ARAMCO WORLD

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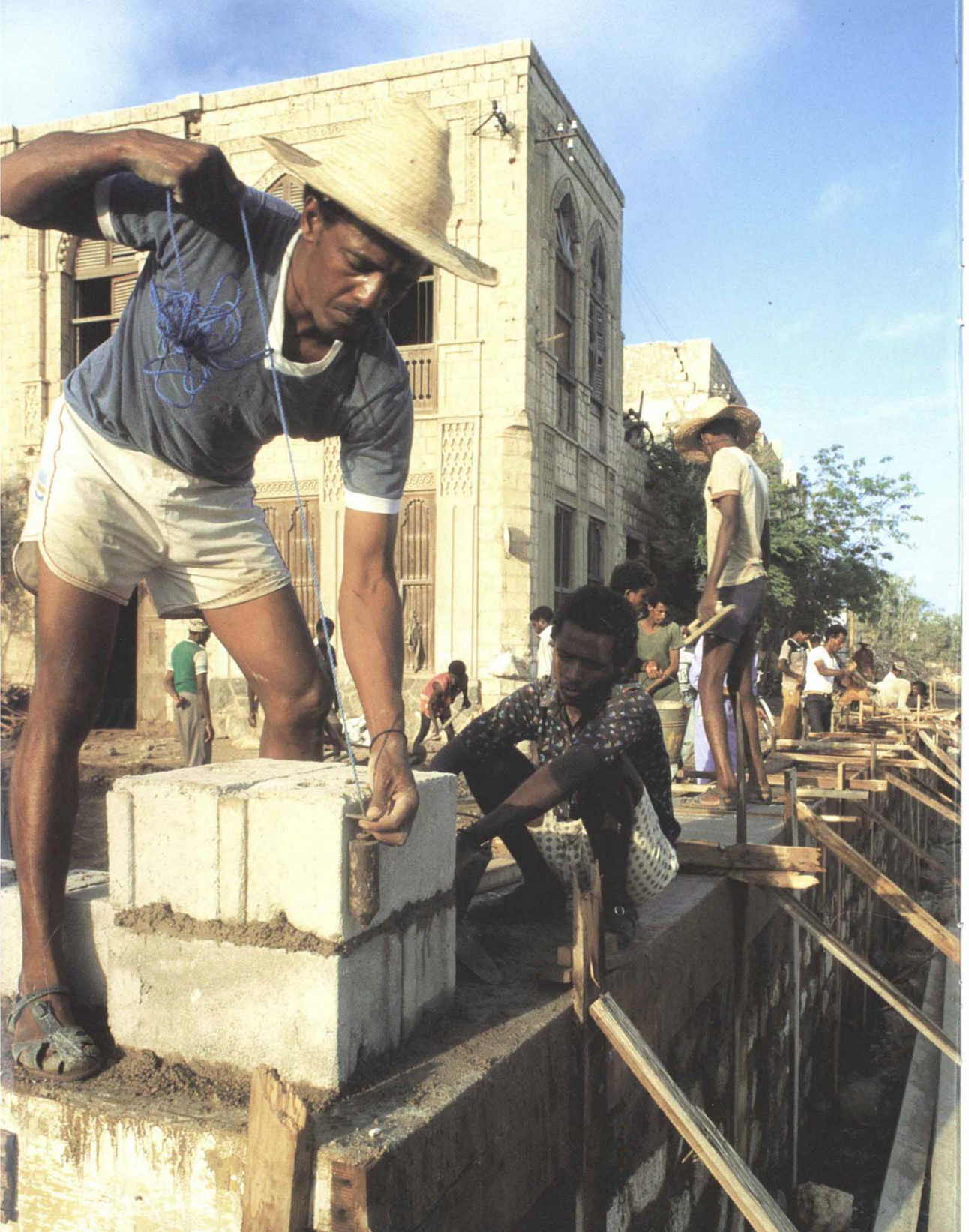
NOVEMBER/DECEMBER 1996

1453: Kuwae and Constantinople



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The mosques of New York City are as varied as the multinational Muslim community that they serve. How their architecture relates to their neighborhoods, and to the city's relentlessly orthogonal grid, tells us a lot about their builders—but not, perhaps, the most important thing.

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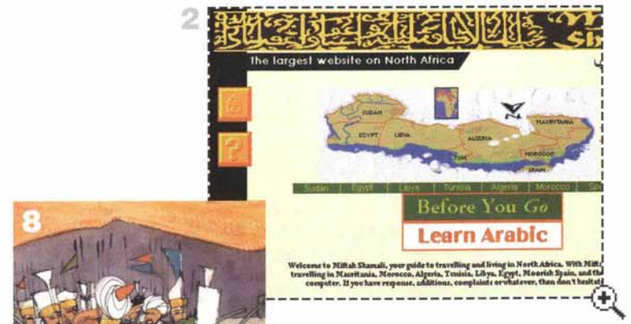

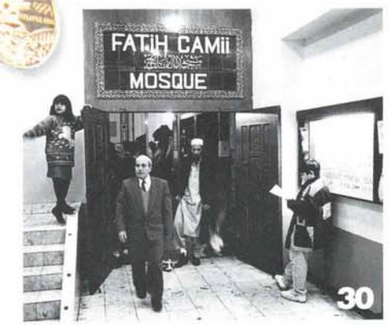

COVER:
In about 1450, the volcano Kuwae exploded in a cataclysmic Plinian eruption that blew some 35 cubic kilometers of rock and dust into the air. It is possible that South Pacific islanders were not the only ones affected: The aftermath of the eruption may have caused the ominous dark eclipse, flaming skies and frightening weather that "foretold" the fall of Constantinople, half a world away. Illustration by David A. Hardy.

OPPOSITE:
Stone, mortar, muscle and mind go to build a new nation in self-reliant Eritrea. Photo by Lorraine Chittock.

BACK COVER:
If "where you want to go today" is the Middle East, the Internet is how to get there. Usenet discussions range from scholarly to polemical, and World Wide Web sites offer opinion, images, maps and—above all—information in the wildest variety.

Saudi Aramco, the oil company born as a bold international enterprise more than half a century ago, distributes Aramco World *to increase cross-cultural understanding. The magazine's goal is to broaden knowledge of the culture of the Arab and Muslim worlds and the history, geography and economy of Saudi Arabia.* Aramco World *is distributed without charge, upon request, to a limited number of interested readers.*

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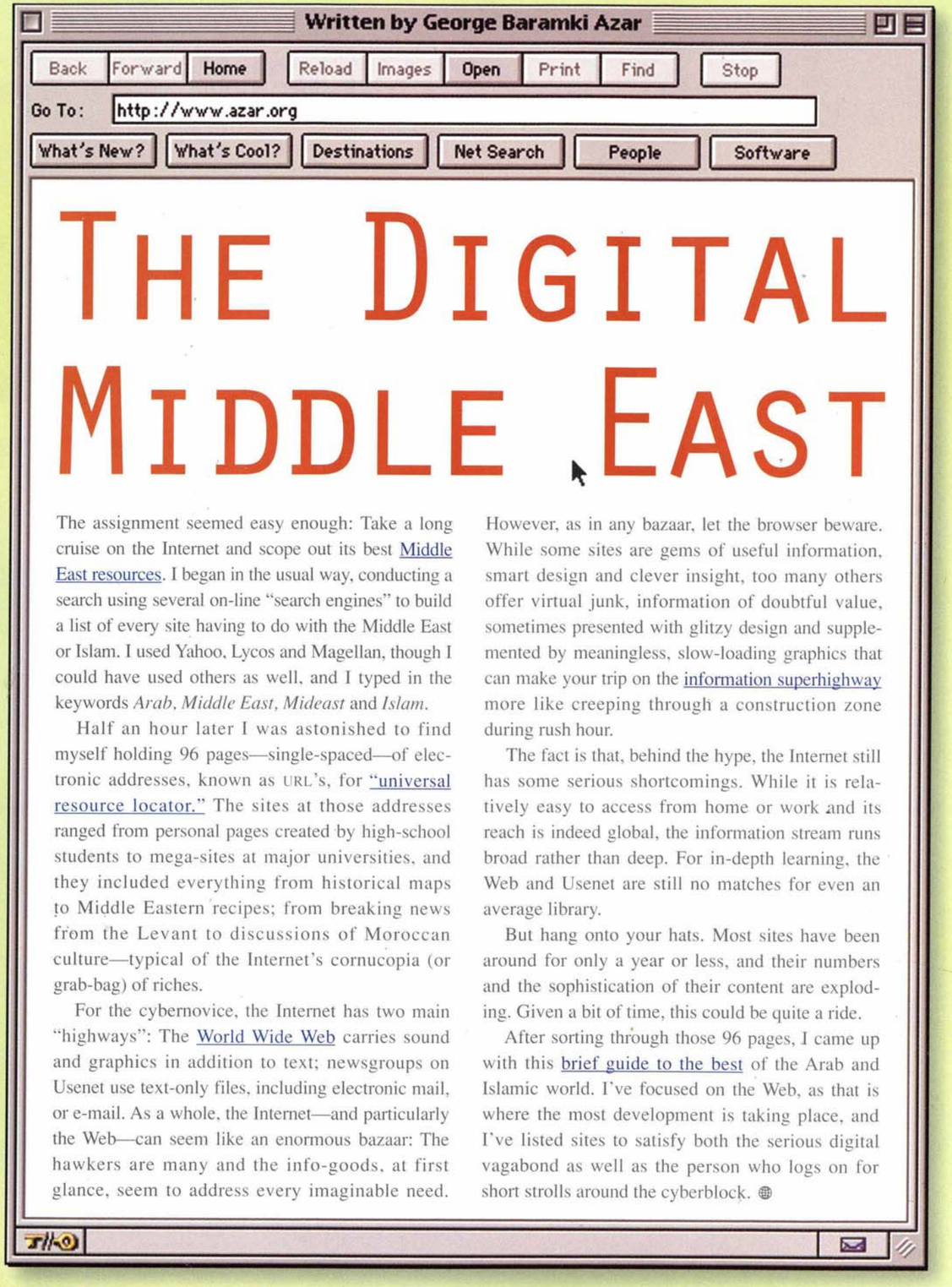


THE DIGITAL MIDDLE EAST

The assignment seemed easy enough: Take a long cruise on the Internet and scope out its best Middle East resources. I began in the usual way, conducting a search using several on-line "search engines" to build a list of every site having to do with the Middle East or Islam. I used Yahoo, Lycos and Magellan, though I could have used others as well, and I typed in the keywords *Arab, Middle East, Mideast* and *Islam*.

