, tinned food, chairs, tables and a carpet.

I soon learned why we traveled so elaborately. When we made our first camp – on the beach in front of a little village by the palm trees fringing the coast, the local *wali* – governor – with other town dignitaries and retainers turned up within minutes to greet us, and almost immediately we had to set up the chairs and table so that Bill and his visitors could "exchange the news," and take coffee and refreshments.

This occurred at each stop and sometimes a veritable procession would wind its way towards our beach campsite:



Batina coast, 1961, when Barbara Wace visited Oman.

Arabs of all sizes with dishes and cauldrons on their heads. Even if we had just had lunch, we could not refuse the food: roast goat, rice, pineapple chunks, tinned pears, dates and local sweetmeats. We received special attention from the Pakistani and Indian doctors, who were often lonely, without their families or anyone speaking their language.

One highlight was the opening of the new dispensary at which the *wali* of the area cut a tape with a pair of surgical scissors, and one vivid memory was a stop to wash in a *falaj* – one of the irrigation canals built hundreds of years ago (See page 28). The canal was full of little fish that mercilessly nipped our feet and legs.



Even in the 1960s Oman's watchtowers were crumbling.

In the remaining days of my stay with the Waterfields at Bait al-Falaj, I explored Muscat and Matrah, the twin ports, and one evening, in full evening dress, attended a cocktail party at the British Consulate, a lovely building overlooking Muscat harbor with a flagpole flying the Union Jack. We had to have a chauffeur, since even Mrs. Waterfield was not allowed to drive, and we needed a permit signed by the *wali* to allow us to leave the city again after dinner; without a permit, no one could leave after the big cannon of the fort thundered at sunset, and we would have had to stay until dawn.

That trip, of course, only whetted my appetite for more, and in 1964 – when oil in commercial quantities was confirmed – I began the long preliminaries I knew would be necessary before the sultan would give me permission to return. I started with a letter, asking whether, since he had allowed me in before oil, he would now permit me to see what he had decided to do for development with the first oil money.

The old sultan still did not like journalists, but after long correspondence with the then Consul-General Bill Carden, he again gave me permission to go to Muscat and Matrah and Batina. This time, in fact, he also permitted me into the

interior as far as Nizwa, though I was to stay, he insisted, at the Consulate General with the Cardens, and be escorted by Colonel Colin Maxwell, a British officer serving with the sultan's armed forces. I was also to see John Harris, an architect in charge of the development plan, and I was to dress carefully: trousers, over which should be worn a dress reaching to below the knee, with long sleeves to at least the elbows.

By May, 1964, when I returned to Muscat, there were already changes: many more Europeans – most assigned to building roads, installing electricity, water pipes and so on – and more European wives. This, as it happened, was the era of the miniskirt, so most of the European women wore a long, wrapped skirt over the fashionable short dresses they wore indoors.

By then, Muscat and Matrah looked rather like building sites; accommodations for visiting experts and workers were being constructed and work had started on the Matrah port. There was now a post office, so we did not have to queue at the consulate to send letters home, and plans were being made to install telephones.

Traveling with Colin Maxwell was very pleasant, but quite different from my safari with Bill Clark. In true "mad-dogs-and-Englishmen" style, we went out early every morning for a short while, but came back for breakfast about 9:00. It was a delightful meal, often taken in the headquarters of one of the sultan's regiments, but it usually meant starting out again under a blazing sun.

Everybody knew Colin in every village we went to, so we had even more hospitality than on my first trip, and he was able to explain a great deal to me about the country and its people. At the oil company headquarters, for example, I watched young trainees learning engineering. It was an encouraging sign, for the future – and not the only one; there was change in the air, even then: a plan had been accepted for the first hotel, with 33 rooms, just outside Muscat, and for a new bank building and currency reform. Moreover, new stores were opening with luxuries such as air conditioners and Polaroid cameras; graders were working on roads; and other heavy equipment could be seen in remote areas on the way to Nizwa. Significantly, perhaps, the ancient watch towers were crumbling.

This change would not get fully underway until the sultan's son – Qaboos bin Sa'id – came to power, but it was the beginning of the development that has since transformed Oman. ■

Oman: the terrain

PHOTOGRAPHED BY TOR EIGELAND

Dominated by mountains, flanked by oceans and deserts, Oman is a tapestry of constantly changing terrain: from the sandy edge of the Rub'al-Khali (the Empty Quarter) to the lush Salalah plain; from the fertile terraces of Jabal al-Akhdar to the barren majesty of the mountainous Musandam Peninsula (See page 38).

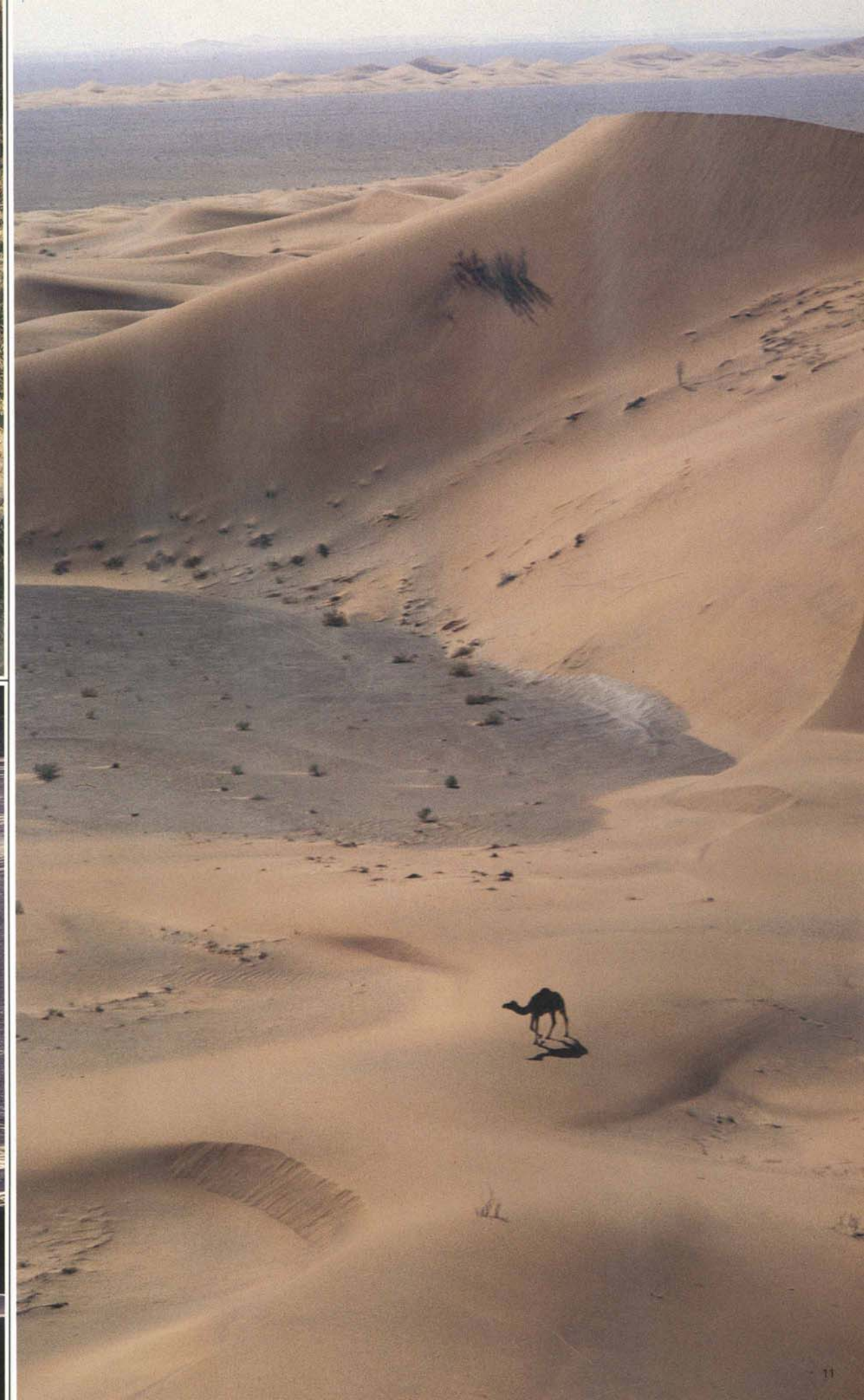
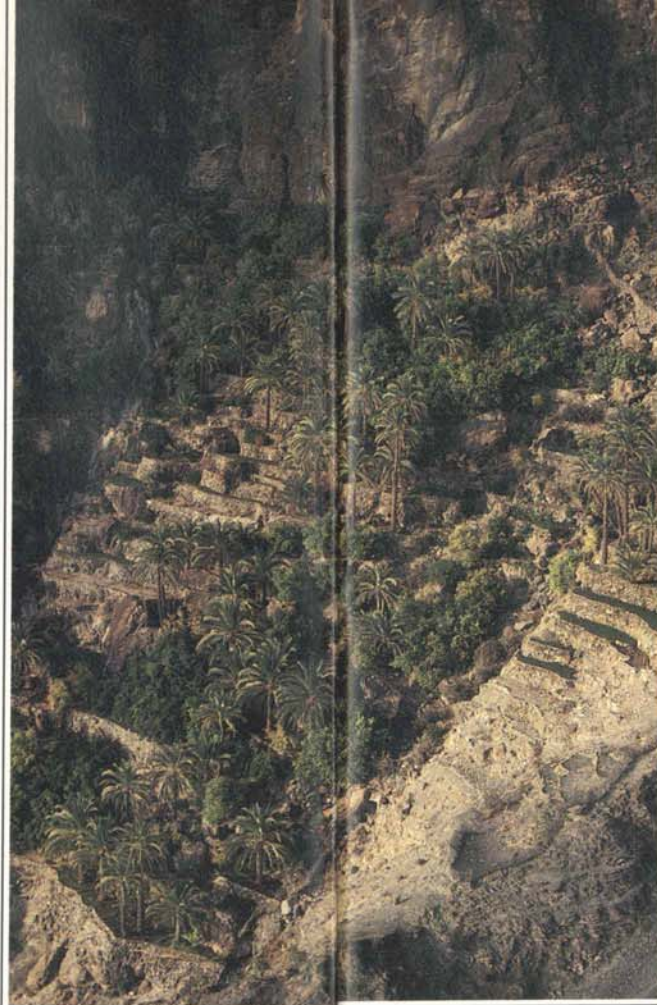
Although Oman, in fact, is five-sixths desert — sand dunes and stony plateaus — it is the mountains that strike you; they rise right out of the sea or straight up from the flat plains. These mountains, called simply al-Hajar, (the Rocks), form the backbone of northern Oman, running southeastwards from the tip of the Musandam Peninsula to Ra's al-Hadad, Oman's easternmost point, and include fascinating geological structures, called ophiolites — masses of volcanic rock, thrust up from an ancient ocean bed — that have recently been the subject of much research.

Frost, and even snow, is not unknown on the spiky peaks of the al-Hajar range — which rise in places to more than 3,000 meters (nearly 10,000 feet). Occasional torrential rains — which, over the years, have carved deep gorges through the mountains — produce sporadic, but spectacular waterfalls, and tinge al-Hajar's slopes with vegetation. Some say that this is why the range's central massif is called Jabal al-Akhdar (Green Mountain) but others say the name is derived from its greenish-colored, copper-bearing rock.

Between the al-Hajar mountains and the sea lies the Batina plain, a narrow, alluvial strip with towering date palms stretching to the shore. An arid, gravel plain dotted with stunted acacia trees lies beyond the mountains. Southwards there is a rocky plateau, flanked by sandy wastes, the type of terrain that covers most of central Oman and includes the Jiddat al-Harasis, where the Omani government recently reintroduced the once-almost-extinct Arabian oryx to the wild (See *Aramco World*, July-August 1982). The third-generation zoo-bred oryx have not only formed the world's only self-reliant herd and proved, beyond doubt, that their natural instincts are retained, but they have also produced three young — the latest one in March, this year.

In contrast to the rest of Oman, the southern coast — Dhofar — catches the monsoon rains and is almost tropical; bananas, pineapples and papaya grow in profusion on the Salalah plain. But behind Salalah the mountains pile up again, sloping gradually northwards to a gravel plateau — once noted for its fragrant frankincense — that stretches to the edge of the empty quarter, with its shifting dunes, and neighboring Saudi Arabia.

The changing face of Oman (counterclockwise): The spectacular mountains (top) and fiords (bottom) of Musandam; the beautiful beaches of the Capital area; the arid and inhospitable Empty Quarter; and the fertile terraces of Jabal al-Akhdar.



Oman: a new dawn

WRITTEN BY JOHN LAWTON

When Sultan Qaboos bin Sa'id took power in 1970, he told his people: "Oman in the past was in darkness, but... a new dawn will rise..." Qaboos kept his promise. Though its oil production is modest, and though the Dhofar rebellion diverted vital resources for years, Oman is already enjoying a new dawn as it moves into the modern world at an impressive pace.

In the past, to be sure, Oman has known other periods of prosperity: from the export of copper and frankincense in ancient times, and from trade and its African possessions during the Middle Ages. But by the 19th century, following the loss of Zanzibar and the decline of its sailing fleet, Oman was virtually bankrupt. In 1958, in fact, Qaboos' father, Sultan Sa'id ibn Taimur, had to sell the last of Oman's foreign territories – the Gwadur enclave – to Pakistan to keep his country solvent.

Even the discovery of oil in Oman in 1964, made little difference, since Sultan Sa'id, after years of necessarily-frugal, rigidly-centralized rule, was unable to adapt to changing times; though oil revenues raised Oman's export earnings from \$2.5 million in 1964 – from sales of limes, dates, fish and frankincense – to \$18 million in 1970, the sultan was slow to use the new wealth to modernize the country and help its people.

By the time Qaboos replaced Sa'id as sultan, Oman had only three primary schools, one private hospital and 10 kilometers of paved road (6.2 miles) and thousands of disaffected Omanis had left the country to study and work abroad. Worse, a rebellion had broken out in the south.

Today, by comparison, there are over 2,000 miles (3,219 kilometers) of asphalt highways, 14 government hospitals and over 450 state schools. Many educated and talented Omanis have returned from voluntary exile to help rebuild their country. The Dhofar rebellion has been checked and Sultan Qaboos seems to have the genuine support of his people.

Using income from oil, Sultan Qaboos has, in little more than a decade, revolutionized a way of life untouched for centuries by the outside world: schools, hospitals, clinics and roads have been built, welfare aid has been introduced and many girls have been given the chance of an education. New ports and airports have been constructed, industries set up and color television introduced. The armed forces have been modernized and Oman's

relations with the rest of the world restored.

As it is only a modest oil producer – 317,000 barrels a day during 1981 compared, for example, to its neighbor, the United Arab Emirates, Oman has had to use its money sparingly and plan well. And because it began its development late, it has been able to learn from the mistakes of others. Consequently, there are few prestige projects in Oman, and much of the country's original character and charm has been preserved.

To help plan development and modernize security forces, Sultan Qaboos has brought in mainly British advisers. Though Oman also gets fiscal aid from the United States and help from Saudia Arabia, the sultan is following a tradition based on a long friendship between the two countries; he himself was educated in Britain and is an unabashed Anglophile.

Compared to some Arab neighbors, Oman's development program may seem small; it is spending only \$6.5 billion on development in its current Five Year Plan, compared to £227 billion in Saudi Arabia. But because it was, until recently, one of the region's most undeveloped nations,



Mina al-Fahal refinery (above) and Matrah crane (left).

the effects of development have been dramatic. Today, there are traffic jams where a decade ago there was not even a road and supersonic jet fighters streak over crumbling fortresses that 10 years back were Oman's main line of defense. At night, moreover, the Capital area – the twin ports of Muscat and Matrah, and the modern township of Ruwi, is ablaze with lights and bustling with people, whereas before 1970 the gates of Muscat were closed after dark and the few people who dared venture afoot were forced to carry lanterns.