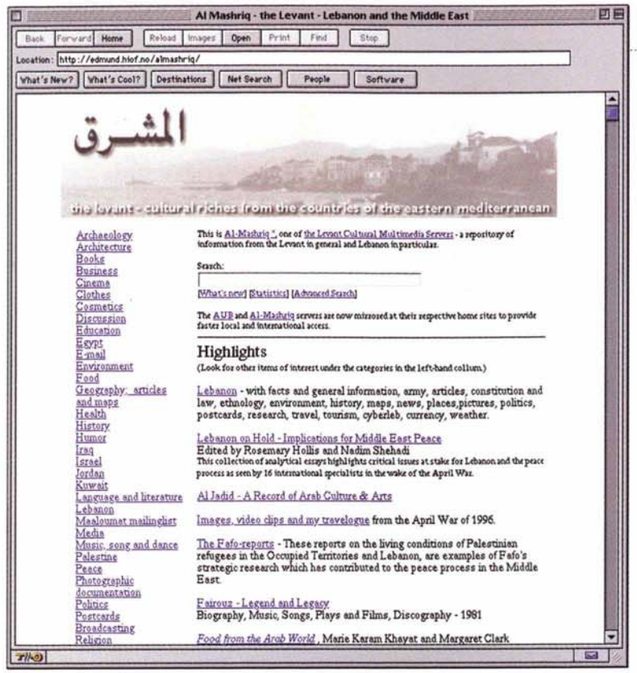
Half an hour later I was astonished to find myself holding 96 pages—single-spaced—of electronic addresses, known as URL's, for "universal resource locator." The sites at those addresses ranged from personal pages created by high-school students to mega-sites at major universities, and they included everything from historical maps to Middle Eastern recipes; from breaking news from the Levant to discussions of Moroccan culture—typical of the Internet's cornucopia (or grab-bag) of riches.

For the cybernovice, the Internet has two main "highways": The World Wide Web carries sound and graphics in addition to text; newsgroups on Usenet use text-only files, including electronic mail, or e-mail. As a whole, the Internet—and particularly the Web—can seem like an enormous bazaar: The hawkers are many and the info-goods, at first glance, seem to address every imaginable need. However, as in any bazaar, let the browser beware. While some sites are gems of useful information, smart design and clever insight, too many others offer virtual junk, information of doubtful value, sometimes presented with glitzy design and supplemented by meaningless, slow-loading graphics that can make your trip on the information superhighway more like creeping through a construction zone during rush hour.

The fact is that, behind the hype, the Internet still has some serious shortcomings. While it is relatively easy to access from home or work and its reach is indeed global, the information stream runs broad rather than deep. For in-depth learning, the Web and Usenet are still no matches for even an average library.

But hang onto your hats. Most sites have been around for only a year or less, and their numbers and the sophistication of their content are exploding. Given a bit of time, this could be quite a ride.

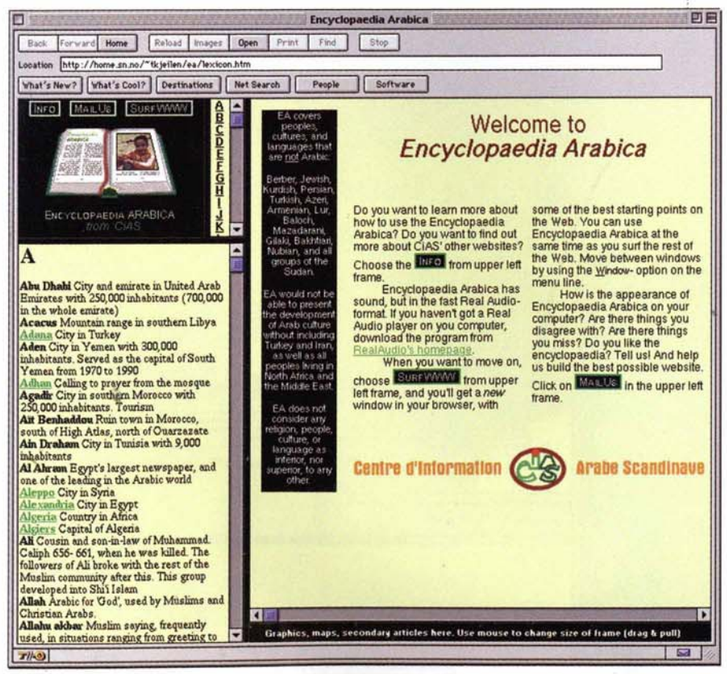
After sorting through those 96 pages, I came up with this brief guide to the best of the Arab and Islamic world. I've focused on the Web, as that is where the most development is taking place, and I've listed sites to satisfy both the serious digital vagabond as well as the person who logs on for short strolls around the cyberblock.



Site: **Al-Mashriq**

URL: **http://edmund.hiof.no/almashriq/**

The definitive Lebanon site. A vast repository of information from the Levant in general and Lebanon in particular. News and feature articles are updated regularly. There are constitution and law pages and links for ethnology, the environment, history, maps, pictures, politics, research, travel, tourism, currency, weather and recipes. The more sites grow along these lines, the better the Web will become.



Site: **CiAS (Centre d'Information Arabe Scandinave)**

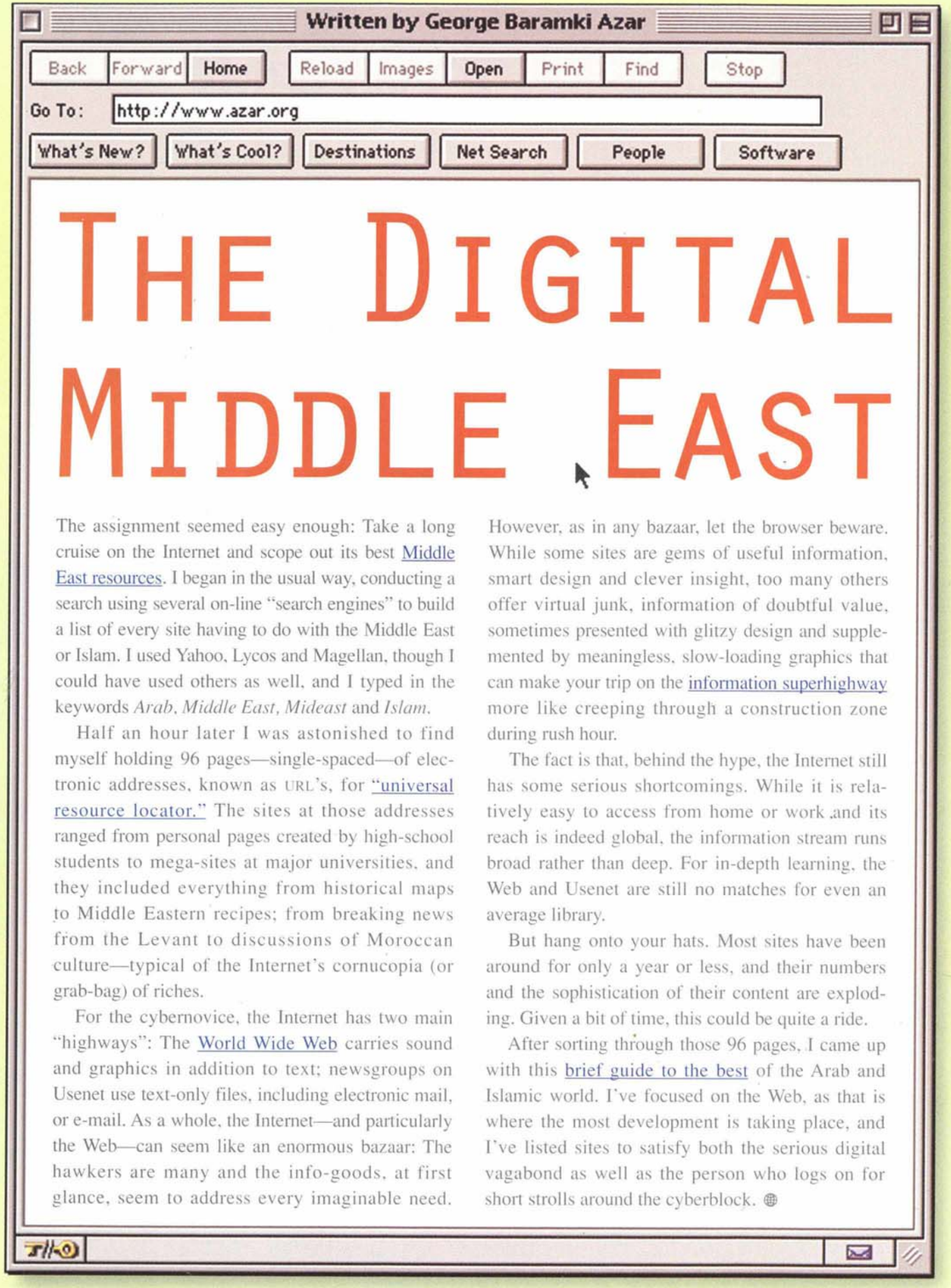
URL: **http://home.sn.no/~tkjeilen/**

This is actually three sites accessed through one URL. **Miftah Shamali** ("The Key to the North") is a colorful North African travel guide with smart, concise information and photographs on Morocco, Tunisia, Egypt, Algeria, Libya, Mauritania, Sudan and Andalusia (Muslim Spain). **Encyclopaedia Arabica** is the only on-line encyclopedia of its kind. Though not at the level of *Britannica* or *The Encyclopedia of Islam*, it is a delight to use nonetheless. If your computer supports RealAudio, you can use ***Dawra*: Learn Arabic**, a brief Arabic Language Course, which will help you learn a host of basic words and phrases.

Site: **University of Texas at Austin–Middle East Network Information Center**

URL: **http://menic.utexas.edu/menic.html**

In what may be the most extensive and well-linked of Middle East websites, UT-MENIC offers listings of all major on-line Middle East information sources. One highlight is *Istanbul Boy, Part I*, part of a famous autobiographical novel by Aziz Nesin published in English by the University of Texas Press. Links include Middle East country homepages, Middle East studies centers, associations, societies, clubs and student organizations, K–12 educational resources, the University of Texas Press Middle East Studies catalogue, and on and on.



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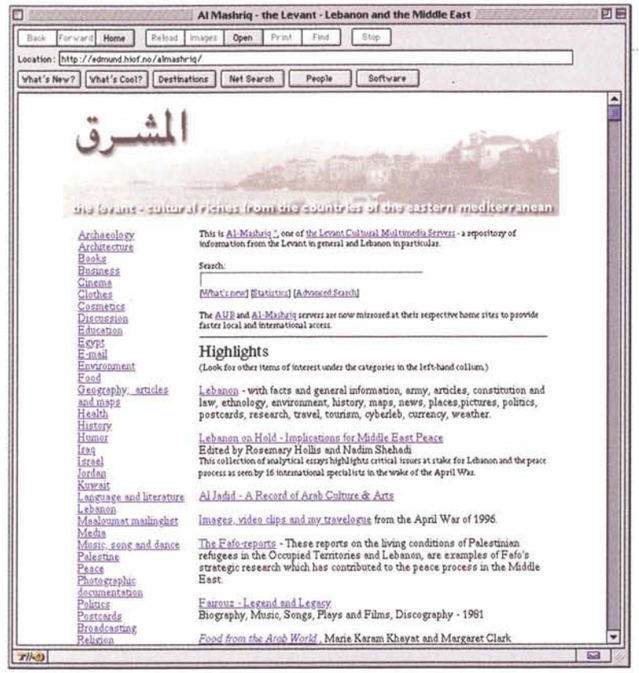

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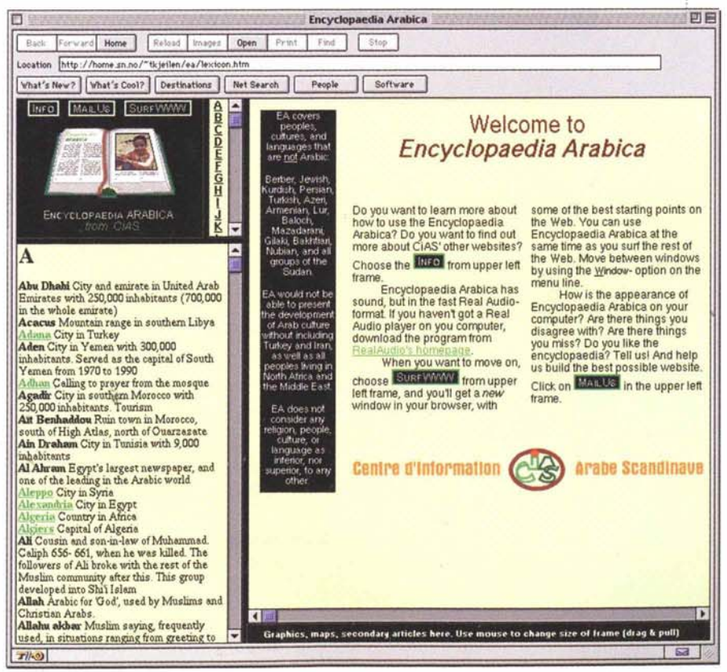

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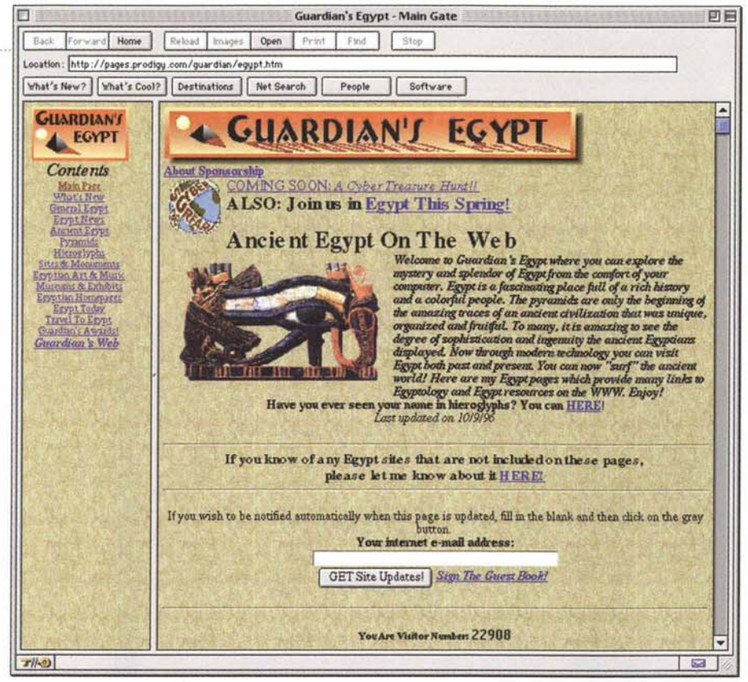
Site: **Guardian's Egypt**

URL: **http://pages.prodigy.com/guardian/egypt.htm**

This site features links to Egyptology- and Egypt-related on-line resources, most of which concern ancient Egypt, archeology, important historical sites, hieroglyphs and Egyptian art & music, as well as an ad for a Chicago tour operator. An amusing highlight is the link to an automatic phonetics-to-hieroglyphs translator.



Site: **AWAIR - Arab World and Islamic Resources and School Services**

URL: **http://www.telegraphave.com/gui/awairproductinfo.html**

This nonprofit organization works mainly in schools to increase awareness of Arab and Islamic cultures. Here is a guide to a wide range of informative material especially valuable to teachers, including books, audio cassettes, puzzles, posters, videos, and curriculum aids. A treasure trove for parents, too.

Site: **Arabia.On.Line**

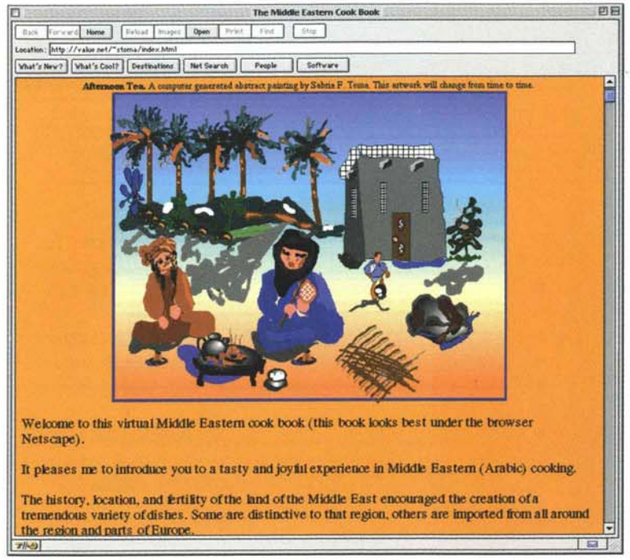
URL: **http://www.arabia.com/**

A nicely designed site featuring up-to-the-minute news and feature articles from the Middle East, as well as links to sites dealing with computing, religion, tourism, sports, shopping, governments, business, education, entertainment, health, art and culture.

Site: **The Arabic Newsstand**

URL: **http://www.liii.com/~hajeri/newsstand/arab-news.html**

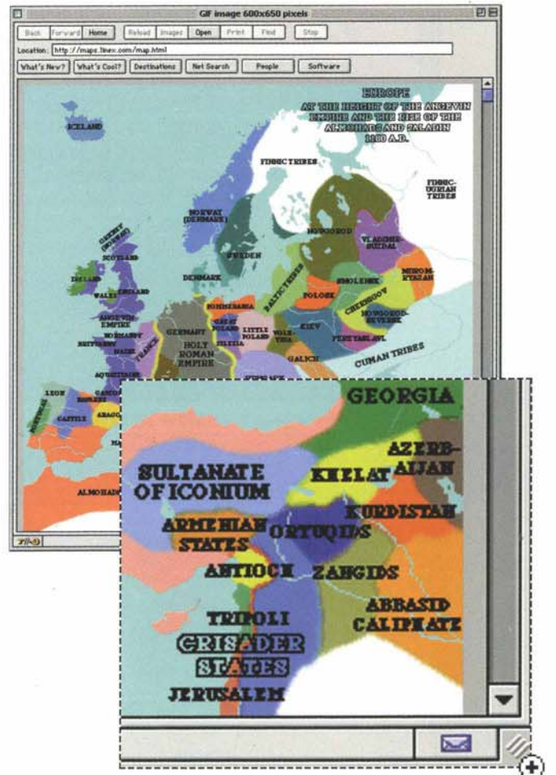
Why walk to a newsstand and pay for an overseas periodical that, even with airmail delivery, is already way out of date? This site links you to 39 well-known newspapers, magazines and news services from the Middle East. Many are in Arabic; some are in English. Some require a form of subscription, via e-mail, to view full texts. They include *Al-Sharq al-Awsat* (Saudi Arabia), *Al-Watan* (Kuwait), *Al-Ittihad* (UAE), *The Kuwait Times*, *As-Safir* (Lebanon), *Al-Quds* (Palestine), *Al-Hayat* (UK), *Al-Ra'i* (Jordan), *Washington Report on Middle East Affairs* (USA) and many more.



Site: **Virtual Middle Eastern Cook Book**

URL: **http://value.net/~stoma/index.html**

For those who think cyberspace is exclusively the province of youth, check out this thoughtfully designed site by 71-year-old Sabria Farid Toma, an Iraqi-born grandmother of five now residing in California. She offers several dozen recipes for a variety of traditional dishes, with preparation times and translations of ingredients. There is even a recipe for a "trademark" eight-ingredient Iraqi spice mixture.



Site: **Tony Belmonte's Historical Atlas of Europe and the Middle East**

URL: **http://maps.linex.com/map.html**

Follow the waxing and waning of powers in the Middle East and Europe with this on-line historical atlas. Dozens of brightly colored maps begin with Sumeria and Egypt in 2500 BC. Unfortunately, the Middle East disappears from the maps after the fall of Constantinople in 1453.

Site: **The Ancient World Web Geography Index: The Middle and Near East**

URL: **http://atlantic.evsc.virginia.edu/julia/AW/geography/mideast.html#syria**

Here is a fine networking point from which to begin casual or serious study of the ancient Middle East. There are links to dozens of sites that discuss ancient art and archeology or Mesopotamian astronomy, answer FAQ's ("frequently asked questions") about Assyro-Babylonian mythology, or provide essays on plumbing in the ancient world, the Akkadian language, the civilizations of Assyria, Sumer and Anatolia and the architecture of Isfahan.

Site: **Arabview: The Internet Home of Independent Arab Opinions**

URL: **http://www.arabview.com**

This well-designed site is an authentic source for editorial opinion from the pages of Saudi newspapers and magazines. Prominent editors and columnists are contributors, and each signed opinion piece includes a dialogue box for reader's feedback. This is where to go to gain an impression of the tone and range of public debate in the kingdom.

News Groups on Usenet

Want to discuss the current state of Middle East politics, ask which are the best hotels in Aleppo, or learn Lebanese Abu al-'Abd jokes? Usenet groups are designed for dialogue, with users "posting" messages, as if on a bulletin board, which all other users can read and respond to. There are more than 18,000 Usenet groups on an astonishing range of subjects, and more appear daily. One way to learn what's out there is to study a megalist on the Liszt database at **www.liszt.com**. Note that your particular Internet provider may not carry all of these groups. It never hurts to ask, though.

In these forums, people are often passionate in their opinions. And most people often find postings with which they disagree just as passionately. Before you find yourself attacked and attacking—engaged in a "flame war," in Net parlance—check out on-line manners, or "netiquette," at **www.primenet.com/-vez/neti.html**. Then log on and "lurk" for a while—that is, read without posting—in some of these groups.