In the interior, the effects of modernization, though less visible, are equally profound (See page 34). Old wooden ox ploughs have been replaced by



shiny, new tractors, and fast pickup trucks have taken the place of plodding camels; in fact, it is not uncommon to see camels, once the principal means of transport in Oman, now being transported themselves — by truck.

The extent of change is reflected in the fact that many of the formerly-nomadic camel herdsmen have now become settled — some even farming the land. Change, in human terms, is also graphically illustrated by lines of women, in colorful purple baggy pantaloons, waiting outside a health center in Dhofar to have their children vaccinated — preventive medicine where, 10 years ago, there was virtually no medicine at all.

Some things, however, do not change. The *Jiballi* cattle herdsmen, for example, still seem to prefer their traditional semi-subterranean homes, built into the hillsides of Dhofar, to modern, above-ground concrete houses, which give less protection from the fog and drizzle that envelope the southern al-Qamr mountain range during the summer monsoon. And they still feed their cattle partly on sardines, caught and dried on the coast, just as Marco Polo noted, with some amazement, in his famous book *The Travels* centuries ago (See *Aramco World*, July-August 1982).

Although some signs do remain of the recent Dhofar rebellion — a makeshift mosque, for example, built by the guard force at Taqa out of empty ammunition boxes — the once-beleaguered Salalah is expanding fast, even to the extent of a luxurious Holiday Inn serving delicious

poolside buffet lunches of grilled lobster caught offshore.

Because of the monsoon rains — which catch only the southern corner of Oman — Salalah with its white beaches, blue surf and swaying coconut palms, resembles the Caribbean more than Arabia, which is one of the reasons past sultans have preferred to make it their home rather than moonscape-surrounded Muscat. It has always, too, been blessed by a wide variety of farm products and in its busy market place, where women sell once-priceless frankincense for three dollars a kilo (See page 26), it is possible to find, on just one stall, apples and aubergines, bananas, beans and bread fruit, cabbages, carrots and coconuts, garlic and ginger, marrows and melons, oranges, tomatoes and papaya.

In addition to all these, you can now buy pasteurized milk — produced on the arid plain behind Salalah at the modern, government-run Sun Farm. "Just a few years back, all this used to be desert," says farm supervisor Omer Alwi of the 200 hectares of lush green cattle fodder (500 acres) now covering part of the plain. Mr. Alwi, who worked for 16 years as an Aramco refinery supervisor at Ras Tanura, in Saudi Arabia, is one of the many Omanis who returned to help rebuild his country.

The government is actively encouraging the development of agriculture by all possible means, to try and reduce the high rate of food imports and, a long term goal, to provide for the day when its limited reserves of oil and gas run out. It is, for example, spending \$136 million on agricultural development in its current



The Omani government has earmarked \$136 million for agricultural projects — like this circular irrigation system on the Batina plain — to try to reduce high food imports.



Blue surf and swaying palms provide an idyllic backdrop to the swimming pool of Salalah's Holiday Inn — a tourist paradise once the government allows them in.

1981-1985 Second Five Year Development Plan — five times the amount spent on agriculture during the First Five Year Plan. In addition, the government has set aside \$66 million to improve the country's centuries-old system of underground irrigation channels, *aflaj* — still the main source of water supply in rural areas (See page 28).

As part of its effort to reduce Oman's dependence on crude oil exports, the government is also setting up new industries; oil presently accounts for about 75 per cent of the country's Gross National Product and about 95 per cent of governments' revenues. In November, 1982, Sultan Qaboos inaugurated Oman's first oil refinery, a 50,000-barrels-a-day facility at Mina al-Fahal, near Muscat, which will eliminate Oman's reliance on imports of petroleum products refined abroad, and by June, the country expects to export its first shipments of refined copper from the \$200-million copper mining complex at Lasail (See page 18). Using ore reserves estimated at about 11 million tons, the sultanate proudly plans to be the first significant exporter of a non-hydrocarbon natural resource from the Arabian Peninsula.

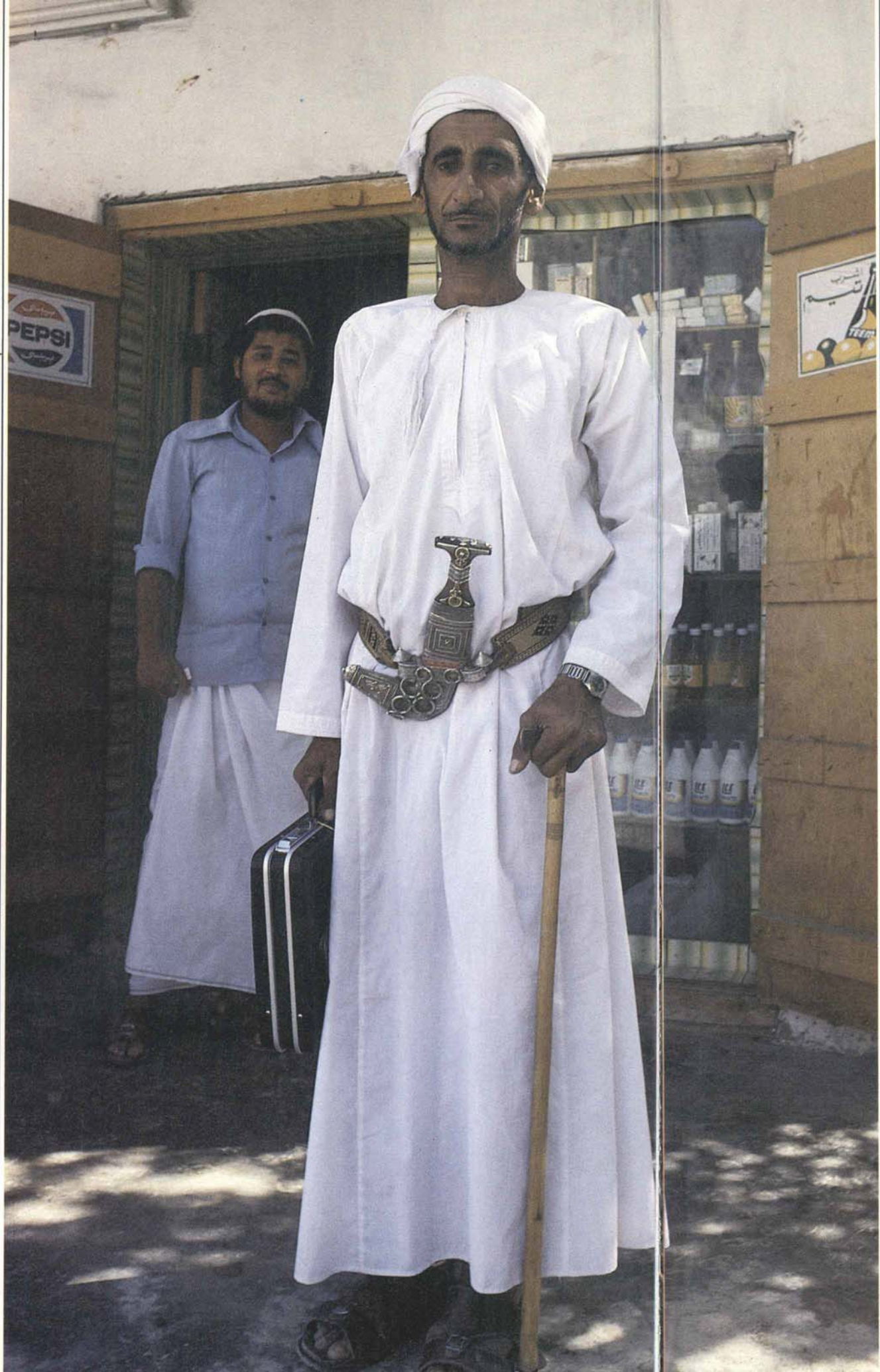
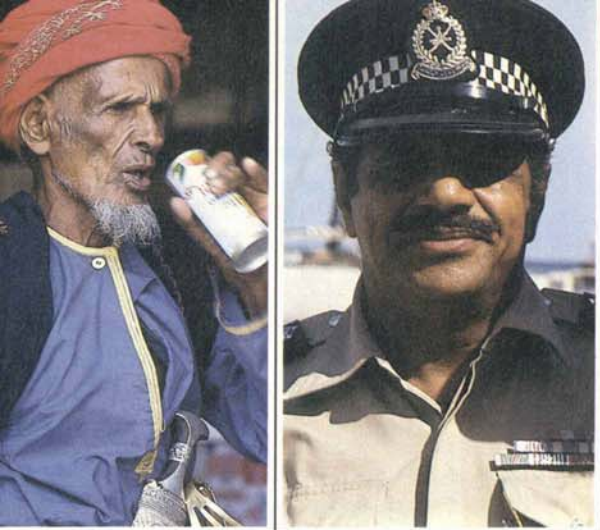
Despite this flurry of development, Oman has not lost sight of its rich past; in fact, the country is making a determined effort to preserve it. Oman, is one of the few countries in the world to have set up a Ministry of National Heritage. Established in 1976, with a specific mandate to save the nation's past, this ministry has already helped enact laws forbidding developers from destroying old buildings.

"The law," says Director General of Heritage Mohammed Sa'id Nasar al-Wohaibi, "came too late to save the Matrah sea front," where many of the beautiful, old, balconied houses were torn down, in the first flush of development, to make way for ugly, modern office blocks. But much of Muscat has been saved from the wreckers ball and many of the country's magnificent old forts are being restored (See page 24).

With its colorful people, exciting history, breath-taking scenery and sun-drenched climate, Oman would seem to be a tourists' paradise. For the time being, however, tourism will be limited to a few carefully selected groups. This is because Oman is not ready for too many visitors; there are, for example, nowhere near enough hotels. For those who do get there, however, the visit will be exciting since Oman is a country where, for the moment at least, the medieval and the modern meet face to face across the centuries. ■



A modern mosque at Ruwi caters for the spiritual needs of the Capital area's rapidly expanding commercial center.



Oman: the people

PHOTOGRAPHED BY TOR EIGELAND

The Omanis are a proud people, but their pride is devoid of the arrogance frequently associated with awakening nationalism. They are also unaffectedly friendly towards strangers, despite their isolation of recent years — all of which adds up to the unique mixture called Omani.

The people of Oman are surprisingly cosmopolitan: a mixture of Arab clans swept together by the cross currents of migration, ancient and modern, and spiced with descendants of quite different peoples — Indian, Baluchi and African — from across the sea. Today, though, they are all Omanis, all speaking Arabic and all Muslims.

Although Arabic has long been their first language and Islam their main unifying force, there were, until recently, several quite different types of Omanis: those of coastal Muscat, those of interior Oman, those of southern Dhofar, and those of northern Musandam — diverse groups loosely held together by, and frequently at odds with, the sultan.

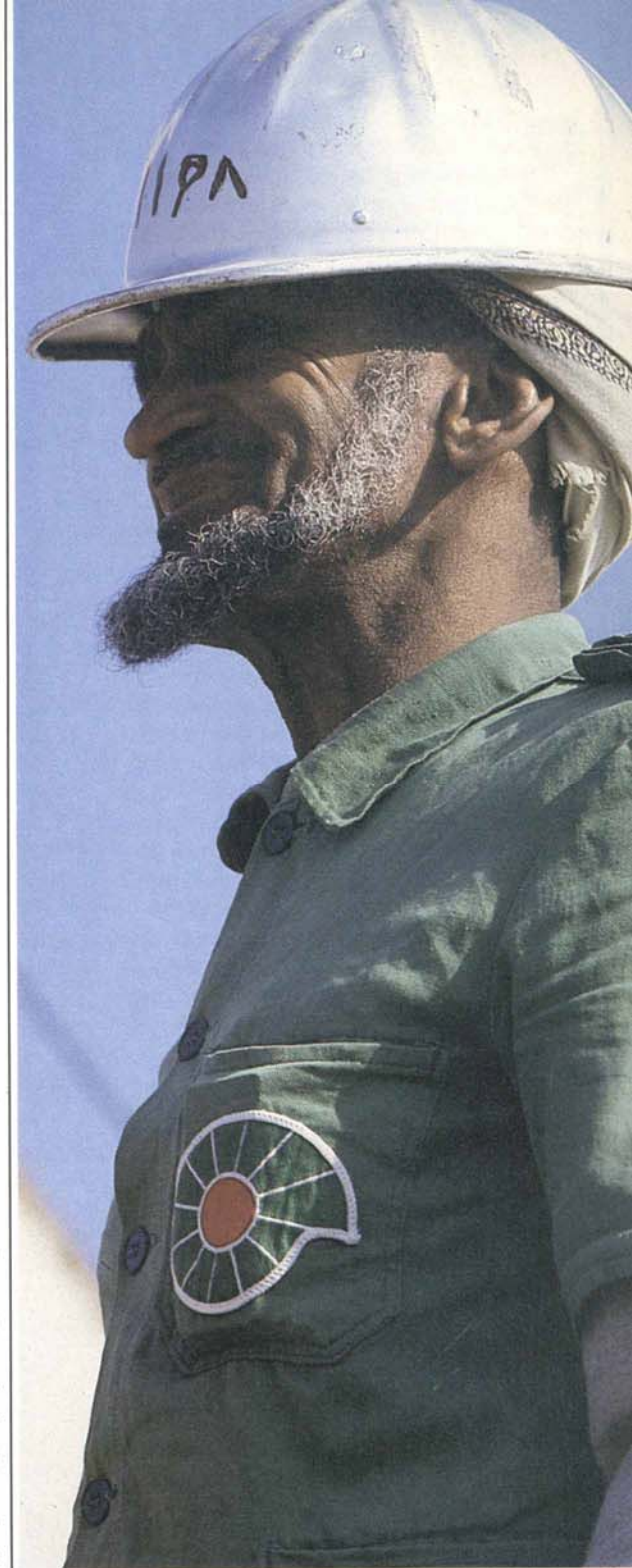
Oman's present ruler, Sultan Qaboos bin Sa'id, has proved, however, that Oman can be unified, and, helped by vastly improved communications, is succeeding in persuading his people to set aside age-old differences and, for the first time, look upon themselves as one.

Today, as a result, differences in Oman are less marked than in the past. Although every Omani is still keenly aware of his lineage, and though marriages between cousins are still common, regional differences are characterized not by tribal rivalries but by custom and clothes.

The plain white, or solid blue or yellow, ankle-length dishdasha, for example, distinguishes the men of the desert and the towns from those of the mountains and shore, who prefer the colorful, sarong-type *uzar*. With women, too, their garments — the all-enveloping, black *aba*, or gay, silk dress and baggy pantaloons — show where they make their home. Two types of male headgear are found, however, throughout Oman: the white or colorfully-embroidered turban, and the eyleted *kumma* or skull cap.

Other varieties of dress suggest — in a different way — what is happening in Oman today. In the desert, for example, there are Omanis wearing the dungarees and safety helmets of the country's new — and vital — petroleum industry, while aboard patrol boats in the Strait of Hormuz (See page 36) there are Omanis wearing the berets and blue uniforms of its new navy, and in Muscat young women confidently direct busy traffic in the smart black-and-white uniform of Oman's mixed police force — all symbols of the country's re-emergence in a modern world.

The Omani mix (counterclockwise): A formally-dressed townsman of Khasab; a Matrah policeman; an old soldier at Taqa (top) and modern naval commander at Hormuz; schoolchildren at Ruwi; a marketplace meeting in Musandam; and an oil worker at Fahd field.



Oman: a lost land

WRITTEN BY JOHN LAWTON

Some 3,000 years ago, miners from somewhere called "Magan" used to dig and process tons of copper ore and export it, via Bahrain, to Sumer. And although the archeologists can't decide where Magan was, the modern miners of Oman have: they have put up a sign at the entrance of their brand new mining settlement which boldly proclaims that it is Magan.

That Magan – or Makan – was, in the third and second millennia B.C., the Sumerians' chief source of copper is beyond doubt; Sumerian inscriptions on tablets found in present-day Iraq, where Sumer once flourished between the Tigris and the Euphrates (See *Aramco World*, March-April 1980), clearly say so. One such tablet, for example, more than 4,000 years old, is a receipt for large amounts of garments and wool received from the temple of Nanna "for buying copper from 'Makan,'" and another, excavated at Ur, mentions a 20-ton shipment from "Magan" around 1800 B.C.

But though it is agreed that the Sumerians imported their copper from Magan, the archeologists are still debating whether it was located in Africa or today's Oman. Some say that because Assyrian texts place it south of lower Egypt, Magan must be Nubia or The Sudan. Other experts claim that because of the similarity between "Makan" and "Makran" – the modern name of the Baluchistan coast – Magan must have been part of today's Iran or Pakistan.

Most of the evidence though – archeological and geological – seems to suggest that Magan was part of Oman. One Sumerian tablet, for example, dating from 2300 B.C., describes "Dilmun and Magan" as "countries beyond the lower sea," and there is no longer much doubt that Dilmun, which for centuries acted as middleman in the copper trade between Sumer and Magan, is Bahrain – at least according to archeologist Geoffrey Bibby, (See *Aramco World*, January-February 1970), who has spent 25 years studying the Gulf.

Furthermore, Bibby says, there is evidence that the island of Umm al-Nar was also an intermediary in the copper trade, and Umm al-Nar, significantly, stands at the entrance to the modern harbor of Abu Dhabi – controlling the principal overland trade route to the Buraimi oasis and the rugged Omani interior beyond.

Because Oman itself was, for many years, off limits to most outsiders, little investigative work could be done to check

these theories. Nevertheless, one piece of persuasive evidence did emerge – an analysis showing a match between copper objects in Sumer and copper ore in Oman. Because Sumerian copper objects contained traces of nickel, archeologists were excited when a prospector for the Anglo-Persian Oil Company reported in 1928 that samples collected from ancient copper workings in Oman contained 0.19 per cent nickel – a close match to Sumerian copper objects.

Forty years later, a reference to these samples – in Bibby's book *Looking for Dilmun* – attracted the attention of a Canadian company and led, eventually, to the company's proposal that it be permitted to search for copper in Oman.

The permission was granted and between 1973 and 1974, the company, Prospection (Oman) Limited, located some 44 ancient mining sites in northern Oman, some dating from the 17th-century Portuguese occupation, others from the ninth or tenth-century Islamic period and at least three – according to a Harvard archeological survey – dating from the third millennium B.C.

During this early period, mining seems to have taken place in agricultural communities as a sort of "cottage" industry. The ore apparently was collected from the surface of the ground or from dry stream beds in the form of pebbles of secondary copper minerals – copper oxides and sulphates – that could easily be picked out by their bright green and blue colors. The ore was then smelted in earthenware crucibles, using charcoal as fuel, and the copper separated from the slag by the flotation process. As time went on, mining methods grew more sophisticated: open pits gouged from hard rock and, later, tunneling. By the Islamic period, the industry was highly organized; at one site alone – Lasail – it has been estimated the slag heaps contain some 100,000 tons of material.

Most of the larger workings were located, like Lasail, by Prospection (Oman) Limited, near Wadi al-Jizzi, which, for centuries was a trade route through the Oman mountains to the Buraimi Oasis and the Gulf sea routes beyond; along the route were found funerary objects similar to objects excavated at Ur. This, of course, suggested that some inhabitants of Oman were at least involved in trade with Sumer, and may have adopted the Sumerian view of the afterlife – and their funeral ceremonies.

Perhaps the most startling – and



Giant drills (above) drive tunnels deep underground at



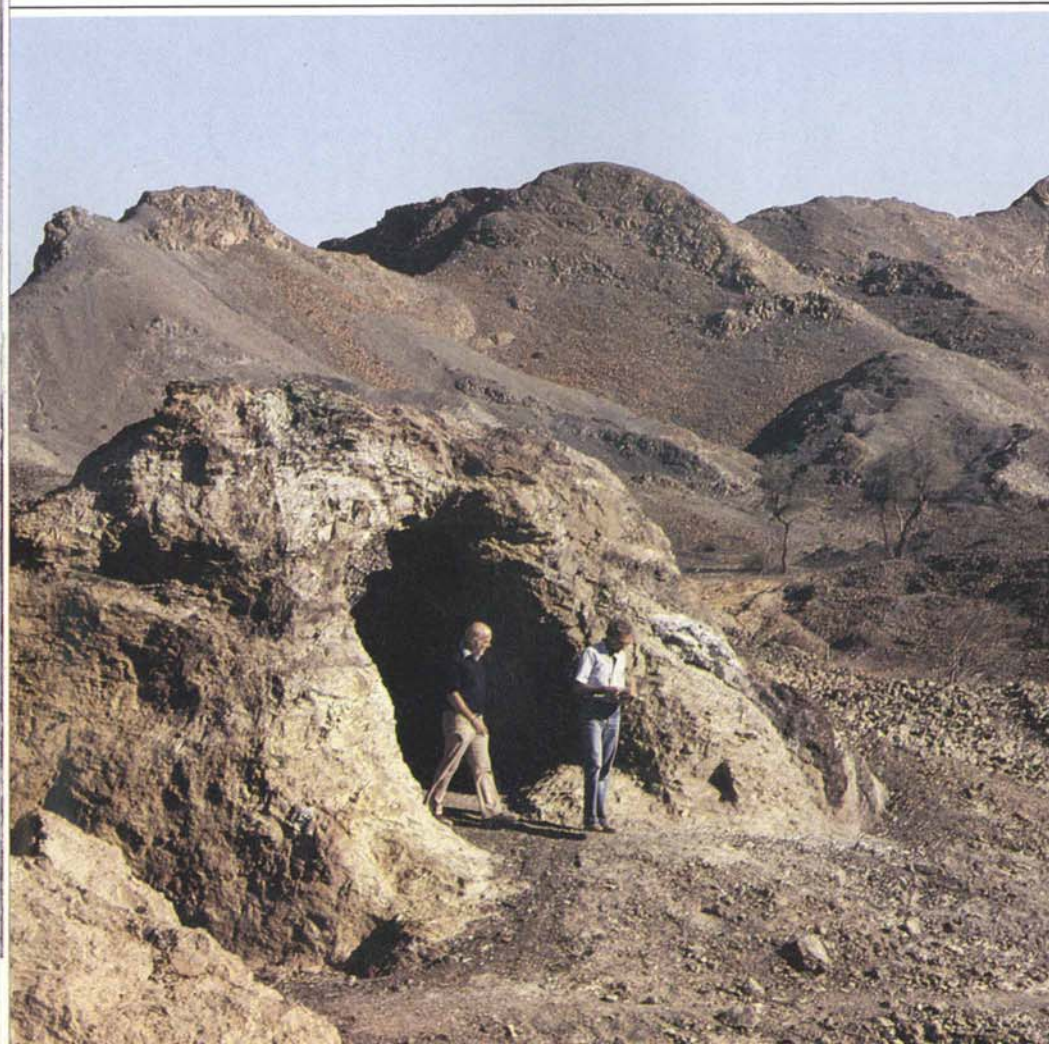
Sign at the entrance to the new mining town of "Magan."



Smelter being built (above) and mine entrance (below).



the new Lasail mine, and the "tellers' portal" (below left) where the output of the ancient mine was once counted.



controversial – evidence, if it is evidence, was the discovery of the foundation of a large structure that may have been a ziggurat – the stepped, pyramid-like temple built by the Sumerians to honor their gods. Although ziggurats are relatively common in Iraq, nothing quite like it had been found on the Arabian Peninsula before, although a small one was discovered in Bahrain.

The site of the structure is in the middle of the 'Arja plain, its corners pointing to the cardinal directions of the compass. Although it may have had three or four tiers, only two remain – their retaining walls made of massive boulders from the surrounding hills. The lower tier covers an area of about 20 meters (49 feet) square, and the remains of what appears to be a ramp lead up onto the second tier.

Several experts who have visited the structure say it resembles a ziggurat and therefore probably belongs to the third millennium B.C., but Paolo Costa, head of Oman's Department of Antiquities, disagrees. "We don't have any evidence that the site is earlier than the 10th century," says Costa. He believes the tiers and ramp are terraced foundations for a large residence – and not a temple.

On the other hand, the strange stepped structure is located only a few miles from what was once the largest mining and smelting center in all Oman – Lasail – and what, today, among enormous heaps of ancient slag, is an ambitious effort by the state-owned Oman Mining Company to develop a modern mining complex amidst the ancient workings.

Whereas earlier miners of Lasail used primitive tools to painstakingly gouge shallow pits and narrow shafts in rock, today's miners employ giant electro-hydraulic "jumbo" drills to drive tunnels, 4.5 meters high (15 feet) by 5 meters wide (16 feet), up to 300 meters underground (960 feet). And nearby, where the ore was once smelted in small earthenware crucibles and furnaces, a space-age smelter and electrolytic refinery have been built.

Lasail is one of three mines – the others are at 'Arja and Baida – that together with crushing, concentrating and pelletizing plants, and the smelter and refinery, will eventually make up the fully integrated mining complex of Sohar and produce some 20,000 tons of copper a year, mostly for export.

Both the mine and the smelter started production earlier this year and exports are due to begin in June. When they do, Oman will once more be an important supplier of copper to Middle East markets – just as it probably was 5,000 years ago. ■

Oman: a visit to Washington

WRITTEN AND PHOTOGRAPHED BY TOR EIGELAND

About three o'clock in the afternoon, on Monday, April 11, a white DC8 settled gracefully onto the runway at Andrews Airforce Base, traditionally the landing field for important visitors to the White House. Moments later, the huge jet rolled to a stop and a clutch of dignitaries stepped forward – it included the U.S. Secretary of State George P. Shultz and Oman's ambassador to the United States, Ali Salim al-Hinai – to greet the Sultan of Oman, Qaboos bin Sa'id.

Unlike Ahmad ibn Na'aman, Oman's flamboyant ambassador to the States in 1840 (See page 23), the dignitaries were dressed in the more conservative fashion of today's diplomacy. But Sultan Qaboos, in the national dress of Oman, brought at least a small dash of regal color to the cloudy Washington scene.

Since it was too cold and windy to linger over formalities, the welcoming ceremonies were brisk; within six minutes the sultan, the ambassador, the secretary and other officials were whizzing off in limousines to the Hotel Madison, pressed into service as a substitute guest house while Blair House is being reconstructed. And since the sultan was not to go to the White House until Tuesday his schedule was light. His only visitors, in fact, were former President Carter and Mrs. Carter. They arrived about 6.30 p.m., stayed nearly an hour and left with pleasant smiles but no comments.

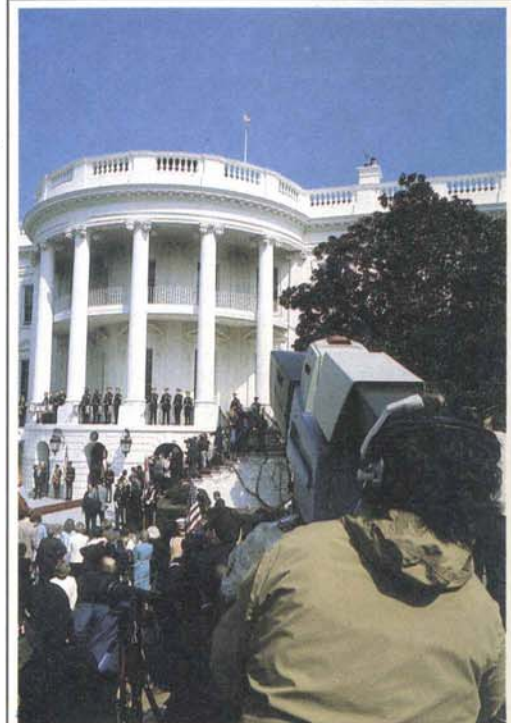
On Tuesday, weather conditions improved visibly as, for the first time in several days, Washington was bathed in brilliant sunshine – just in time to show the capital's famous cherry blossoms at their peak. At the White House, where the lawns sparkled fresh and green from the recent rains, multi-colored uniforms added dash to the scene as the sultan's motorcade arrived at precisely 10:00 a.m. to be greeted by President Reagan and Mrs. Reagan, the Vice-President and Mrs. Bush, the Secretary of State and Mrs. Shultz, the Chairman of the Joint Chiefs of Staff and Mrs. Vessey and others.

President Reagan, relaxed and affable as usual, welcomed the sultan and then launched into his formal greeting:

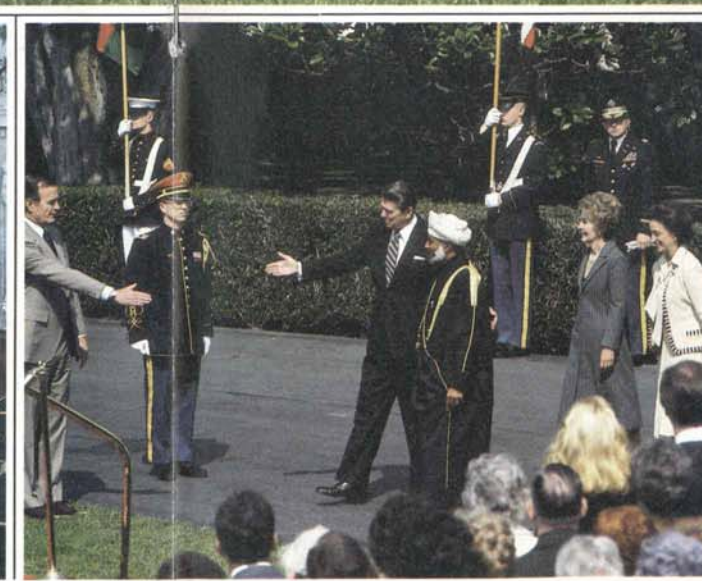
"Your Majesty, the American people are deeply impressed with what you have achieved, since you assumed leadership. Your country's progress – economically, socially, and politically – has established your reputation as a compassionate leader who can get things done..."

Reagan, applauding what he called the sultan's farsighted approach, also touched on brutality in Afghanistan, the "debasing of its religion and the use of chemical weapons and other crimes against civilization..."

"Your Majesty, we are proud to be on your side in your quest for a better life for your people and your search for peace and stability. Relations between our two peoples have spanned a century and a half. I am confident that your visit today will serve to further strengthen the bonds between us. We are happy you have come to visit. Welcome."



The White House (above) where elegant festivities and military pagentry (left) enlivened the sultan's visit.



In reply, Sultan Qaboos stressed the fact that friendly relations between the two countries were established 150 years ago – and have remained friendly since. "In recent years," he said, "the forces of aggression, intolerance and lawless ambition have increasingly sought to impose their will on mankind. The world has had no respite from the continuing threat of instability. Nowhere has this threat been more acutely felt than in our region of the Middle East, where we and our brother states of the Gulf Cooperation Council (GCC) have pledged ourselves to work together in the closest accord to safeguard our peoples and our ancient culture..."

The sultan expressed appreciation for U.S. efforts in pursuit of peace, which, he said, "Oman has unswervingly supported."

After the ceremony, the sultan met privately with Reagan to discuss, among other subjects, threats to peace in the Middle East.

Later, Sultan Qaboos attended a lunch at the State Department hosted by Secretary Shultz, to whom he expressed gratitude for the "sympathetic awareness" shown by U.S. officials toward the problems and sensitivities of the Arab world.