- soc.culture.afghanistan
- soc.culture.algeria
- soc.culture.arabic
- soc.culture.assyrian
- soc.culture.bosna-herzgvna
- soc.culture.egyptian
- soc.culture.indonesia
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- soc.culture.kuwait
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- soc.culture.maghreb
- soc.culture.palestine
- soc.culture.syria
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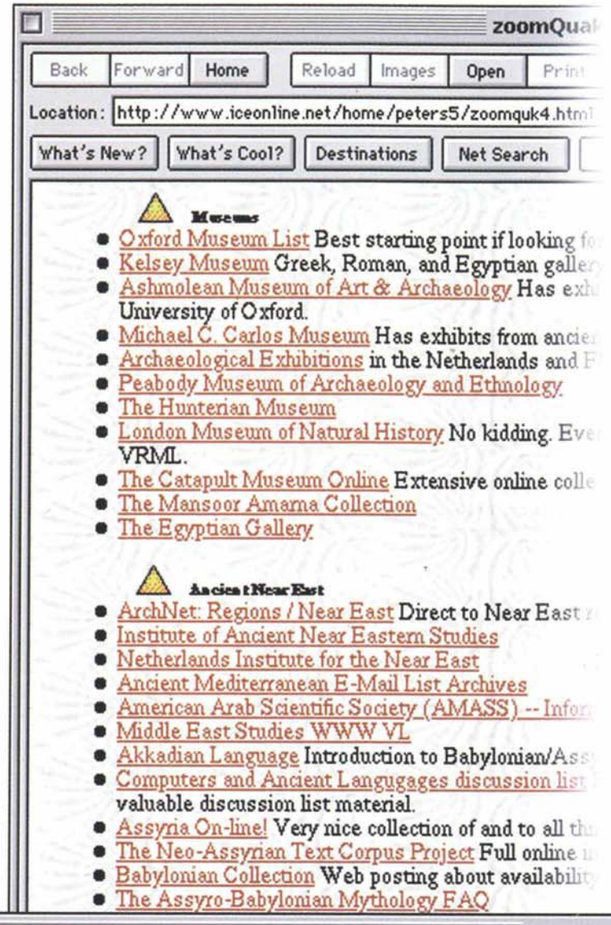
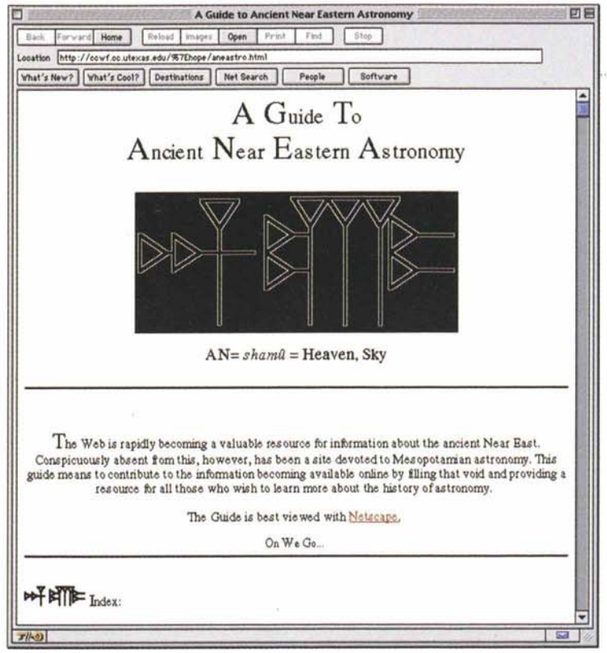
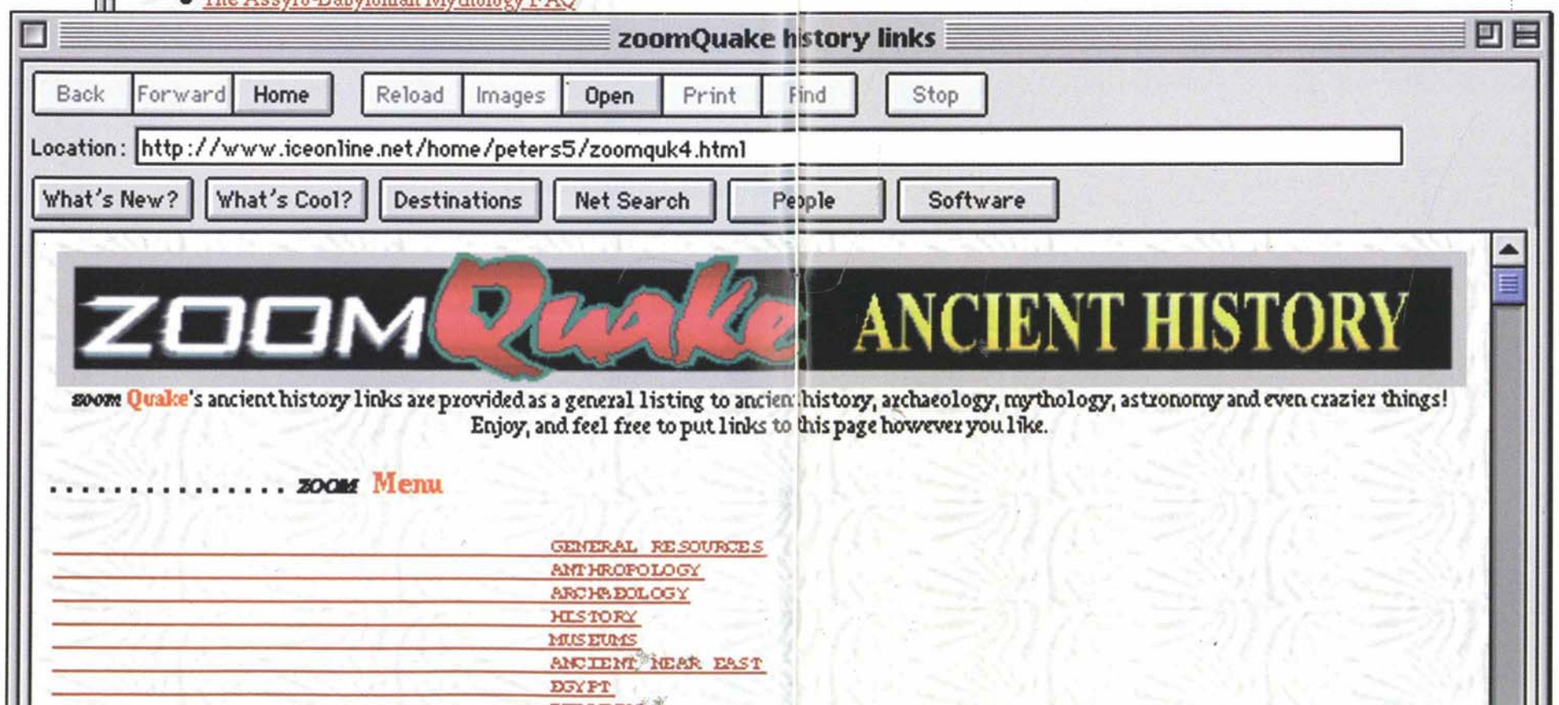
- soc.religion.islam
- rec.music.arabic
- mideast.gulf
- mideast.levant
- mideast.news







Site: **A Guide to Ancient Near East Astronomy**

URL: **http://ccwf.cc.utexas.edu/%7Ehope/aneastro.html**

If ancient astronomy—Mesopotamian in particular—is in your stars, then this is the website of your wildest hyperspatial dreams. It offers background on astronomers, the origins of constellations, mathematical astronomy, astronomy's role in Mesopotamian religion, the city of Ur, politics, literature, society and art, and a star catalog. Links lead on to Babylonian and Egyptian mathematics, Greek astronomy and Mesopotamian astrology.

Site: **zoomQuake's Ancient History Links**

URL: **http://www.iceonline.net/home/peters5/zoomquk4.html**

Can you say eclectic? This site lists more than 220 Near Eastern, Egyptian, Biblical, Classical and New World astronomical and mythological sites. Don't be deceived by the plain design: zoomQuake is a treasure. Take a look at the virtual tour of Jordan's Petra, the Seven Wonders of the Ancient World, and an on-line museum dedicated to the catapult.

Site: **Islamic Texts and Resources Meta Page**

URL: **http://wings.buffalo.edu/student-life/sa/muslim/isl/isl.html**

The Muslim Student Association at the State University of New York at Buffalo brings you this springboard for exploring texts and other resources on Islam, Islamic thought and ideas and related issues. The well-designed site contains an impressive number of articles on topics such as the pillars of Islam, ritual prayers in Islam, scriptures and prophetic traditions, Islamic thought, art resources, FAQ's and more.

Photojournalist George Baramki Azar (azar@igc.apc.org), a frequent contributor to Aramco World, *cruises the Internet from his home in Berkeley, California. He is the author of* Azar's Middle East Journeys *at www.azar.org, which was selected in August as a "Culture Choice" site by* The Web of Culture, *an on-line group that recognizes the best in intercultural resources on the Web.*

Constantinople's Volcanic Twilight

Written by Lynn Teo Simarski
Illustrated by Michael Grimsdale

By 1453, triple-walled Constantinople, one of the most coveted and magnificent cities in the world, had stood watch over the Bosporus for 2100 years. For the last 1100 of these, it had been the capital of the Byzantine Empire, crown of the Eastern Christian world and an international center of wealth, beauty, power and commerce. Constantinople was named in the fourth century for the reigning Roman emperor, Constantine the Great; in antiquity the city was known as Byzantium, and today it is called Istanbul.

Also by 1453, Constantinople had been besieged many times—by Persians, Avars, Arabs

(twice), Bulgars, Russians (three times) and Pechenegs. During the Byzantine era, it had been conquered only once—in 1204, by soldiers of the Fourth Crusade. The city served as the capital of the Crusaders' short-lived Latin kingdom until it was recaptured by the Byzantines in 1261.

And by 1453, the Byzantine Empire had been shrinking steadily for some 400 years, due to both internal political strife and military pressure from rival powers of both East and West. The capital city had suffered along with the rest of the empire. By 1453, Constantinople's population, once a million strong, had shrunk to a mere tenth of that. Although its historic luster had been tarnished, Constantinople, the gateway to Europe, was nevertheless an alluring military objective for the Ottoman Turks as they consolidated their hold in Asia Minor and Eastern Europe.

The Muslim Turks had first crossed into Europe a century earlier, invited by a pretender to the Byzantine throne who needed Turkish troops to enforce his claim. A decade later, in 1354, the Ottomans established a permanent presence in Europe, taking advantage of a devastating earthquake in Thrace to cross the Hellespont, occupy the ruined city of Gallipoli and rebuild it into a garrison town. From there, the Turks spread out into other parts of Thrace. In 1377, their forces defeated a large Serbian army on the Maritsa River, paving the way for future victories in Macedonia, Serbia and Greece. The second most important city of the Byzantine Empire, Thessalonica, fell to the Ottomans in 1430.

Despite several military assaults on Constantinople itself, Ottoman efforts to wrest the capital from Byzantine control proved unsuccessful. According to an ancient belief popular with the inhabitants of the city, Constantinople would fall only when the moon gave a sign.

During the Byzantine capital's waning days, in May of 1453, the ancient myth appeared to come true. As the city lay besieged by the forces of Ottoman sultan Mehmet II, the moon went into a long and dark eclipse. Constantinople's Byzantine defenders were filled with paralyzing despair; outside the walls, Ottoman troops enjoyed cautious hope.

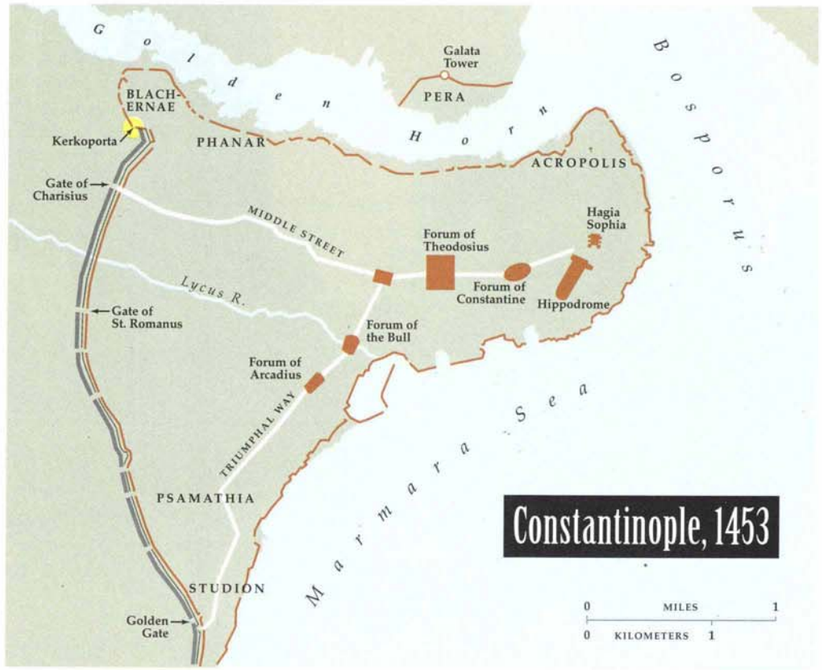
Constantinople's final days under Byzantine rule witnessed still other unusual, seemingly apocalyptic occurrences: abnormally violent weather, lurid sunsets and sunrises, and flickering lights visible in the night sky. All were metaphysically interpreted as portents of a great change in the world order.