That evening, a highlight of the White House visit, the Sultan was the guest of the President and Mrs. Reagan at a sparkling dinner party crowded with top representatives of government, diplomacy and business, and enlivened by the appearance of the Oman delegation, some with the famous curved *khanjar* in their waistbands. Among the guests were Dr. Michael De Bakey, the famous heart surgeon, designer Calvin Klein, artist Andrew Wyeth and Thomas Gleason, President of the International Longshoremen's Association.

Also present was Leonard Silverstein, President of the National Symphony Orchestra touring the dance floor and displaying a gift from the sultan that the *Washington Post* called "a gesture unparalleled by visiting Kings, Presidents and Potentates." This was a \$300,000 check made over to the account of the National Symphony Orchestra, endowing a chair of narrative music in the name of the First Lady, Nancy Reagan.

A total surprise, the sultan's gift shows his interest in classical music—he is a fan of Brahms and Bach—and is the first such gift to the NSO by a head of state, according to Silverstein. "The grant," Silverstein said, "reflects the exceptional generosity of the sultan and the people of Oman," adding that it also would help the symphony pay its bills.

During the rest of the week, the sultan and his party—some 13 ministers and advisers—mixed work with pleasure. On Wednesday, for example, the sultan met Secretary of Defense Caspar Weinberger at the Pentagon and then joined him and the Joint Chiefs of Staff at a working lunch. On Thursday, Sultan Qaboos was the honored guest at a coffee hosted by Congressman Clement J. Zablocki and then went to lunch with members of the Senate Foreign Relations Committee. Finally, on Friday, he met again with Vice-President Bush and then left for Oman, 150 years of cordial relations reaffirmed. ■



Sultan Qaboos meets former President Jimmy Carter (above), and arrives for dinner with the Reagans (below).



A red carpet welcome for Sultan Qaboos from Secretary of State Shultz (above) and other officials (below).



Oman: embassy ahoy!

WRITTEN BY JOSEPH FITCHETT



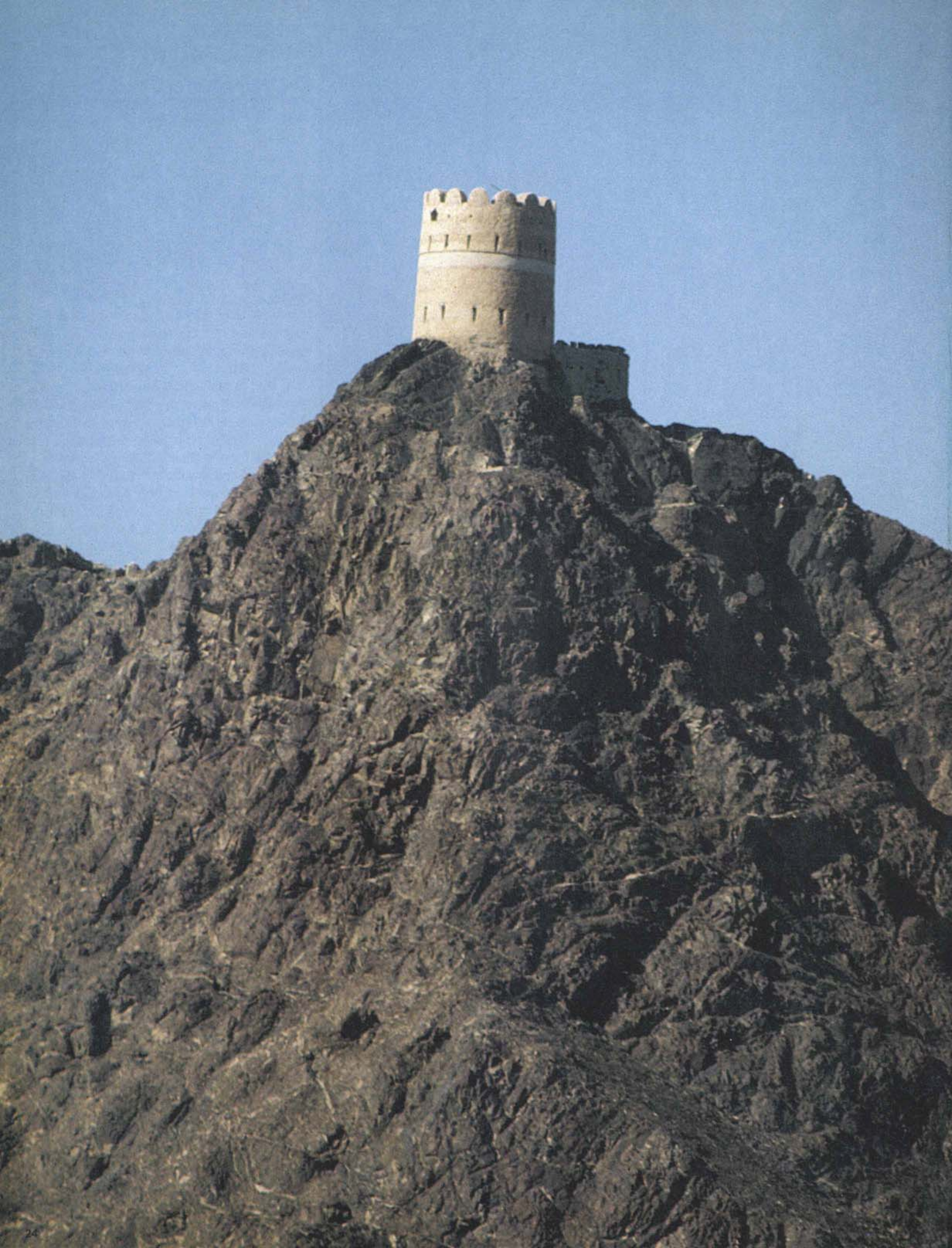
Formal U.S.-Omani relations go back a long way—to an 1833 treaty and to an 1840 episode that is among the more colorful of the 19th century.

At that time, Sultan Sayyid Sa'id, planning to capture Mozambique from Portugal, decided to establish diplomatic relations with the United States, sell Omani goods to the Americans and use the money to buy arms from the U.S.A.—thereby finding a loophole in a regional arms embargo imposed by Britain and France, superpowers of the day.

In the winter of 1840, therefore, the *Sultanah*, an 80-foot wooden sailing ship dropped anchor in New York and the sultan's envoy, Ahmad ibn Na'aman, clad in a bright turban and a long black kaftan trimmed in gold, raised the sultan's crimson ensign and announced that the ship was Oman's embassy in the United States.

Even for the boisterous Americans of the period, this created a stir. The *Sultanah* was a wreck—its sails torn, its lines frayed—and on board were two Englishwomen en route to England via New York. This instantly gave rise to amused rumors that the Sultan had sent "two or three Circassians of outstanding beauty" to the American President, Martin Van Buren, a sober-sided Victorian.

Ahmad ibn Na'aman was not slow to capitalize on New York's response. After presenting his credentials, he set about selling his cargo: Omani dates, cloves from Zanzibar, coffee from Mocha, Persian carpets and ivory tusks. As the goods were snapped up, he plowed the proceeds back into arms: 300 muskets and three tons of gunpowder. He also accepted, from President Van Buren, four revolvers and two repeating rifles boxed in mahogany, and five months later the *Sultanah*, completely overhauled at the President's order, weighed anchor, her mission completed. Sultan Sayyid never did invade Mozambique, but the *Sultanah's* voyage did establish links that, on April 11, Sultan Qaboos reaffirmed. ■



HOVE

Oman: the forts

WRITTEN BY JOHN LAWTON

Oman is a land of 1,000 forts – at least. They tower above the treetops of inland oases. They cling to the cliffs above ancient ports. And over virtually every village fortified watchtowers perch atop handy crags high enough to command a view of approaching enemies.

Many of the forts date back several centuries – magnificent reminders of Oman's turbulent past – and though most are crumbling, some have been, or are being, restored and one was defended in battle as recently as 1972. During decisive battles in the Dhofar rebellion, the sultan's small garrison in a fort beat off a superior force of rebels attacking the port of Mirbat – probably one of the last battles in history in which besieged defenders fired rifles from the battlements of a fort.

Today, Shaikh 'Amr' Ali, wali of Mirbat, still governs, as his father and grandfather did before him, from the fortress – now freshly whitewashed, and with the red flag of the sultanate flying unchallenged from the top.

The red flag of the sultanate also flies today from the great circular fortress of Nizwa, Oman's inland economic center. But it was not so long ago that the white flag of tribal rebels fluttered defiantly over the tower – about 30 meters (100 feet) high

parapet, and a guard with an old Enfield Mark II rifle still keeps a watchful eye on the fort as visitors peer into dungeons or through slits in the walls, through which defenders once fired.

This masterpiece of fortification was built by Iman Sultan ibn Saif, who ejected the Portugese from Muscat, in 1650, without – so the story goes – firing a shot.



Nizwa fort, where a rebel flag flew as recently as 1955.



Although Bukha fort still overlooks the strategic Strait of Hormuz, Oman is now defended by more modern means.

It seems an Indian merchant named Narutem had a daughter whom the Portugese commander of the Muscat garrison wanted to marry and the only way Narutem could prevent this was to have the Portugese driven out. Narutem persuaded the commandant to replace the water, food and gunpowder in Muscat with fresh supplies. But when the cisterns and stores were emptied, Narutem sent a message to the imam to attack before they were restocked.

In Muscat, there are two special forts – twin, fairy-tale forts built by the Portugese in the 1580s to protect their Far Eastern trade routes – which featured in several other colorful episodes in Oman's history. In 1782, for instance, the two forts bombarded each other across the harbor – Ahmad ibn Sa'id in one, his two rebellious sons, Saif and Sultan, in the other.

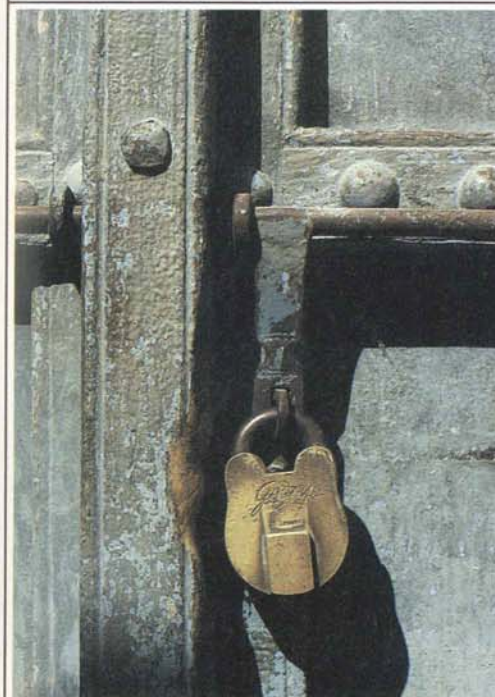
Despite this, and other fierce battles fought in Oman's history, the two forts remain in near-perfect condition, providing visitors with one of their most vivid memories of Oman though as sentinels these forts, like the others scattered across the crags and cliffs of the coast and hinterland, are now entirely symbolic. Oman's main form of defense falls to the jet fighters, missile boats and other sophisticated weaponry of the country's modern armed forces. ■



Some forts, like the one at Bahla, are slowly crumbling.



But others, like the one at Jabrin, are being restored.



Watchtower near Muscat (left), and Matrah door (above).

and 36 meters (120 feet) across. In 1955, – a leader in the interior – rebelled against the rulers of the coast.

Today, bullet holes still pock the



Oman: frankincense

WRITTEN BY JOHN LAWTON

In Salalah, in the south of Oman, not far from the ruins of Sumhuram, ancient port of the incense trade, anyone these days can buy the gift once thought fit for only a king: frankincense.

Though frankincense is mentioned in the Christmas story as one of the gifts brought by the Magi to Bethlehem (See *Aramco World*, November-December 1980), few people realize that the reason the Magi brought frankincense was that it was then a substance as valued as gold or jewels. As the Arab historian al-Tabari said, in describing the Magi's explanation of their gifts "... the smoke of incense reaches heaven as does no other smoke..."

The resin of the frankincense tree, *Boswellia sacra*, like myrrh and aloes wood, is one of a number of aromatic substances that, when burned, give off a pungent, pleasurable smell. This seemingly minor characteristic, however, was esteemed so highly in ancient cultures that almost all the peoples of the Mediterranean and the Middle East thought it vital to their religious rituals. They believed the fragrant white smoke from smoldering incense soothed angry gods.

The Temple of Baal, in Babylon, for example, burned two and a half tons of frankincense a year, according to ancient records, and in Rome, Pliny says, the emperor Nero burned an entire year's production of incense from Arabia at the funeral of his wife Poppaea.

Frankincense was also used for embalming corpses – pellets of frankincense, for example, were found in King Tutankhamen's tomb – and Celsus, the first century Roman medical writer, says the ancient Greeks used frankincense to treat hemorrhoids.

Exported by sea from Dhofar, or overland by camel through Medina to Petra, Damascus, Aleppo, Palmyra and other distribution points, frankincense brought prosperity to southern Arabia. Frankincense, in fact, was the basis of the economy of Oman's Dhofar province for over 2,000 years, peaking in the first and second century when King Il'ad Yalut of the Hadhramaut took over the incense-producing areas, built the port of Sumhuram, and so secured a monopoly of the frankincense trade.

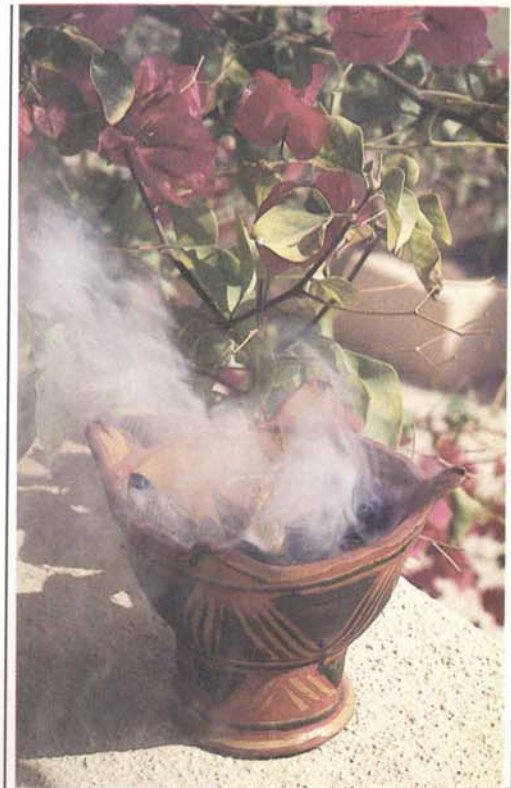
With the decline of the Roman Empire, the demand for incense slackened somewhat; though Christians also used incense at high mass and other

ceremonies, the quantities were comparatively small. Another reason was the problem of finding enough people willing to tackle the difficult work involved in collecting the frankincense resin.

Frankincense collection – which begins in winter, peaks in spring and ends with the summer monsoons – starts with shaving strips of bark from the *Boswellia sacra* trunk. The collectors use an instrument like a putty knife called a *mingaf*. From these wounds the frankincense resin, or *luban*, oozes out and hardens into crystals, which are scraped off the tree and collected in two-handled baskets of woven palm leaves. Even better frankincense – light and clean in color – can be obtained by simply waiting and collecting it from the ground after it has fallen from the tree and dried naturally.

As recently as 1946, some 2,800 tons of various kinds of aromatic gums and resins – including frankincense – were being handled by the merchants of Aden. But in that year an artificial substitute was developed in Rome – delivering the coup de grâce for Oman's frankincense trade. The substitute involved cheap chemicals, which were melded into a shiny, rock-like conglomerate and distributed in brown chunks that had to be broken apart by a hammer. It was unappealing. It lacked the mystic feel of the east. And its smoke was by no means as white. But it smelled exactly like frankincense – and cost much less. "Since then," laments a Salalah merchant, "trade in incense has become only a fraction of what it used to be."

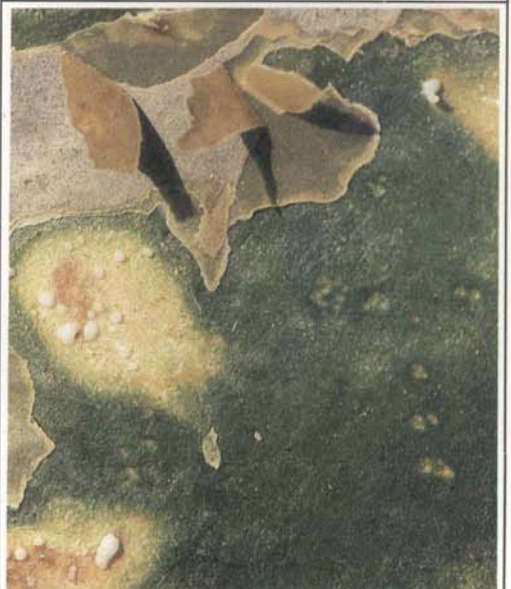
What little is left of the frankincense trade today is mainly in the hands of the Bait Kathir and, to a lesser degree, al-Mahra tribes, in whose territories – the desert plateau above Salalah – the best frankincense trees grow. But even they no longer work at it with any diligence. Recently, for example, during what should have been the height of the season, I drove to the plateau and found no one at all collecting frankincense. So I took a penknife, scored the bark of a gnarled old frankincense tree, rested in the shade of its low twisted branches while its resin oozed out and hardened, and walked off with a pocketful of crystals. Once worth their weight in gold, they didn't cost me a penny. ■



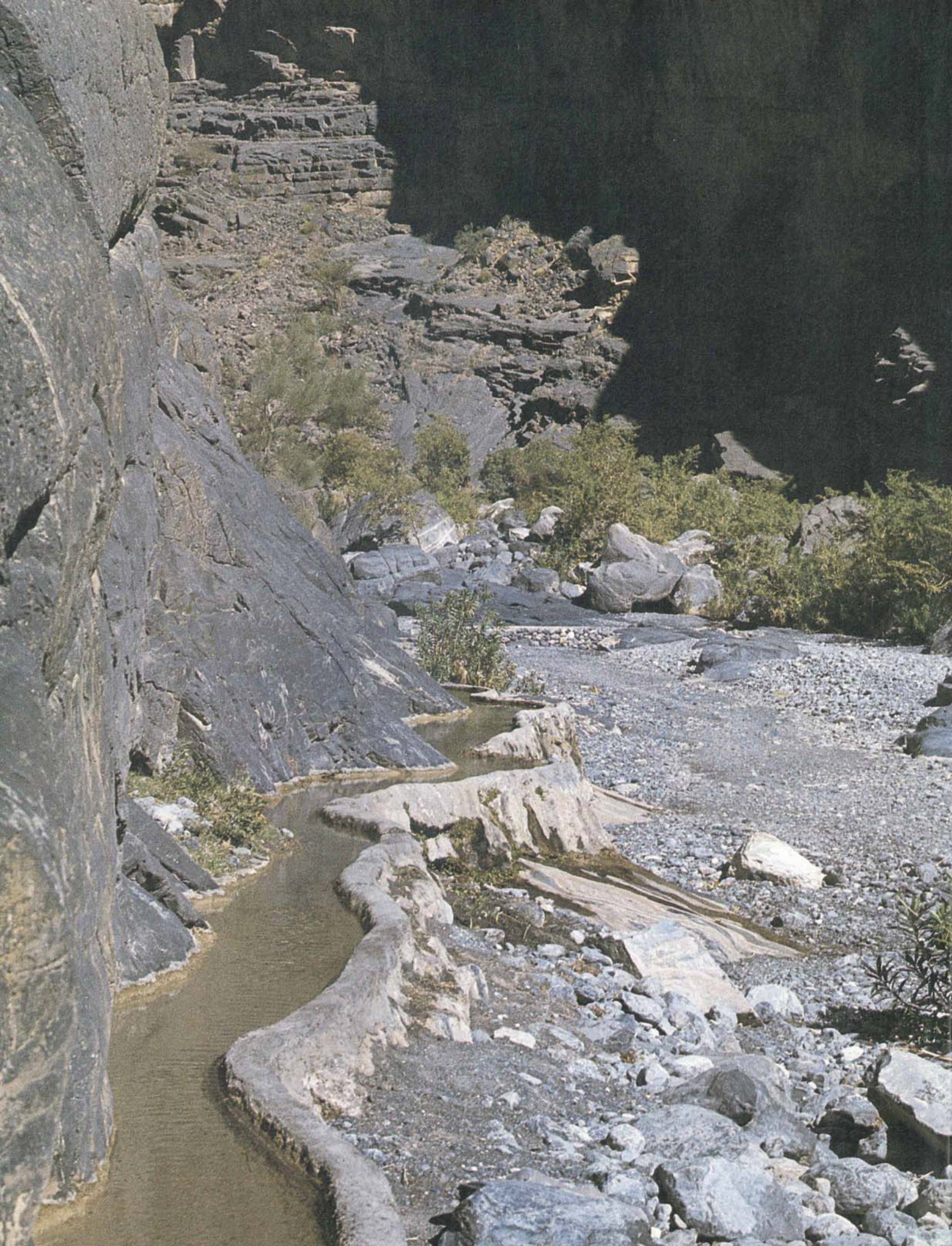
Crystals, when burned, give off fragrant white smoke.



Bark is shaved (above) off a frankincense tree (left).



Resin oozes from the gash and hardens into crystals.



Oman: the falajs

WRITTEN BY PAUL LUNDE

Flying over certain regions of Oman, you often see what look like rows of bomb craters stretching across the arid land below. In fact, these craters are the tops of access and ventilation shafts in the remarkable system of underground irrigation tunnels that are, in Oman, called *falaj* (plural, *aflaj*) and have different names elsewhere: *qanat* in Iran and other Muslim countries, and *foggara* in North Africa.

The *falaj* system is essentially a network of underground aqueducts through which water flows, by gravity, from springs or wells to villages and farms. Even today, it has been calculated, half the cultivated land in Iran is irrigated by these underground channels, and in rural Oman some 4,000 *aflaj* still provide most of the irrigation and domestic water supplies.

Unlike above-ground aqueducts, long sections of *aflaj* run through hand-dug tunnels—some of them 10 to 15 kilometers long (six to 10 miles) and close to 120 meters deep (400 feet). This feature is important in arid lands, where every drop of water is precious; it prevents water loss by evaporation.

Called *qanat* in classical Arabic, the *falaj* seems to have been developed in Persia and Armenia by at least 800 B.C. It was introduced to Oman and Iraq during Achaemenid times and spread from there into North Africa, Spain and, eventually, to the New World.

Construction of a *falaj* seems, at first, to be simple: from the farm or the village to a dependable source of water, almost always a perennial spring, you dig a gently sloping tunnel through which the water can flow. But that simplicity is deceptive; actual construction of a *falaj* is an undertaking relatively as sophisticated as the elevated Roman aqueducts that once criss-crossed Europe.

The first step is to find water and in Oman a special guild of "water diviners," the 'Awamir tribe, have achieved fame for their ability to find hidden sources of water. Like American "dowsers," the 'Awamir use experience, observation and a certain amount of instinct. They study the soil, the slope of the land and, in particular, look for the presence, or absence, of certain types of plants, carefully noting the slant of their branches. They then sink a trial shaft. If they hit water, and think the flow likely to be constant, they organize construction of a *falaj*.

Since the force that moves the water through the channel is gravity, the floor of the channel must slope downward—but



Telltale tops of access shafts to an underground falaj.

not too sharply. If the gradient is too steep, water pressure will erode the sides of the tunnel and cause the whole system to collapse; usually the gradient is 1:1,000.

Such expertise took centuries to develop. One treatise on how to dig these channels, and make the calculations and the instruments for surveying them, was written as early as the year 1000 by Abu Bakr Muhammad ibn al-Hasan al-Hasib al-Khariji, it described three different sorts of levels that can be used to gauge the slope accurately—one of them designed by himself.

Digging begins, not at the source where the flow of water would make digging impossible, but at the lower end. This means that the floor of the channel has to rise gently towards the source; to insure this, repeated measurements must be made.

Every 18 to 137 meters (20 to 150 yards), vertical shafts which provide access to the *falaj* must be dug, so that the excavated dirt can be removed. In medieval times, the workmen were paid on the basis of the weight of the excavated material. Since the shafts also provide air to the workmen who dig and clean the tunnels, they test the air with a lamp burning castor oil; if the lamp flickers and dies, they know that more air is needed.

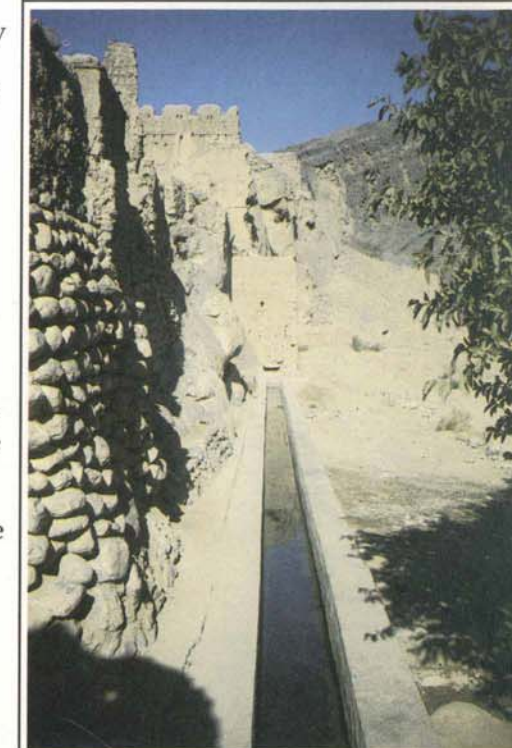
The most dangerous part of the job—which in rocky soil is back-breaking—comes when the workers approach the water source, or break into water-bearing soil; at that point, water often pours into the channel's confined space, usually less

than a meter wide (three feet) and not much higher.

A *falaj* must be thoroughly cleaned about once every 30 years, and sometimes, when the water table drops because of depletion, a *falaj* has to be abandoned, or the well deepened. Since this is expensive, the costs, typically, are shared by an entire community. In Oman a portion of the water is sometimes sold outside the community and the revenues used to finance upkeep.

Some *aflaj* are quite efficient, producing a flow of 1,515 liters a minute (400 gallons), but most only give some 110 liters a minute (30 gallons), and in the hot summer months the flow, just when it is most needed, usually drops to a trickle. Conversely, since the *falaj* is always flowing, a great deal of water is wasted at other times.

One of the great legacies of the Arabs to Spain, this system of irrigation made agriculture and urban life possible in areas that would otherwise have been too arid. It is even said that the word "Madrid" is derived from a Spanish-Arabic word meaning "*falaj*,"—by means of which the capital of the Spanish Empire derived its water. The system was carried by Andalusian settlers to South America, where *aflaj* identical to those in Oman are still to be seen in Chile and Mexico. ■



Aflaj (above) near Nizwa and (left) at Awlad Srur.

Oman: the craftsmen

PHOTOGRAPHED BY TOR EIGELAND

Like craftsmen everywhere in the world, the potters, the weavers, and the silversmiths of Oman — as well as others — are an endangered species.

In Nizwa, for example, one silversmith, deftly working glittering strands of super-fine metal thread into elaborate patterns on the scabbard of the khanjar, the ornate curved dagger still worn by Omanis as a symbol of rank and status, explained that this art, practiced by his family for centuries, is dying. The younger generations, he said, are seeking new occupations.

Elsewhere the story is the same: a potter in Bahla, a weaver in Ibri and a boat builder in Sur had similar complaints as their lovingly worked articles are replaced by modern equivalents: water jars by plastic containers, handwoven rugs by machine-made carpets, and wooden dhows by fiberglass boats.

Attempts are being made to save some of Oman's traditional crafts. At al-Khaburah, on the Batina coast, for example, women have been taught to weave blankets and rugs traditionally made by men. Most craft industries have difficulty surviving because they are labor-intensive and the products undervalued, but one way to save them is to create new products and markets. At Sur, for example, former boat builders are turning out models of Arab dhows instead of full-sized versions.

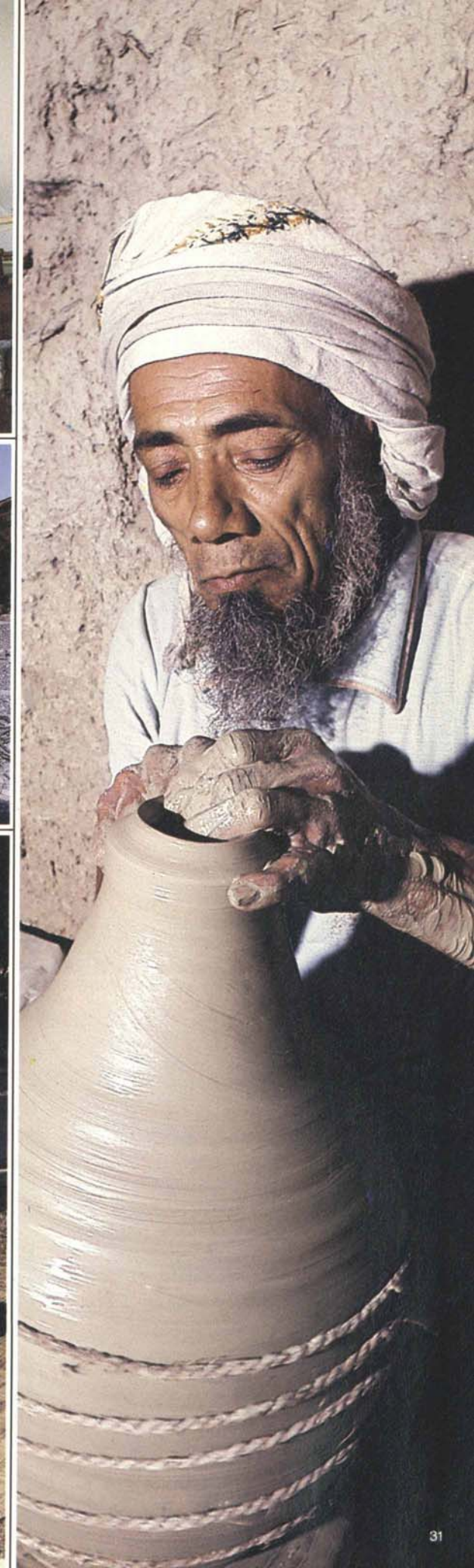
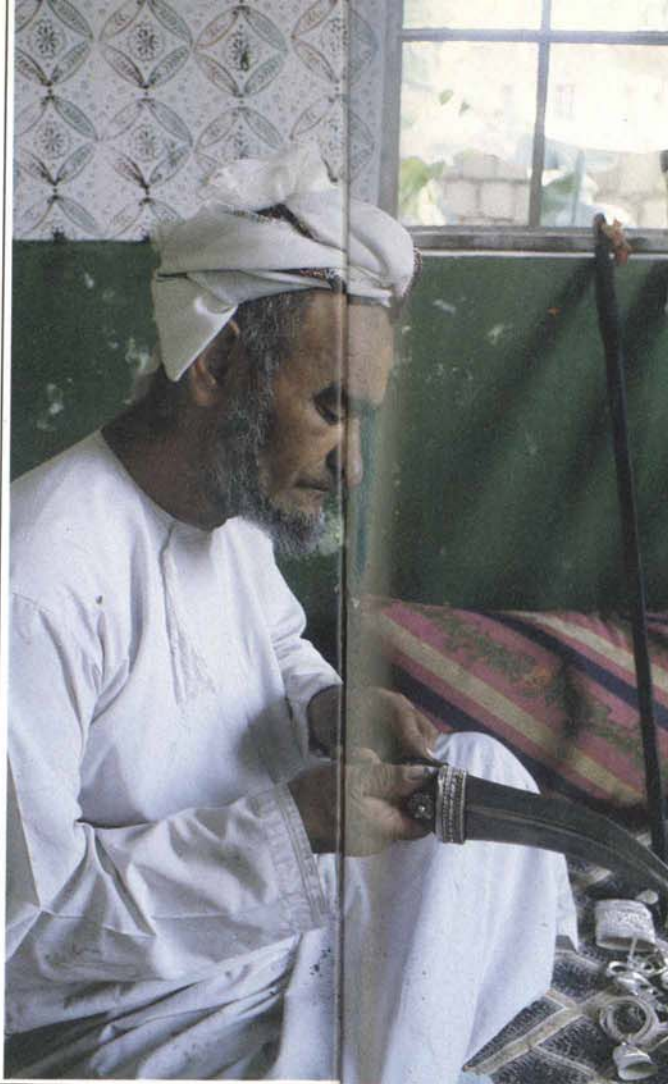
"It's not quite the same," admitted one old man sadly — remembering boats he and his forefathers built that once sailed as far as China, and comparing them with models that now go no further than an office shelf.