Today, 500 years later, an American astronomer has proposed that a volcanic eruption in the South Pacific—half a world away from Byzantium—may have been powerful enough to darken the skies over Constantinople and to produce the other curious phenomena that coincided with the city's historic change of power. Kevin Pang, formerly of the National Aeronautics and Space Administration's Jet Propulsion Laboratory in Pasadena, California, points to the volcano Kuwae, which erupted in the New Hebrides, 1900 kilometers (1200 miles) east of Australia. Although the date of the blast is not certain, much evidence points to the year 1453.

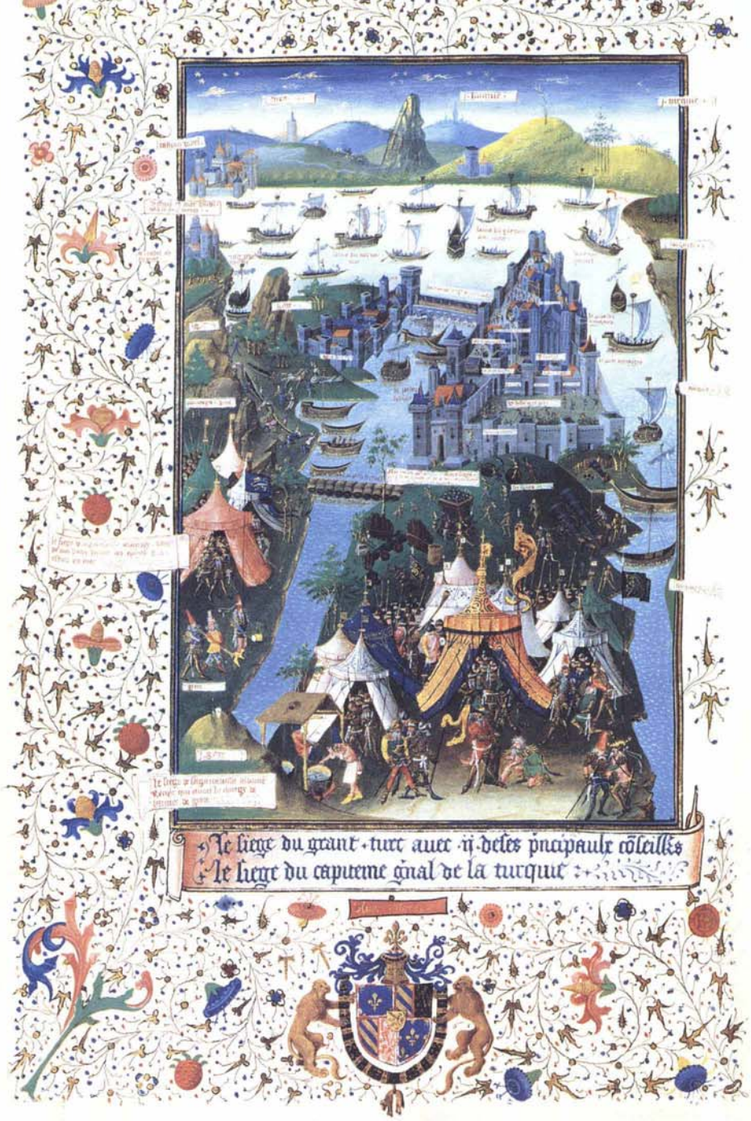
When it erupted, Kuwae spewed out more than six times as much molten rock and ash as did the Philippines' Mount Pinatubo in 1991. When the eruption was over, Kuwae itself, once an island, was only a submarine crater 12 kilometers (7.5 miles) across.

Pang draws on calculations of astronomical orbits for part of his research, but he also reaches back into historical records to piece together how a variety of natural events, such as comet sightings or volcanic eruptions, may have affected the course of human history. His family heritage in China has enabled him to search provincial records in that country too.

The volcanic cloud from Kuwae, Pang hypothesizes, would have shrouded the earth thickly enough to darken the moon above Constantinople beyond the usual, dulled-copper appearance of a lunar eclipse. Similarly, the cloud of suspended particles could be responsible for the unseasonably



Constantinople's final days under Byzantine rule witnessed unusual, seemingly apocalyptic, occurrences: abnormally violent weather, lurid sunsets and sunrises, and flickering lights visible in the night sky.



AFTER *THE FALL OF CONSTANTINOPLE 1453* BY STEVEN RUNCIMAN (CAMBRIDGE, 1965)

THIS PAGE AND INSET, PREVIOUS SPREAD: BIBLIOTHÈQUE NATIONALE DE FRANCE

This illustration of the camp of the "Great Turk"—Sultan Mehmet II—outside Constantinople's walls is from a French manuscript dated only two years after the city's fall. On the previous spread, a modern rendition includes the fatal Kerkoporta gate and a lurid morning sky, possibly colored by high clouds from the Kuwae eruption. The medal of Mehmet II was struck for a Burgundian nobleman.

cold weather, with rain and snow, and for the bizarre optical effects reported by various chroniclers, all of which are phenomena now known to be associated with volcanic eruptions. But Kuwae remains unique, says Pang, because it appears to have thrown its volcanic veil over one of the great turning points of world history.

By the time Mehmet II's campaign to conquer Constantinople began, in the spring of 1453, the Ottomans had already reduced the ailing Byzantine Empire to fragments. Mehmet, barely 21, had succeeded his father Murat II as sultan just two years earlier. Intelligent and inquisitive, Mehmet had been an assiduous student of philosophy, science and the governmental arts. The Byzantines, however, underestimated the young sultan's talents and resolve. They failed to grasp the seriousness of his commitment, dating from the moment of his father's death, to capture Constantinople and make that city the crowning jewel of the expanding Ottoman Empire.

On April 6, 1453, the Ottoman forces, under the command of Mehmet himself, set up camps outside the city's imposing triple defensive walls. Mehmet's army, which historians estimate numbered 80,000 men, vastly outnumbered the 7000 or so Greek, Venetian and Genoese troops under siege. When the Byzantine emperor Constantine XI Palaeologus refused the sultan's offer of a peaceful surrender, the Ottomans began bombarding the walls with their cannon. The Byzantines, who had no heavy guns, feverishly sought to repair the damage. For weeks the siege continued, its outcome all but assured. Although food grew scarce inside the walls, Constantinople's rulers continued to hope—in vain—for the arrival of ships from Europe bringing supplies and troops. The morale of the inhabitants declined, and there were increasing reports of people deserting the city under cover of darkness.

It was almost seven weeks into the siege, on May 22, when the lunar eclipse took place. A Venetian surgeon, Nicolò Barbaro, who was residing in the city at the time, recorded his impressions:

> *At the first hour of the night, there appeared a wonderful sign in the sky, which was to tell Constantine the worthy, emperor of Constantinople, that his proud empire was to come to an end.... The moon rose, being at this time at the full...but it rose as if it were no more than a three-day moon, with only a little of it showing.... The moon stayed in this form for about four hours.*

A few days later, more "signs" appeared. Just as the Byzantines were seeking divine favor with a religious procession through the city, a tremendous thunderstorm checked the supplicants' progress. Dangerous floods and pelting hail brought a quick end to the ceremony.

"Such was the unheard-of and unprecedented violence of that storm and hail [that it] certainly foreshadowed the imminent loss of all," wrote the Greek chronicler Kritovoulos of Imbros, "and...like a torrent of fiercest waters, it would carry away and annihilate everything."

The following day, a dense fog enveloped the city. Again, it was extraordinary weather for late spring in temperate Constantinople. Other chroniclers reported that observers both inside and outside the walls also witnessed a light like that of a fierce fire around the dome of Hagia Sophia, the imposing cathedral of Constantinople. Yet the building never burned. Phrantzes, a friend of the emperor and author of one of the major Byzantine accounts of the time, said that the light remained over the city for an entire night.

Accounts also tell that Mehmet had ordered his

troops to light fires and torches before every tent in the Ottoman encampment. Of these illuminations, Barbaro recorded on May 26 that "the light from them was so strong that it seemed as if it were day." The fires were lit again on the two succeeding nights. Might the light from the camps have been fired by the Byzantines' imagination into something more?

According to historian Steven Runciman, "lights, too, could be seen from the walls, glimmering in the distant countryside where no lights should be.... The strange lights were never explained."

Although another historian, Edwin Pears, dismisses the unusual sightings as "evidence of the superstition of the age," he admits that "they have to be taken into account, inasmuch as they affected the spirit of both besiegers and besieged."

In late May, Mehmet's advisers debated whether or not to continue the long siege. Thirty years earlier, Constantinople had successfully resisted a siege by Murat II, and perhaps, they thought, this effort would fare no better.

At about 1:30 in the morning of May 29, Mehmet launched a series of massive assaults on the walls. After four hours of fierce but inconclusive fighting, the commander of the Byzantines' Genoese allies was wounded, the Kerkoporta gate was breached—or possibly left open—and the tide of battle turned. By mid-morning, Constantinople belonged to the Ottoman Turks.

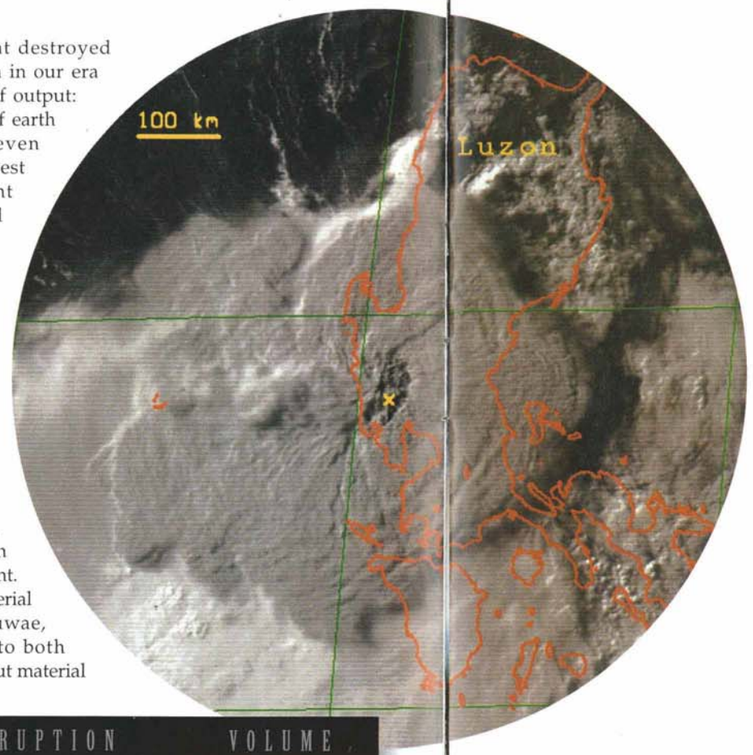
The link between volcanism and unusual atmospheric phenomena has been known for some time, but even today it is not fully understood. In 1784, Benjamin Franklin was one of the first to attribute unseasonably cold weather in Europe, and a strange "dry fog," as he called it, to an eruption that had taken place in Iceland the previous year. In 1815, the explosion of Tambora in Indonesia—the largest eruption of modern times—brought on the famous "year without a summer," a climate that may have inspired both Lord Byron's morose poem "Darkness" and Mary Shelley's novel *Frankenstein*.

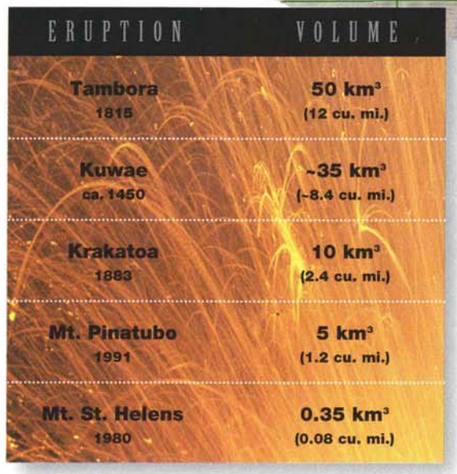
But it was in 1883, when the Indonesian island of Krakatoa blew itself into the sky in the most notorious cataclysm of the 19th century, that researchers were first able to explain how a volcanic cloud could spread around the globe. They correctly attributed a hazy atmosphere, lurid sunsets and other optical effects to the eruption. Indeed, three months after Krakatoa, sunset afterglows were so brilliant and prolonged that fire companies in New York and Connecticut rushed out more than once to respond to what proved to be false alarms—an eerie parallel, Pang points out, to the flames and flickers recorded in Constantinople.

Today, Kuwae's underwater crater lies within the territory of the Republic of Vanuatu. For a long time, the explosion of the island had been known only in local legend. Now, geologists have calculated that Kuwae expelled between 32 and 39 cubic kilometers of molten rock—between 7.7 and 9.7 cubic miles of it—with a violence two million times that of the atomic bomb that destroyed Hiroshima. Only one other eruption in our era has surpassed Kuwae's in volume of output: Tambora blew 50 cubic kilometers of earth skyward in 1815. In contrast, even Krakatoa expelled a relatively modest 10 cubic kilometers in 1883; Mount Pinatubo belched out five in 1991 and Mount Saint Helens covered parts of the state of Washington with merely one-third of a cubic kilometer in 1980.

But it is not only the volume of expelled matter that might affect global climate. It is also how a volcano erupts that hastens or retards climatic effects. The more explosive a blast is—as opposed to what volcanologists call "effusive"—and the more prolonged it is, the more it can affect the atmosphere.

Just where a volcano is located—in which wind patterns—is also important. Global winds distribute clouds of material from tropical eruptions such as Kuwae, Krakatoa and Pinatubo widely into both northern and southern hemispheres, but material from eruptions at higher latitudes—such as Mount Saint Helens'—does not often drift as widely. And volcanic clouds with a high sulfur content are more likely to have climatic effects than their low-sulfur counterparts.





There is no longer any question that volcanic dust and other material—especially sulfur—can, under the right circumstances, block significant amounts of the sun's warmth from reaching the Earth. Some eruptions of the 19th and 20th centuries—not large on a geological scale—caused average temperatures at the Earth's surface to fall by 0.2 to 0.3 degrees Celsius (⅓°–½°F) worldwide over one to three years. Even such a small average drop can mean severe local temperature changes and, historically, such temperature downturns have had catastrophic effects on agriculture.

Pang has assembled strands of evidence from distant corners of the globe to support his thesis that Kuwae's eruption left "unmistakeable marks in world climate records." Many volcanic blasts have left their traces in—of all places—the polar ice sheets. Snow falling year after year near the poles sweeps volcanic fallout from the air and retains it as, over time, the snow is compressed into ice. Today, the ice layers in core samples can be read like the pages of a book.

At the South Pole, glaciologists have found evidence in the ice cap for a large eruption in about 1450, give or take a few years. The breadth of the volcanic acid "spike" in this layer suggests that the eruption was likely to have affected the atmosphere for as long as three years. Another Antarctic ice core, called the Siple core, similarly displays a prominent acid peak beginning in 1453.

Evidence from the northern hemisphere's ice is less clear, although a core from the ice cap near Greenland shows a discernible, if relatively short, acid spike for 1453. The ice records thus do seem to point to a large eruption in the southern hemisphere which exerted a climatic effect on the northern hemisphere as well.

Pang has searched another archive of climate history, the annual growth rings of trees. Dendrochronologists—the term comes from the Greek words for "tree" and "time" and "knowledge"—know that thin annual rings speak of stress, as might be caused by cold weather, and that a season's accumulation of cells damaged by freezing creates what they call "frost rings." Drought has a similar effect, and such signs can be read not only in cores bored out of standing trees but also in wooden beams and other objects made of wood. At Windsor Castle, outside London, there is a portrait of Elizabeth Woodville—the mother of the young princes in the Tower—who lived from 1437 to 1492. It was painted on an oak panel from a tree cut down in the 1460's, and in that panel the tree rings for the years 1453 to 1455 are abnormally narrow.

Similarly, trees in France and Finland were stunted between 1453 and 1457, and even bristlecone pines in the western United States show frost damage for 1453. Agricultural evidence too seems to support Pang's case: Church records show that tithes of Swedish grain dropped to zero between 1453 and 1462. The German grape harvest was of poor quality from 1453 to 1456.

Cypress trees in China, too, grew narrow rings from 1453 to 1454. And according to Pang's own translations, the *History of the Ming Dynasty* records that "nonstop snow damaged the wheat crops" in central China in the spring of 1453, while heavy snow buried several provinces. "The Yellow Sea [between China and the Korean Peninsula]...was icebound more than 20 kilometers [13 miles] from shore. Tens of thousands of people and animals froze to death." South of the Yangtze River, an area with a mild climate like Florida's, "it snowed continuously for 40 days...and countless [people] died of cold and famine."

Kuwae's eruption seems to have taken place at about the right time to precipitate these meteorological calamities. In Vanuatu, oral tradition says that a tribal chief, Ti Tongoa Liseiriki, survived the eruption as a boy by hiding inside a drum. In later years, he led the resettlement of Tongoa, a small island near the vanished Kuwae. Archeological research has confirmed some aspects of the legend: Bones from the chief's grave, identified by the traditional boar's-tusk bracelets he wore, have been dated to approximately the same period, and radiocarbon dating of vegetation burned in the blast yields approximately synchronous dates.

Did the volcanic cataclysm of Kuwae really produce the portents that haunted the siege and capture of Constantinople halfway around the world?

"We know that volcanism can cause strange effects in the atmosphere, and that the volcano erupted around the same time that Constantinople fell," says Haraldur Sigurdsson, a volcanologist at the University of Rhode Island in Kingston. He finds the evidence intriguing, but he remains skeptical because it is circumstantial.

"You try to build a case from as many types of climatic records as possible," notes Peter Kuniholm, a dendrochronologist at Cornell University in Ithaca, New York. "Only when a number of separate lines of investigation agree on the same thing are we safe in positing a true climatic effect or change." Although Kuniholm's specialty is ancient trees in the Mediterranean region, he has so far sampled only Turkish trees that grew at too low an altitude to suffer possible volcanic effects. Trees growing at higher elevations, he says, are more likely to have recorded temperature changes.

Kuwae's role in the capture of Constantinople in 1453 has yet to be definitively proved. But if Pang is correct, the pro-Byzantine Georgian writer who lamented poetically that on the day Constantinople was taken, "the sun was darkened," may have been accurate in a way he could never have imagined.

Kuwae expelled about 35 cubic kilometers of molten rock and ash with a violence two million times that of the atomic bomb that destroyed Hiroshima.

A radiometric satellite image of the 1991 eruption of Mount Pinatubo, on Luzon Island in the Philippines, shows a volcanic cloud that has risen to an altitude of more than 40 kilometers (25 miles) and covers more than 1000 square kilometers (nearly 400 square miles). Stratospheric winds are beginning to shear the cloud to the southwest, and they will gradually disperse it around the globe. It is now known that, while dust and ash can lead to brilliant sunrises and sunsets and to local cooling, it is the invisible sulfur content of a volcanic cloud that is responsible for widespread cooling effects on the earth's surface. Table background: Magma "bombs" leave parabolic tracks during a recent minor eruption at Yasur, Vanuatu, not far from Kuwae's submarine crater.

ABOVE: HAWAII INSTITUTE OF GEOPHYSICS AND PLANETOLOGY/NOAA; OPPOSITE: BRADLEY J. SCOTT

Freelance science writer Lynn Teo Simarski, based in Alexandria, Virginia, has written about the climatic effects of volcanism for the American Geophysical Union, and is a frequent contributor to Aramco World.

Illustrator Michael Grimsdale has been a regular contributor to Aramco World *for more than 15 years.*

Beside a tank's rusting hulk, a new crop burgeons. Three decades of war won independence for Eritrea, though at a very heavy cost. Now the country is intent on building a self-reliant economy, a task in which the four out of five Eritreans who live outside the nation's 14 major towns and cities have an important role to play.

FORGING PLOWSHARES IN *Eritrea*

Written by Louis Werner
Photographed by Lorraine Chittock

NORTH OF THE HORN OF AFRICA, BETWEEN THE REGIONS KNOWN IN PHARAONIC TIMES AS KUSH AND PUNT—NOW NORTHEASTERN SUDAN AND SOMALIA, RESPECTIVELY—ONE OF THE ANCIENT WORLD'S OLDEST TRADING LANDS HAS BECOME ONE OF THE MODERN WORLD'S YOUNGEST SOVEREIGN STATES.

A funnel-shaped country as large as Pennsylvania, slightly smaller than England, Eritrea's narrow "spout" runs northwest to southeast between the Red Sea and Ethiopia. At its southern end, it borders diminutive Djibouti. In the north, the mouth of the funnel opens toward Sudan. Geography and history have given Eritrea its name, which comes from the Greek word *erythros*, "reddish," and the Greek name for the Red Sea, *Erythra Thalassa*.

At the throat of the Eritrean funnel, a high central plateau, the site of Asmara, the capital, separates a sweltering coastal strip from game-rich lowlands in the northwest. In the south, the Danakil Depression lies 116 meters (380') below sea-level; the highlands of the north reach up to 2700 meters (8000'). This topographically and climatically diverse land was given its form by the same violent plate tectonics that began opening the Red Sea and ripping apart Africa's Rift Valley some 25 million years ago.

Eritrea's physical diversity has its analogue in the nation's citizenry. When Italian ethnographer Conti Rossini called neighboring Ethiopia "a museum of peoples," he might well have included Eritrea in his assessment. The country's 3.8 million citizens are evenly divided between Muslims and Christians, and include nine major ethnic groups speaking nine different tongues classified in language groups from Nilo-Saharan to Kushitic and Semitic.