Some life-size dhows are still built at Sur, and one, at least, did recently sail as far as China. It was the vessel Sohar, a replica of a ninth-century Arab dhow held together by coconut string, which, in 1981, traced the legendary voyage of Sindbad the Sailor nearly 10,000 kilometers (over 6,000 miles) from Oman to Canton (See *Aramco World*, September-October 1981).

Although the shipwrights of Sur now use nails instead of string, their building methods have otherwise changed little since the days Arab merchantmen dominated eastern trade; one of the shipwrights' main tools, for example, is still the migdah, a drill driven by hand using a string bow, and their measurements are still made in "lengths," from elbow to finger-tip.

And although engines have replaced the dhows' graceful lateen-rigged sails, they are still built to basically the same design — with a romantic sweep from high stern to curved bow — as when Omani man-o-wars ranged the Arabian Gulf and the Indian Ocean unchallenged.

Omani craftsmen and their art (counterclockwise): A boatbuilder of Sur; an ornate curved dagger or khanjar; weavers at Ibri and a potter of Bahla; a model boat made at Sur; fishermen of Musandam; and a silversmith at Nizwa.



Oman: sea shells

WRITTEN BY JOHN LAWTON

In the 1950s, Dr. Donald Bosch, one of the very few surgeons in Oman, had people lining up outside his tiny operating theater at the American hospital in Matrah. On some occasions he would treat more than 200 patients and perform up to 10 operations in a single day – in difficult conditions and with little trained help.

The pressure, obviously, was intense. So Dr. Bosch forced himself to relax by walking regularly along nearby beaches with his wife and, as a result, took up a hobby that has since made him an international authority on the seashells of Oman.

"It all started because of those walks along the beach," says Dr. Bosch, now chief medical officer at the modern Khoula Hospital with more than 60 doctors working under him. "We just couldn't help noticing the staggeringly beautiful shells all around us."

Thinking these shells might be of interest to experts – since Oman was then largely unknown to the West – Dr. Bosch wrote to the American Museum of Natural History asking if they might be interested in seeing some specimens. The answer, to his surprise, was a cable: yes, the museum was very interested. A letter quickly followed with instructions on how to collect and ship the shells to New York, and shortly after letters began to arrive from museums and universities as far away as New Zealand, South Africa and Japan, also asking for shells.

So began a quarter of a century of beachcombing for Dr. Bosch, during which the American physician and his family collected, classified and sent off, wrapped in newspapers, thousands of shells to scientists all over the world. In the process, he himself became a conchologist of world repute.

In recognition of what one expert describes as "valuable new information in the field of conchology," no fewer than four new species of shellfish discovered in Oman have been named after the Bosch

family: *Conus boschi*, *Ancilla boschi*, *Cymatium boschi* and, in honor of Dr. Bosch's wife, Eloise, *Acteon eloiseae*, a very colorful and attractive species characterized by three spiral rows of large rose-colored, crescent-shaped blotches, each bordered by a strong black line. A fifth, newly-discovered shell is to be named *Bursa boschdavidi* after one of Dr. Bosch's sons, David, who works for Aramco in Dhahran, Saudi Arabia.



Cymatium boschi, a new shell discovered by Dr. Bosch.

Altogether, Dr. and Mrs. Bosch have identified over 500 different types of shell in Oman – a country particularly rich in shellfish because of the varied habitat around its coasts; in places, mountains plunge steeply into a deep nutritious sea, and in others, white sandy beaches slope gently into warm shallow waters.

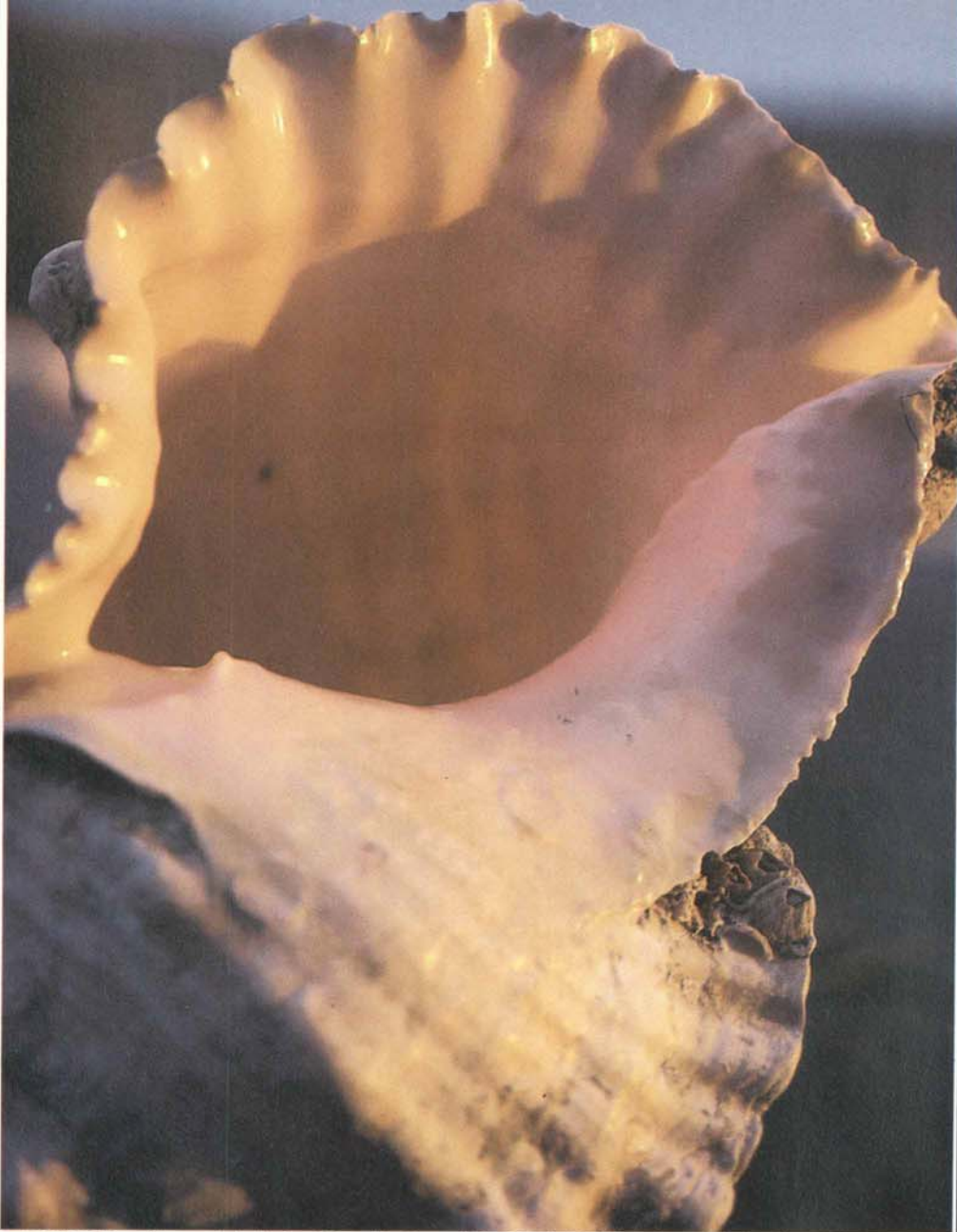
These beaches are also a haven for sea turtles. Five species – the loggerhead, green turtle, hawksbill, Olive Ridley turtle and leatherback – are found in Oman, and two of these species commonly breed there.

The green turtle breeds on the mainland beaches of Ra's al-Hadd, Oman's easternmost point, while the loggerheads lay their eggs by the thousands on Masirah Island, just off Oman's central coast. Masirah, in fact, is the world's largest known breeding ground for sea turtles. It is also a sanctuary for some 200 species of birds.

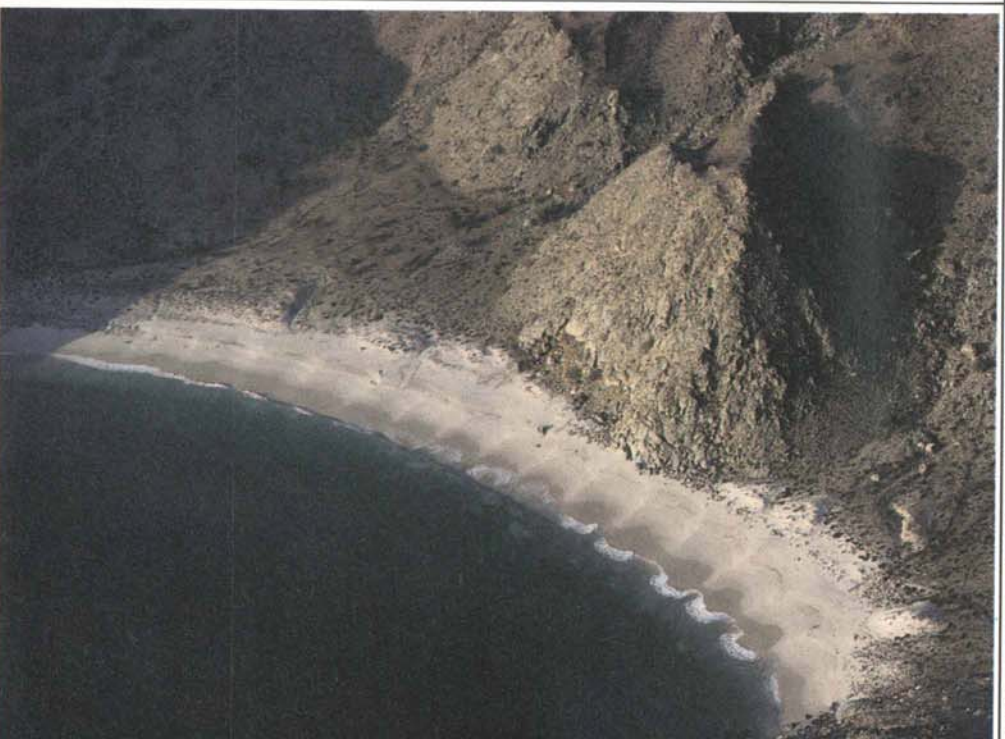
This year, the turtles and birds are sharing their largely barren, mainly rocky, 64-kilometer-long island (40 miles) with U.S. engineers engaged in a nearly \$170 million expansion of Masirah's tiny airfield for the Omanis. What the effect will be on the wildlife is still unknown. ■

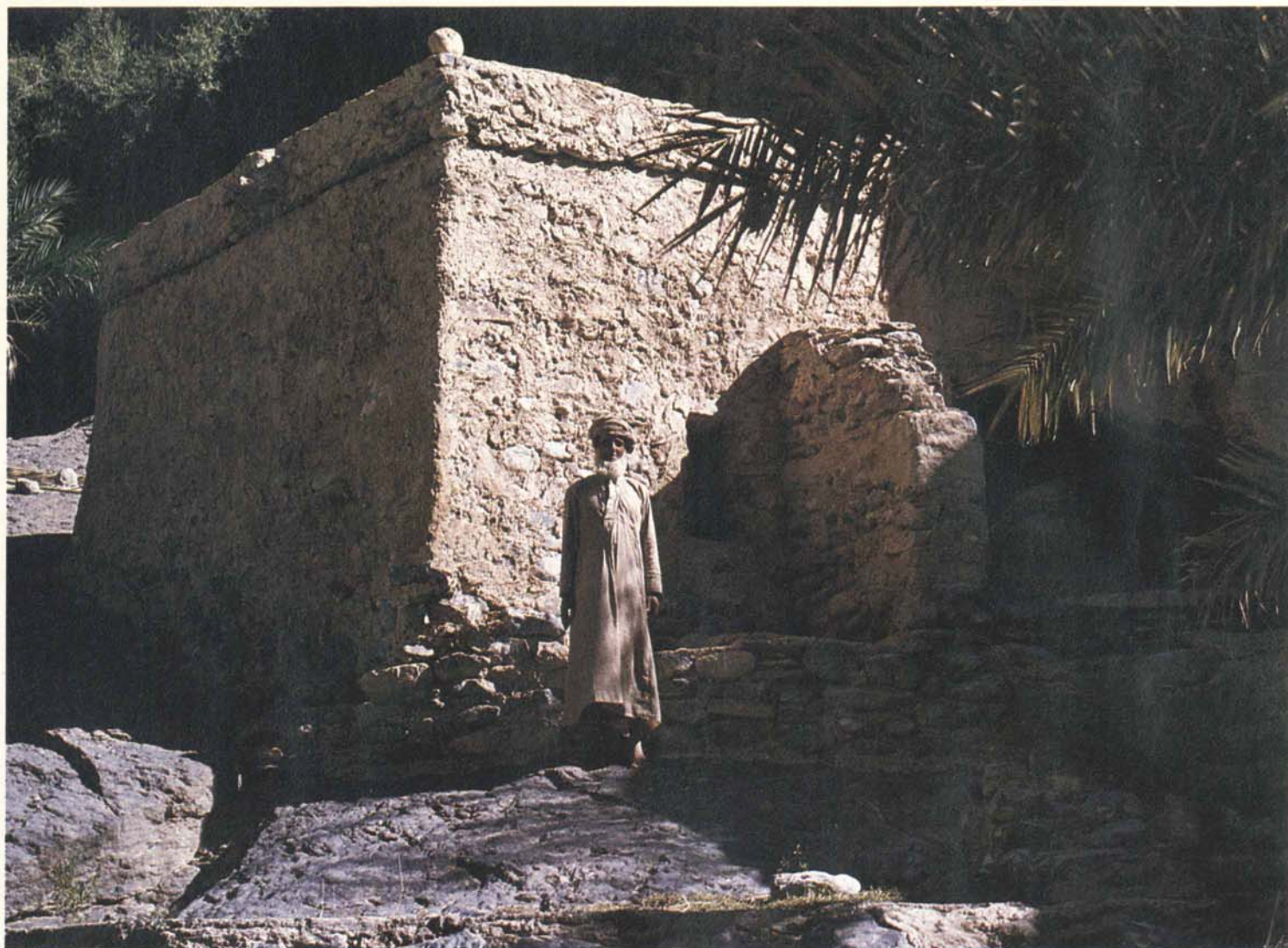


Acteon eloiseae, a new shell named after Eloise Bosch.



A 14" (35.5 cms) Trumpet shell (above), found by Dr. and Mrs. Bosch (right), on Oman's shell-rich coastline (below).





The impact of modern development is more subtle and less easily discerned in the villages of Oman than it is in the cities and towns. It is, however, as equally profound.

Oman: a village

WRITTEN BY DALE F. EICKELMAN

Oman was once as isolated and undeveloped in a Middle East context as Tibet in Southeast Asia. Camels and donkeys still provided much of the transport in the interior, hospitals, roads and schools were virtually nonexistent, visitors were rare and life in the ordinary Omani village had changed little in generations.

With the discovery of petroleum, of course, change was inevitable, and in cities and towns is instantly visible: spanking new roads, schools, clinics and hospitals. But in hundreds of villages the impact is far more subtle and less easily discerned. It is, however, equally profound.

One such village is Wadi Ghul, a cluster of some 40 households and 250 inhabitants in a narrow canyon 14 kilometers (8.6 miles) from al-Hamra, a small

provincial town in Oman's interior and the area's administrative center. With two other small settlements nearby, the total population is no more than 900, all members of the Ibriyin tribe, one of the major tribes of the interior.

As late as 1978, travel between Wadi Ghul and al-Hamra was by foot or by donkey, and Saif Sa'id, now a soldier with the Omani army, told me that he, like other villagers, used to measure distance in time not in kilometers—and that al-Hamra was four hours by donkey.

Like many Omani villages, Wadi Ghul was built near the ruins of an older settlement, its size limited by the scarcity of water and of agricultural land. High on the side of its narrow canyon are the remains of fortified watchtowers—some of them hundreds of years old—from which the entire canyon and its approaches could

be guarded. One of these was situated so that defenders could lower buckets into a fairly reliable underground water supply without leaving the watchtower (See page 24).

In those early days, villagers used to live in Wadi Ghul only when their presence was required for planting and harvesting; the rest of the year they lived in one of the larger nearby villages—a precaution against raiders. Gradually, though, more permanent houses were constructed, the first ones at a higher, more easily defended location, the present ones closer to the irrigated fields and orchards.

Even today, houses in Wadi Ghul are grouped in kinship clusters. One of these is the *Awlad Srur*, the children of Srur, three elderly brothers who, with their married sons, constitute 14 separate households that collectively maintain a

small guest house and share the expenses of entertaining visitors.

Although each household manages its own living expenses, meals are communally prepared and women ordinarily work together carrying water, cooking, tending children, sewing and helping with various herding and agricultural chores.

Because Omanis normally marry cousins, the bonds of kinship and marriage in Wadi Ghul are extremely complex: each villager can be related to the others in multiple ways. In fact, with the sole exception of one woman originally from a village two kilometers away (1.2 miles), marriage for most women of Wadi Ghul has usually meant little more than a move of several hundred yards from the homes of their father to those of their husbands, and few women can imagine marrying a "stranger."

The intense communal life of Wadi Ghul is also reflected in the community's approach to land and water. Though some rights to land and water are occasionally sold to buyers from al-Hamra for needed cash, most of the minute parcels of land, some no more than two meters long and one wide (5 by 2.5 feet), are locally owned and bought and sold only within the community.

Rainfall is sparse and irregular and must be channeled into underground conduits of water called *aflaj*—gently sloping, stone tunnels and canals which conduct water by gravity flow to lands suitable for cultivation (See page 28). As the *aflaj* system is the backbone of agriculture, every Omani village is formed around at least one system—a few have more than one—and the rights and obligations surrounding their usage is a vital aspect of community life.

Every household in the village earns some income from agriculture and herding. Dates and limes are the principal crops, with some vegetables—onions, radishes,

garlic, cucumbers, cantaloupes, water-melons and tomatoes—grown in the shade of the date palms. Of all this produce, only limes and dates are exported for sale in local markets, and when water is scarce or yields poor, the villagers of Wadi Ghul are compelled to consume even these themselves.

Like agriculture, herding too is largely dependent on fluctuating seasonal conditions, the well-being of livestock subject to bad weather, insufficient forage or disease, any of which could suddenly decimate herds.

Until recently, another source of income for the villagers was weaving—especially Omani rugs woven in patterns of either brown and white, from natural wool, or red and black, the red thread dyed with madder, a rich coloring from India.

The villagers obtained the wool for weaving by shearing sheep and goats and then spinning it into yarn—a slow process done by the shepherds, women and older children whenever they had spare time. Each ball of yarn, called a *kubba*, took about four days to complete, and nine balls of yarn were needed for a complete rug.

Making the rug itself was an exclusively masculine activity and was done on a simple, two-beam wooden loom which could be set up on the ground and easily carried from place to place. Relatives passed on the craft to each other, and households that engaged in rug-making used to make 10 to 15 rugs annually. But now, as young men begin to leave the village to seek education, join the army or work in the cities, traditional village crafts, such as weaving, are dying out.

Many traditional village food products too have been replaced by imported equivalents—wheat, for example, once grown in significant quantities in interior villages, is now imported and former wheat fields lie idle. Also, with increased opportunities to invest in trade rather than livestock, herding too has tapered off, even though, paradoxically, improved

roads give herders and farmers access to more distant markets and better prices.

This paradoxical pattern of change is not unusual in villages like Wadi Ghul. On the one hand, there are the new horizons brought about by economic growth; on the other, there is the strong pull of tradition. What will the result be?

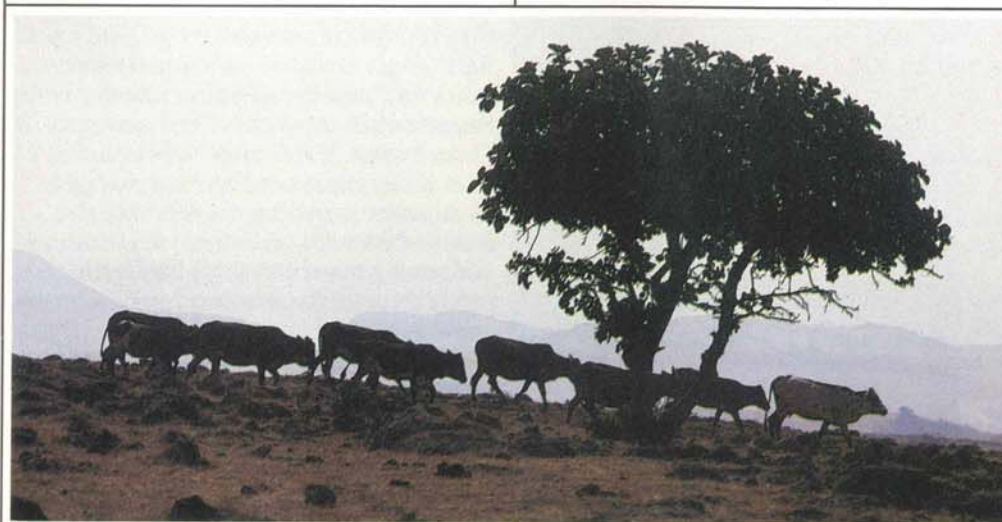
To find an answer to that question, I asked a group of about 10 young soldiers—on home leave in Wadi Ghul—to tell me what they thought the future would be. Their answers were instructive.

They are aware, they said, that they can never expect to live on agriculture and herding alone, and understand the reluctance of their sons and younger brothers to engage in these activities. Furthermore, they realize that abandonment of traditional agriculture, herding and related crafts will become even more pronounced once schools reach the village.

But when it does, they said, it will not result in abandonment of village life. For decades, the men of Wadi Ghul had to emigrate to East Africa or Gulf states for part of their working lives to support their families, so increased employment opportunities in Oman itself actually mean that many men will spend more time at home. Instead of seasonal migrations or long absences, men now work in Oman or neighboring states and return for monthly or even weekly visits to their village. Approximately 50 men from Wadi Ghul, for instance, ranging in age from their late teens to early 30's, work elsewhere in the country and return home frequently. To them, the increased opportunities for work in Oman itself have given their village a new lease on life—since they cannot yet conceive of living in a place in which their neighbors are not their kin. This strong sense of family and community, therefore, is likely to keep communities such as Wadi Ghul intact for a long time, even if herding and farming become marginal activities.

Most villagers have confirmed their enthusiasm for rural life by investing in new housing for their families, and in pickup trucks to facilitate travel between work and village. Other money has been fed back into agriculture: farmers are fencing more land, digging new wells, or starting small shops and businesses.

Indeed, the principal impact of oil on Wadi Ghul has so far been to free the villagers from the economic insecurity of the past. Oil revenues have financed substantial improvements in their standard of living, and the economic and educational changes are seen as improvements in the quality of living, not as inducements to abandon their villages. ■



Livestock provides some income for most Omani villagers, especially these Jiballi cattle of the al-Qamr mountains.



An Omani patrol boat heads back to base after monitoring the passage of a Japanese tanker through the Strait of Hormuz, the strategic entrance to the Arab Gulf.

Oman: going strait

WRITTEN BY JOHN LAWTON

As the small but deadly Omani gunboat slashed through the cobalt blue waters of the Strait of Hormuz, its captain's voice crackled across the airways to the immense, high-riding oil tanker in the distance: "Omani warship calling Japanese tanker. I am on interception course. I will keep clear. Repeat, I will keep clear."

Lieutenant Commander Sa'id Soud al-Mauly — at 30 the most senior Omani in his country's tiny navy — repeated his warning three times before the startled voice of the Japanese tanker master crackled back. "I will change course. Repeat, I will change course."

Our navigator smiled. "He's got a guilty conscience," he said, pointing to the gunboat's glowing instrument panels; they showed that the Japanese tanker was

inside the international traffic lane — but only just.

"No, maintain your present intention. Repeat, maintain your present intention," ordered Commander al-Mauly over the radio as we swept by with a final word: "Thank you for your cooperation..."

Had the tanker been outside the international navigation channels — two miles wide in each direction, with a two-mile-wide separation zone in between — Commander al-Mauly might not have been so polite, and would have reported the violation to Japanese authorities as part of Oman's efforts to lessen the hazards of navigation and protect fishermen in what is today one of the most important — and most crowded — waterways in the world. He knows, from experience, that about five percent of the

ships that pass through the strait — some 18,000 vessels in 1982 — try to cut fuel costs; they clip the corner off the right-angle-shaped Traffic Separation Route and take the shorter but more hazardous channel closer to the rugged Omani coast. The Omani Navy's small fleet of fast gunboats, therefore, keeps a close eye on transiting vessels from the moment its radar picks them up.

Keeping merchant shipping flowing safely through the strait and out of Omani coastal fishing grounds is just one of the many tasks performed by the Omani navy. Another is the prevention of gun running and smuggling; shortly before our visit a ketch carrying \$1 million in gold had been seized. A third is interception of dhows carrying illegal immigrants, and still another — the most important of all — is

implementation of Sultan Qaboos' commitment to peaceful passage of all oil tankers and other international shipping in and out of the Arabian Gulf.

To carry out such tasks — and also patrol Oman's other 1,930 kilometers of coastline (1,200 miles) — is a formidable challenge for a navy that in 1982 was composed of just two missile craft, four gunboats and four inshore patrol vessels. But Oman's navy is confident it can do the job — particularly since the recent delivery of the first of three new ships, each armed with six Exocet missiles, and the installation of computerized radar — which provides an immediate readout of every vessel passing through the Strait of Hormuz.

Because the strait is the gateway to one of the world's main sources of petroleum, the Omani navy — like other armed forces in and around the Gulf — continues to give much thought to its safety.

Hormuz, however, is less vulnerable than it seems. Sunken tankers or other large ships, for example, would not block the strait — even though many people think so. It may look narrow on a map, but the strait is actually 45 kilometers wide (28 miles) and, in places, 88 meters deep (290 feet). "We would simply mark the ships with buoys and sail around them," one senior Omani navy commander said. Mining the strait, he added, was equally "improbable."

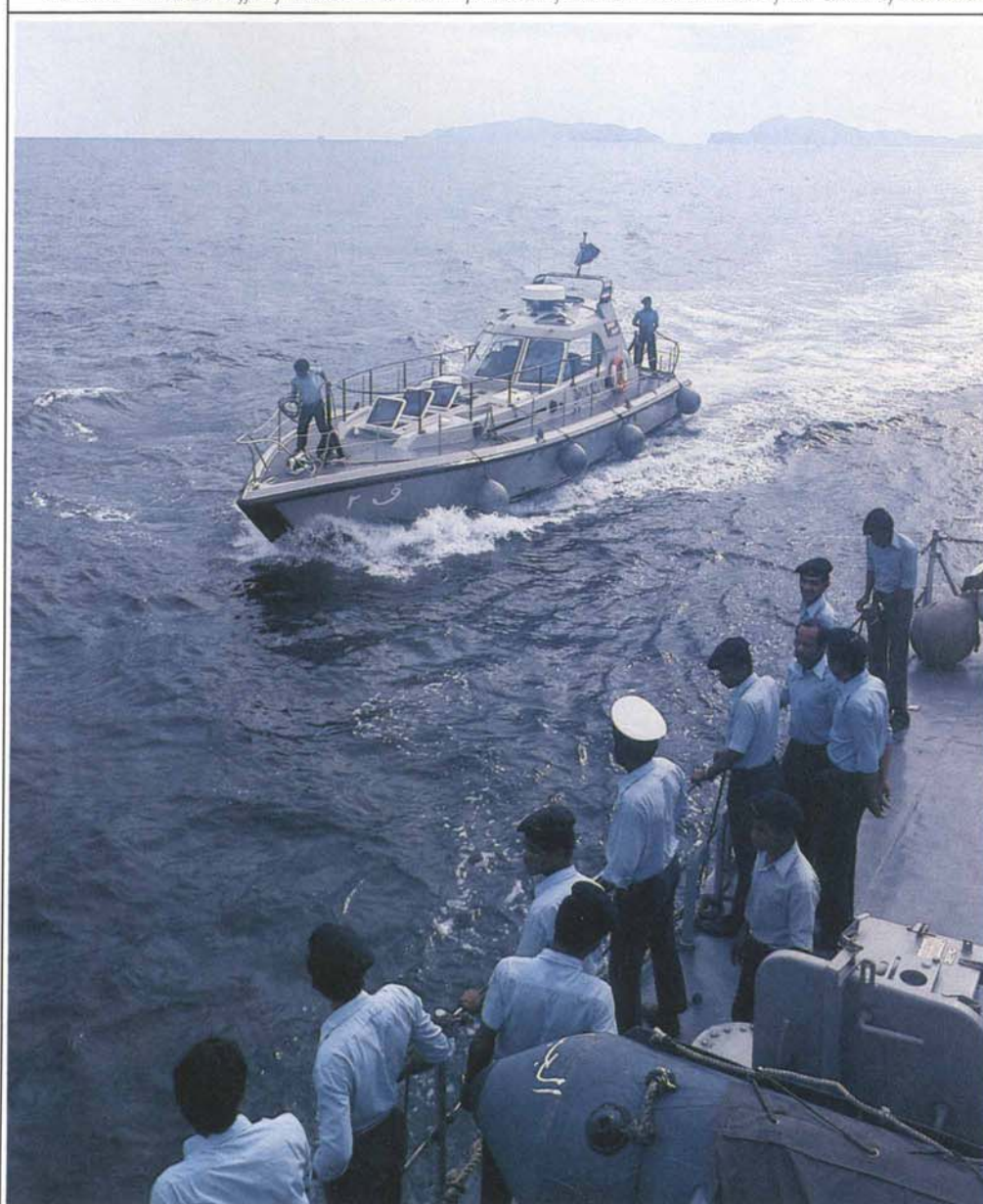
Furthermore, two of the Gulf countries, Saudi Arabia and Iraq, have built new alternative export outlets for their oil via the Red Sea and the Mediterranean — one of them Saudi Arabia's new 1,202-kilometer Petroline (747 miles) from the Eastern Province oil fields to the new port of Yanbu (See *Aramco World*, November-December 1982), and the other, Iraq's 987-kilometer pipeline (613 miles) from Kirkuk to Yumurtalik on Turkey's Mediterranean coast.