The Muslim population includes the Rashaydah, Afar, Bilen, and the Beja tribal confederacy's Beni 'Amer people. (See *Aramco World*, July/August 1993.) Muslims also make up majorities among the Kunama, Baria, Saho and Tigre people. Even among the Tigrinya, Eritrea's largest ethnic group and its leading Christian community, there is a significant Muslim minority, known as Jabarti, who claim descent from Islam's third caliph, 'Uthman.

Although the Tigrinya language, closely related to Amharic, the official language of Ethiopia, is the dominant tongue of highlanders and of Eritrea's central government, Arabic remains the *lingua franca* of trade in the coastal and western provinces. It is spoken indigenously, however, only by the Rashaydah, an Arab tribe that arrived here from across the Red Sea only 150 years ago.

THE STATE *of* ERITREA

ERITREA WON ITS INDEPENDENCE IN 1991 after a bitter 30-year war with Ethiopia. With a population roughly half Muslim and half Christian and composed of nine nationalities—each with its own language—the intensely unifying power of that experience may prove the country's greatest asset. Its greatest efforts are devoted to post-war rebuilding, both physically and economically. Recent agreements with Ghanaian, Canadian and US companies have launched exploration for gold and other minerals, and a roll-on–roll-off cargo ship to be delivered this year means that six merchant vessels will soon fly Eritrea's olive-branch flag. Massawa, on Eritrea's 1151-kilometer coastline, is the only deepwater harbor on the African side of the Red Sea coast; with improved land communications, it could serve neighboring countries as well. Eritrea's population is estimated at only 3.8 million, but its growth rate of 3.5 percent annually is a serious developmental handicap. The country still uses the Ethiopian birr (about 6.3 to the dollar, 10.3 to the pound) as its currency.

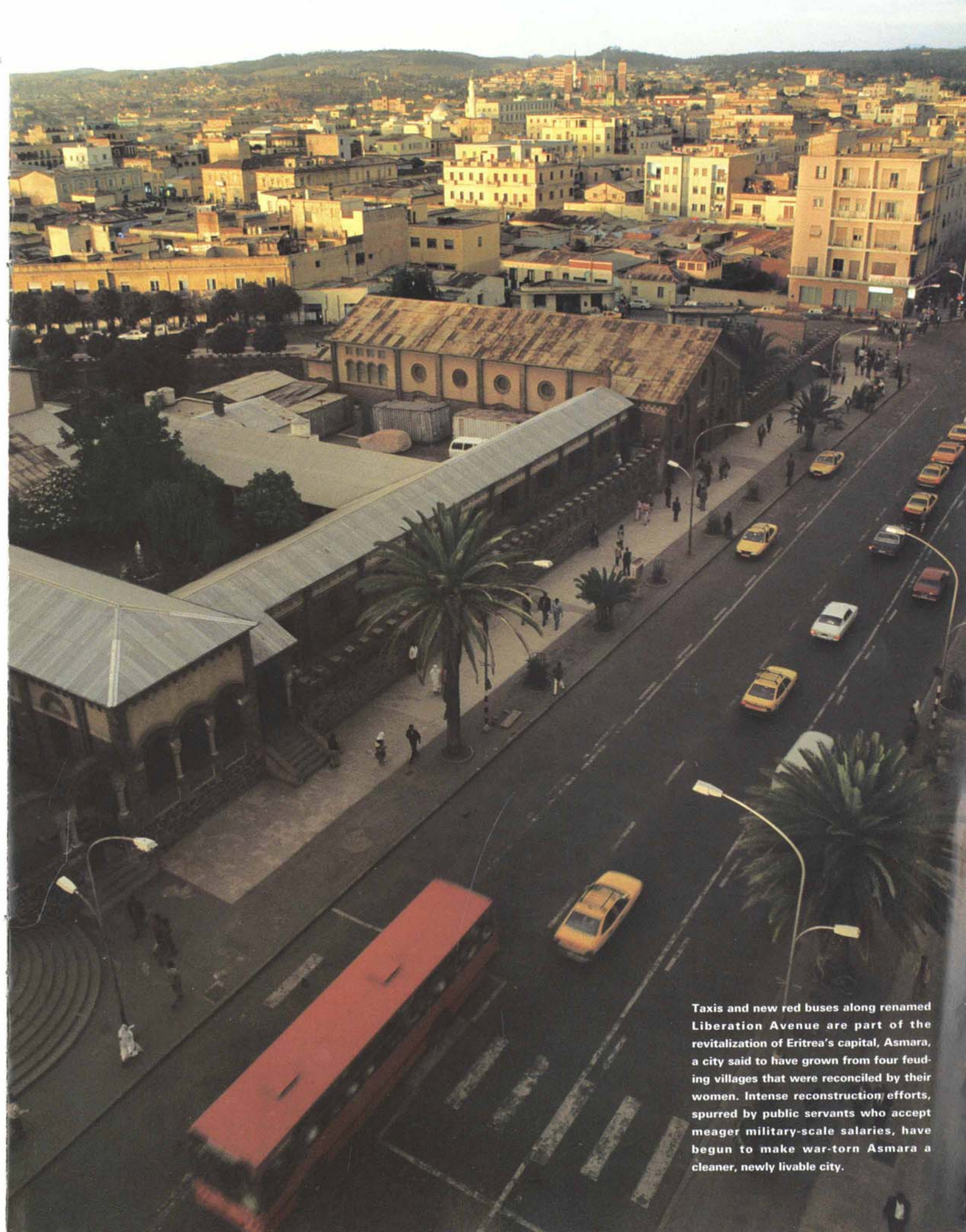
Although Eritrea's early history is indistinguishable from that of the surrounding region, the country's present is freshly written in the blood of its war of independence from Ethiopia, which began in 1961 and ended in May of 1991. On the Eritrean side alone, some 100,000 died. Today, the memory of this awful sacrifice is driving a full-throttle nation-building process in which all in public service—from President Isaias Afwerki down to Asmara's street sweepers—accept pay at military rates.

Minister of Finance Haile Woldense, who has given more than half his life to the struggle for independence, points out that Eritrea's path from colony to state has been unique. "Self-reliance was our wartime philosophy, and in peace we must still put every penny to productive use," he says.

Owing to its strategic location, Eritrea had always been the object of foreign designs—Egyptians, Axumites, South Arabians, Portuguese and Ottoman Turks all had a hand in shaping its early history. Italians established a colonial administration in Asmara in 1889 and ruled until they were defeated during World War II by British army units based in Sudan. Nearly a decade of British administration ensued, followed in 1952 by federation with Ethiopia and, in 1962, outright annexation—a move that set off the generation-long war for independence in deadly earnest.

A short stroll through Asmara reveals this history. At the city's high point stands the rococo National Palace, built as the Italian colonial headquarters, later used as a British school and then claimed by Ethiopian ruler Haile Selassie. Now, it houses local antiquities: alabaster Sabaean heads; monumental Axumite stelae; Arabic headstones in Kufic script; and medieval Coptic manuscripts—all testimony to Eritrea's role as one of the world's crossroads.

Says Museum Director Yoseph Libsekal, "We have so much, but the war completely shut down archeology here for 30 years. We don't know what's underground, we haven't yet even sur-



Taxis and new red buses along renamed Liberation Avenue are part of the revitalization of Eritrea's capital, Asmara, a city said to have grown from four feuding villages that were reconciled by their women. Intense reconstruction efforts, spurred by public servants who accept meager military-scale salaries, have begun to make war-torn Asmara a cleaner, newly livable city.

EVERYWHERE, STOREFRONT SIGNS—

"Eritrea is Free!"

"Eritrea Forever!"

"Eritrea: My Country!"

Five years after the end of the war, the euphoria of independence is as persistently visible as the scars of battle. At top, on a residential street in Massawa, Eritrea's second-largest port, a family performs music for local children each evening. Above, a storefront sign in Asmara appears to be addressed to international visitors, who have begun arriving both to assist in the reconstruction of the country and to enjoy the varied beauty of the land and the more than 100 islands of the Dahlak Archipelago.

veyed the surface of the known sites. Many foreigners are interested in digging, but it takes time to prepare for them to come."

Time, indeed: Eritrea's Sabaean period goes back to the seventh century BC, and Libsekal is, at this writing, his country's only resident trained archeologist. The latest Eritrean find of international importance is the skull of an early hominid, *Australopithecus afarensis*, of the same family as the Ethiopian "Lucy" skeleton found in 1972 and thought to be 3.2 million years old. Although this new skull is not yet dated with confidence, it belongs perhaps to Lucy's older sister, as it was found in rock formations believed to be nearly four million years old.

Not far from the museum, Petros Haile Mariam, who oversees the weekly *Eritrea Profile* at the Ministry of Information, faces a uniquely contemporary problem: language preference. Although five times as many copies of *Eritrea Profile* are printed in Tigrinya as in Arabic, this does not, Mariam insists, reflect government favoritism. "We will not permit an official language," he says, "which in our case would also create a *de facto* official ethnic group. Each group will use its own language for its own development." But that, he admits, will prove difficult when four of the country's nine tongues have no written script.

Continue now down Asmara's palm-lined main thoroughfare, renamed Liberation Avenue, thinly trafficked with bicycles, horse-drawn carts and sputtering Fiat 1500's, and past the city's Italianate architecture: the travertine-tiled Al-Khulafa' al-Rashidin Mosque, with a minaret that appears to have been inspired by a Roman column; the Lombard-style Catholic church and Opera House; and finally the art deco Cine Impero, whose aging cappuccino machines still steam and hiss at the concession stand.

Everywhere, storefront signs—"Eritrea is Free!", "Eritrea Forever!", "Eritrea: My Country!"—proclaim a new day. But it is just off this avenue that one may also glimpse the country's future. Here, in an intraocular lens factory, state-of-the-art post-cataract eye implants are manufactured in super-sterile, triple-air-locked "clean rooms."

This computer-operated facility turns out lenses that surpass international standards at less than one-tenth the price of those manufactured in industrialized countries. Says manager Solomon Russom, "Whenever our lathe needs recalibrating, we just hook up our modem to a mainframe in the USA. 'Appropriate technology,' for us, means the most very advanced we can manage to get our hands on, even by long-distance."

From the lens factory, walk to the Medabar workshops. Far from the computer world, far even from the industrial revolution, this is nonetheless one of the many places in Asmara that demonstrates what Finance Minister Woldense said about self-reliance. Here, hammer blow by hammer blow, a military economy is being converted into a peacetime one. Army fuel barrels are beaten into *injera* bread ovens. Jeep tires are cut into sandals. Bindings from ammunition crates are woven into bed springs—just some of the war materiel being put to imaginative civilian use.

Emerging also from wartime are newly forged guarantees of religious freedom for non-Christians. Both Haile Selassie and the communist Derg regime, which ruled Ethiopia after Selassie's death in 1974, banned Islam, which now flourishes. Under the proposed constitution, Muslims will have recourse to *shari'a*, or religious, courts in matters of personal law, and the mufti, the leader of the country's Muslims, is appointed by a National Waqf Council. Eritrea's newly installed mufti, Shaykh al-Amin Osman al-Amin, receives visitors in his Italianate villa with a commanding view of Asmara. A 1954 graduate of Al-Azhar University in Cairo, he remembers the nation's darkest days.