And although there was some tension in the Strait of Hormuz in the past, "there is very little tension now," Commander al-Mauly assured us as we turned about at the meeting of Oman's territorial waters with Iran and headed back to base.

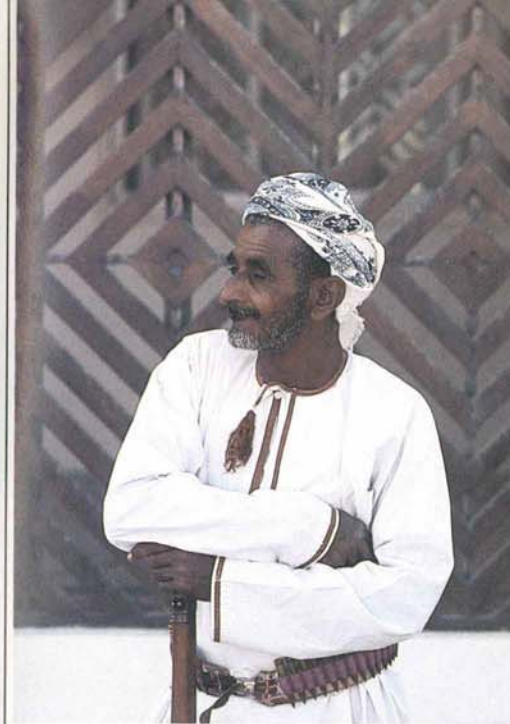
Later, back at Operational Center on Goat Island at the tip of the Musandam Peninsula (See page 38), logs kept by the navy dispelled yet another myth about the Strait of Hormuz. Far from the tanker-every-minute legend, the naval logs showed that even at its busiest, in spring 1980, an average of 77 ships passed through the strait each day — in both directions. In 1982, the number was down to 50. The Japanese tanker, in fact, was the only vessel we had encountered during our entire two-hour patrol of the strait. ■



The sheer limestone cliffs of Oman's Musandam peninsula flank the western coast of the Strait of Hormuz.



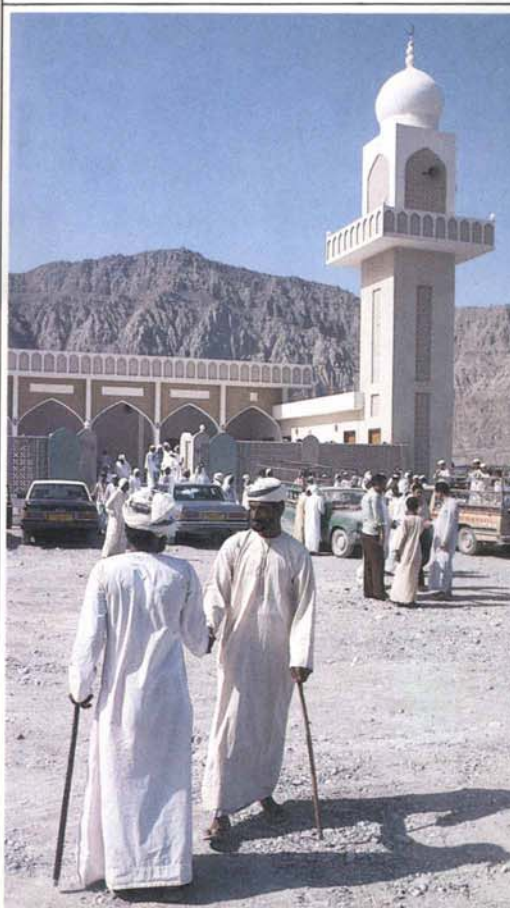
An Omani gunboat prepares to transfer a crewman — injured whilst patrolling the Strait — to a relief vessel.



A Musandam fiord (left) and governor's guard (above).



Waterfront (above) and new mosque (below) at Khasab.



Oman: the mountains of Musandam

WRITTEN BY JOHN LAWTON

The four nurses, clad from head-to-toe in white – except for black face masks – dashed through the dust kicked up by the descending airforce helicopter, whisked the woman on the stretcher from the cabin and hurried her into the hospital, their flowing robes flapping in the wind. Seconds later, we were airborne again and clattering over the razor-sharp peaks of the spectacularly-mountainous Musandam Peninsula.

In Oman, the airforce – and all the armed forces – support the civilian administration to a greater extent than in most countries, and nowhere is their help more vital than in isolated Musandam. Separated from the rest of Oman by a 70-kilometer strip of the United Arab Emirates (44 miles), the peninsula is dissected by deep canyons and ribbed by layer-upon-layer of almost impassable, mile-high slabs of rock thrown up by some prehistoric geological convulsion.

It was army engineers, for example, who hacked out the one road that zigzags dizzily up and down Musandam's precipitous mountainsides to connect the remote peninsula with the outside world. And it is the airforce's helicopters that constantly criss-cross the desolate terrain – ferrying supplies, doctors and sometimes even water to Musandam's tiny farming and fishing communities perched precariously on mountain tops or crammed into cracks between cliffs plunging straight into the sea.

The sultan's armed forces patrol Musandam for other reasons too; because the rugged, limestone peninsula juts into the Arabian Gulf, Oman controls the important Strait of Hormuz, and from the scattering of rocky islands at the tip of the peninsula, and from its sinuous fiords – once the lair of fearsome pirates – the Omani navy polices the strait. And from Musandam's recently resurfaced and extended airstrip, Oman's airforce and reinforcements can protect the strait and its crucial cargoes of crude oil. But what is more striking is the impact of the military on the government's civilian development program – an effort to stem what one official described as a "real risk" of the people of the peninsula "emptying out" into the neighboring United Arab Emirates.

Separated by natural barriers from the rest of Oman, and largely unnoticed by the

government, the tribes of Musandam had become economically dependent on and more closely allied, to the Emirates, which, nearer, less populous and more prosperous, provided a market for Musandam's manpower and a natural trading partner.



Building materials bound for a mountain-top village.

Even today it is still cheaper to import manufactured goods via Ras al-Khaimah than it is through Muscat, and many of Musandam's men continue to work in the Emirates, some, as a result, adopting the white headdress of the Gulf instead of the more traditional Omani turban.

The tide, however, is beginning to turn. For although the roads built by the Omani army now, ironically, make it easier to seek work in the Gulf – previously, the only way to get there was by boat, donkey or on foot – more people are returning to Musandam than are leaving. They are attracted by the new jobs and improved living standards of their native land.

At Saih, a plateau slung high between the mountain peaks, its bare landscape scarred by mud houses and a few fields, a young man told us over cups of herb-flavored tea how he had just quit his job as a policeman in Ras al-Khaimah to return home. He proudly showed us the new, concrete-block house, its gaily painted door already in place, and said he was building it with the help of a government loan.

Those men who do continue to work in the Emirates now commute to-and-fro rather than take their families with them. For example, Harf, a large village perched on top of high cliffs overlooking the Strait of Hormuz, and another village wedged in the bottom of a narrow, step-sided canyon

nearby, seem populated solely by shy women and children during the week, but bustle with menfolk too at weekends.

Trading patterns are changing too. Whereas Musadam's main export — fish — was once sold to "buy boats" from the Emirates, today much of it is collected at newly-built cold storage depots in Musandam and then transported to Muscat and other Omani towns for sale. And yet another sign of changing times: tailors in Khasab, Musadam's main town, report a growing preference for *dishdashas* cut to the Omani pattern — with a dangling tassel — rather than Emirates-style: with a high collar and buttons down the front.

Much else, too, has changed in Musandam in recent years. Besides a new hospital and the airfield — from which there now are almost-daily flights to Muscat — Musandam now has a network of gravel roads linking all major towns, cold storage depots and hundreds of new barracks-type homes; there are now also schools, desalination plants, electric power stations, ports and, in Khasab, a hotel, two banks — and, unbelievable a few years ago, with not a single road in the peninsula — an automobile distribution agency.

Because developing such an isolated and rugged region posed tremendous problems, the government, in 1976, set up a special agency, the Musandam Development Committee (MDC) to spearhead the development effort.

This effort has, so far, not been lavish. "We are putting in the rudiments, no frills,"

says one MDC official. "The only luxury we have allowed is street lighting between the Khasab *suq* and the port." The emphasis too has been on self-help rather than mollycoddling, which, some MDC officials fear, could destroy the mountain peoples' traditional toughness and make them soft and totally dependent on government help to survive. This, however, is not always appreciated by the hill tribes. "They frequently threaten to move to the Emirates if we don't build a road to their village," says one MDC official.

One particularly successful self-help program has been to repair and modernize the cisterns, or *birkas* — some of them as deep as 20 meters (66 feet), and usually from 25 to 30 meters long (82 to 98 feet) and three to six meters wide (10 to 20 feet) — used by villagers to collect and store rainwater during the rainy season for drinking the rest of the year.

"We supply the cement, sand and water (including lifting it by helicopter to isolated villages) and they supply the labor," said one MDC official. "It took six months for it to catch on — then there was an avalanche." Even so, some of the fiercely-independent hill people still can't quite get used to getting something for nothing, and one helicopter pilot tells of the farmer who shoved a goat into his cockpit as "payment" for a delivery of free sand and cement.

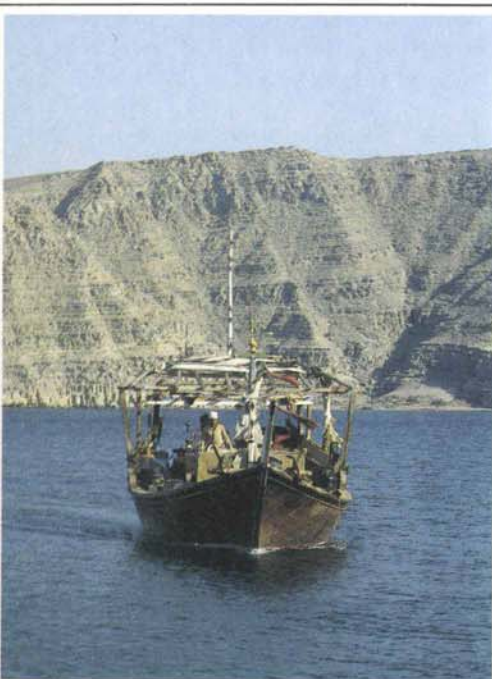
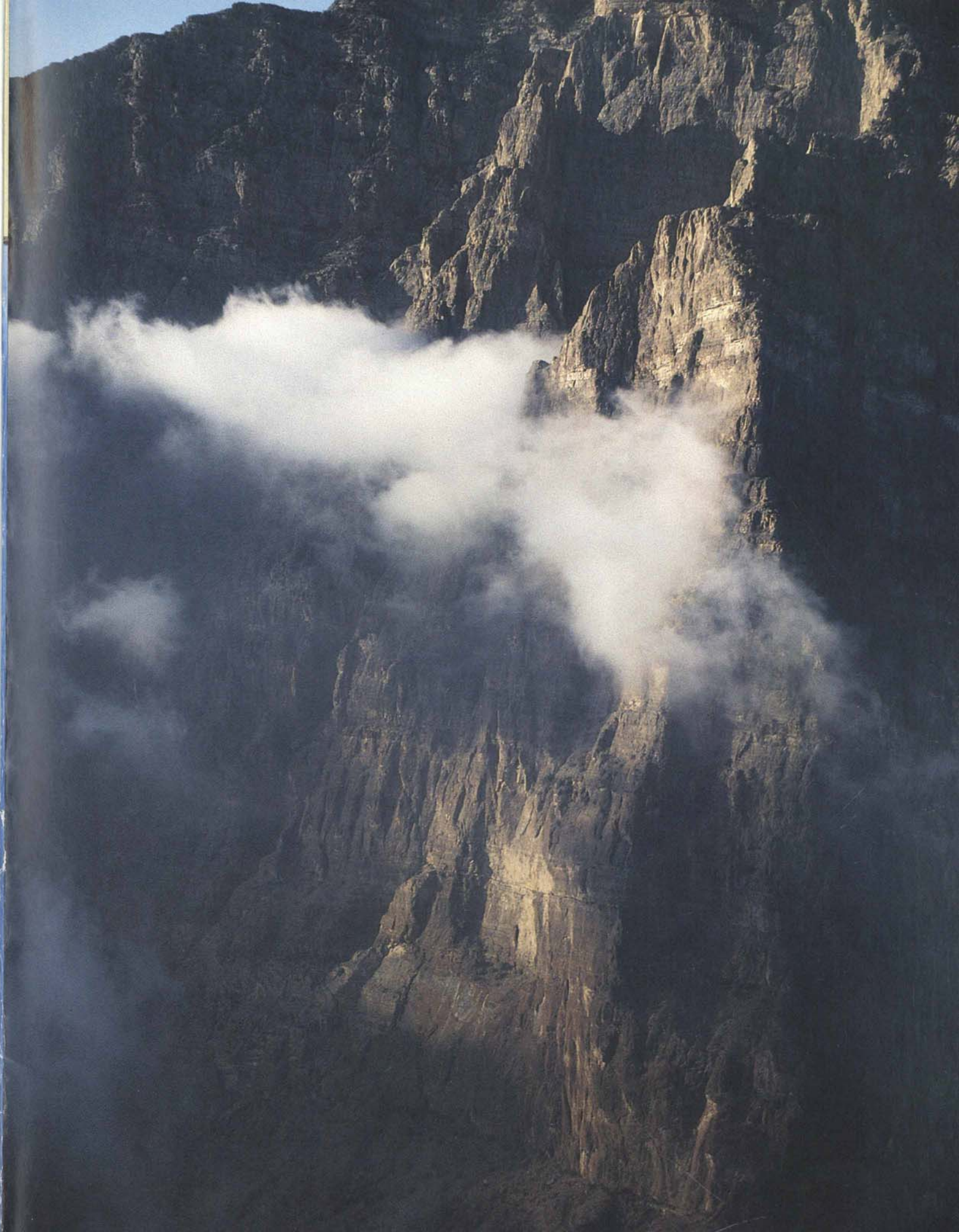
To supplement the traditional cistern system, the MDC are also installing steel water tanks — which they top up regularly by tanker — in villages now accessible by road. They also deliver water by ship to isolated coastal villages.

Education presents problems too. The MDC want to build a school at Kumzar but there literally is no room — the village is hemmed in on three sides by steep cliffs and by the sea on the fourth. There is so little space, in fact, that the only place left to bury the dead is under the homes.

The people of Kumzar and other coastal towns speak a mixture of Arabic, Farsi and Urdu — reflecting their ethnic links with nations on the other side of the Strait of Hormuz. The hill people, or *Shihuh*, however, are somewhat of a mystery. "They are a most extraordinary people," says Paolo Costa, head of Oman's Department of Antiquities. "Ethnically, we don't know who they are. There is speculation, but no evidence, that they are the original inhabitants of Arabia" — pushed back into Musandam's mountain security by Arab invaders of pre-Islamic days.

The *Shihuh* are semi-nomadic — farming their hillside terraces in the winter and living by the coast in summer to fish and harvest dates — their summer homes palm frond huts, their winter ones low stone houses that blend almost invisibly into the mountainsides.

Another of the *Shihuh's* peculiarities is that the men carry a long-handled axe, rather than the traditional curved Arab dagger, or *khanjar*. "The remains of some prehistoric weapon?" wonders Costa. No one is sure, now, though the light of the country's new dawn may one day illuminate even these hidden corners of history. ■



Fishermen bring their catch to Khasab cold storage depot.



Above: The date groves of Khasab. Right: Clouds climb the steep slopes of Jabal al-Akhdar — the build-up to a storm.