"The Emperor [Selassie] tried to create conflict between religions in order to manipulate the colony, and then the Derg bombed our mosques, not so much to suppress the faith as to kill whoever took shelter there. But Christian and Muslim Eritreans fought for our freedom together, and now we both taste it equally," he says.

With al-Amin as a spiritual leader, the worldly affairs of mosque-building, property management and religious scholarships have been entrusted to Dr. Burhan Abd al-Qadir, a former judge and current president of the National Waqf Council. For 10 years prior to independence he worked as a lawyer in San Francisco, and now he has returned to open a private practice in both civil and *shari'a* law.

"Our work is cut out for us," he says, sitting in his book-lined office upstairs from the city's main mosque. "The Saudis have given us five million dollars and sent engineers to build 30 mosques. Ten teachers from Al-Azhar are here to teach our advanced students, and we have 800 pupils in this *madrasa* [school] alone. But still, I find my main job is going to international Islamic conferences just to say that Eritrean Muslims are now free!"

Along the Red Sea coast, however, efforts like Abd al-Qadir's in the capital are hardly necessary. Here, Eritrea's second city of Massawa has enjoyed close ties to the Arabian Peninsula for centuries, and Islam has remained vibrant. It is to this coastal plain that one must descend to find Eritrea's richest Islamic history.

That descent is a remarkable one—a nearly 3000-meter (8000') drop in an eastward journey of only 65 kilometers (40 miles) as the crow flies! The most direct route is by the asphalt road that parallels the Italian-built narrow-gauge railway, heavily damaged in the war for independence and now about to be reopened. But the more dramatic descent is down the Filfil escarpment to the north, where the varied exposure and steeper pitches catch enough cloud cover to create tropical microclimates in astonishing proximity to the oven-dry coast.

By this dirt track one drops off the plateau onto its barley-terraced shoulders, shrouded every afternoon by incoming mists. Fruit-eating hornbills and tufted guenon monkeys here have the run of abandoned Italian citrus and coconut-palm plantations. As one eases out from under the clouds, moisture-loving mimosas give way to arid-land acacias. Nomadic Tigre goatherds pitch hemispherical sisal-mat huts in the drier foothills' thinning browse. As the terrain flattens finally to the plain, abandoned Ethiopian infantry fortifications, some consisting of only two or three piled rocks amid absolute barrenness, recall the war's most pitiless fighting for this historic coastline.

Eritrea's 1151 kilometers (715 miles) of mainland shoreline and the easy access the narrow coastal strip provided to traders in search of exotic Abyssinian luxuries made it an important nexus of commerce millennia ago. Egyptians, Sabaeans, Axumites, Indians and Persians all made use of its safe anchorages, and traded untold quantities of gum, gold, honey, wax and myrrh in the fabled Axumite port of Adulis, located halfway down the Gulf of Zula.

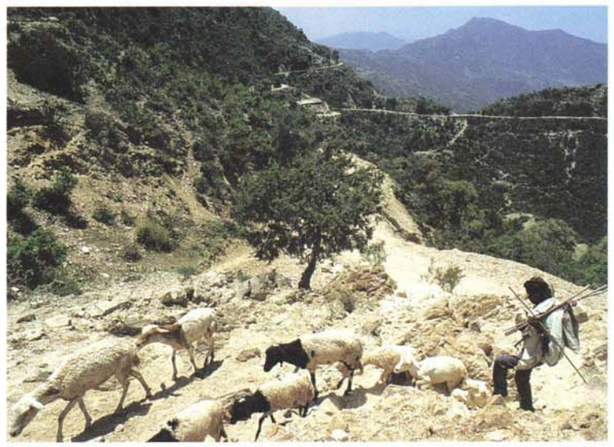
Aeschylus left the first known record of the Eritrean coast in the fifth century BC when he wrote of its sea's "gentle ripples that are but a warm caress." Six hundred years later, the Greek

navigation manual *Periplus Maris Erythraei* detailed the onshore winds, shoals, and landing procedures at Adulis. In the year 522, the Egyptian Greek known as Cosmas Indicopleustes, the "Indian Navigator," described the caravan route to the Axumite capital through Qohaito and Metara, cities that are now only archeological sites, dotted with fragmented stelae, inscriptions and the remains of palaces and storehouses.

Adulis, too, today lies buried under sand and soil brought down from the agricultural highlands by the Haddas River. Natural siltation, along with raiding from the Arabian Peninsula, doomed the port by the eighth century. The English archeologist Sir Robert Napier dug here in the last century, and partial excavations in the 1970's by the Frenchman Anfray revealed building foundations made of basalt block with interspersed courses of white stone.

To the north is the town of Argigo, which succeeded Adulis as the region's chief port after an Ottoman fleet was based there in 1517. Though it had ample water, most precious in this bone-dry region, the port lacked a good anchorage. At Argigo, goods had to be offloaded from seagoing vessels onto a nearby island and then lightered to mainland storehouses on shallow-draft dugout canoes, called *houris*. Since Ottoman times, that offloading island has been known as Massawa.

In 1870, British-appointed governor Werner Muzinger built causeways from Massawa directly to the mainland just outside Argigo, and the new port soon eclipsed both Argigo and Adulis. All that remains now of Ottoman Argigo are the tumbled stones of a mosque, with brain-coral finials strewn on the ground, and a standing *mihrab*, or prayer niche.



Along the Filfil escarpment that divides the torrid Red Sea coast from the temperate highlands, a shepherd and his flock search for forage. Grazing has grown increasingly scarce throughout the region. Woodlands are suffering too, as forest is cleared to make way for crops and trees are cut for firewood. Several droughts have compounded the nation's environmental woes over the last two decades.

The modern town of Massawa consists of three parts: the mainland's industrial strip and squatter settlements, now a temporary home for the Rashaydah nomads, still displaced by war and drought; the inner island of Toulud, at whose head crumble the remains of Haile Selassie's Egyptian-style palace; and the original port island of Basta, the heart of old Massawa and chief locus of conservation of Eritrea's Arabic cultural traditions.

Massive bombing by the Ethiopian air force just before the end of the war caused enormous losses, both human and material, among Massawa's residents, who now number 25,000. Four years after independence, many are still picking up the pieces of their coral-stone, *mashrabiyyah*-screened homes. To make their task more difficult, Massawans are also seeking a delicate balance between modernization and historical preservation.

Swiss architect Aldo Jacober, who has surveyed old Massawa's housing for international agencies, applauds the Eritrean government's first step: free housing for whoever agrees to rebuild. "To save the town's traditional character is not easy, but the first thing is to repopulate the old quarter," he says.

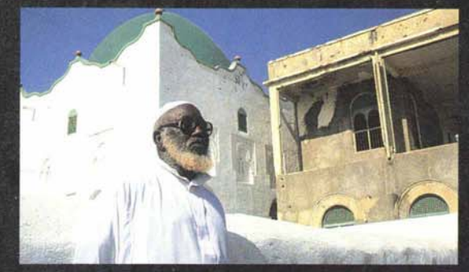
It seems to be working. Wandering Basta's shaded porticos and twisting backways, taking shade under its wood-roofed galleries and crenelated parapets, hearing the rumble of freight moving across the docks and reading customs-clearance agents' street signs everywhere, one recognizes a town returning to life. The 17th-century Portuguese visitor Manoel de Almeida wrote of Massawa's round-the-clock commerce, of its crowded streets and *suq*s piled high with "clothing from India, carpets, silks and Makkah brocades, medicines, pepper, cloves and a thousand other things." Those words may yet again became true.

The goldsmith's craft still seems to thrive: Muhammad Zubuyi, one of many jewelers under the *suq*'s covered arcade, employs three men who work the bellows, pour the molten metal, and fuse gold roundlets, beads, dangles and stem wires into earrings, nose rings, forehead ornaments and hair chains. A Tigre man who brings in his wife's broken gold ensemble is told it will be remade like new by Tuesday.

Lamentably, not all in Massawa is so easily fixed. Al-Hajj Osman Ali, president of Massawa's Waqf Council, points out the damage the city's many mosques have suffered. The largest, the Masjid al-Hanafi, built only 50 years ago by the Italian architect Mezzidini, survived unscathed, but it is hardly significant in Massawa's long Islamic legacy. Al-Hajj Osman walks quietly past the wreckage of the 200-year-old Masjid al-Dahab, and then points out that of the 500-year-old Masjid al-Hamal al-Ansari. But, he adds, the Masjid al-Shafi'i, built two centuries ago on a mosque site almost a millennium old, has been rebuilt.

"That repair was done first because that mosque is the most important to us," he says. A fading inscription from the chapter of the Qur'an called *Al-Tawbah*, "Repentance," carved into a wooden lintel above a doorway, attests to the importance of such work and the devotion of those he leads: "The mosques of God shall be visited and maintained by such as believe in God and the Last Day."

But even this mosque site is not the oldest in Massawa. That honor—in legend if not in proven fact—goes to the "Place of Assembly," now cleared and protected inside the port area. Here is where Muhammad's followers first prayed during the so-called "first" Hijra in 615. They had fled here from the hostility of the Quraysh tribe in Makkah, responding to the Prophet's advice, as recorded by his ninth-century biographer Ibn Hisham: "If you go to Abyssinia you will find a king under whom none are persecuted. It is a land of righteousness where God will give you relief



In Massawa, where several prominent mosques were bombed during the war for independence, the rebuilt Al-Shafi'i Mosque, nearly 200 years old, gleams in the sun. There have been mosques on its site for nearly a millennium. Inset: At Sa'ad Hashim Mirghany Mosque in Hotamla, outside Massawa, Khalifa Osman Khalifa Taha was the only person who stayed when the mosque was bombed in 1977. Still there in the early 1980's, he helped oversee its reconstruction.

At early-morning prayers on the 'Id al-Fitr, the celebration that concludes the holy month of Ramadan, friends greet each other with a handshake outside the Al-Kulafah' al-Rashidin Mosque in central Asmara. The religion of half of Eritrea's nearly four million people, Islam arrived here during the Prophet's lifetime in the seventh century, though contacts between the Arabian Peninsula and these lands date back to the fifth century BC. At left, Shaykh Al-Amin Osman Al-Amin, mufti of Eritrea, is the spiritual leader of his country's Muslims. "Christian and Muslim Eritreans fought for our freedom together, and now we both taste it equally," he says.

from what you are suffering."

Contacts between pre-Islamic Arabia and Abyssinia occurred as early as the fifth century BC, when Sabaeans migrated from southern Arabia to the Ethiopian highlands. Linguistically it was a homecoming of sorts, for Ethiopia is where the proto-Semitic language is thought to have been born, which later spread throughout the Middle East in all its variants. Eritreans say that the fricatives and guttural stops of their native Tigrinya sound more like Arabic than like Ethiopia's Amharic tongue.

Arabian-Abyssinian trade and reciprocal invasions continued under the Axumite Empire that, in the five centuries before Islam, was expanding outward from Ethiopia's Tigre province. Muslim rulers won their first Eritrean toehold in the seventh century by seizing the islands of the Dahlak Archipelago, off the coast of modern Massawa—an action that protected Arab shipping from Axumite pirates, who had even raided Jiddah.

Crumbling reminder of the past, the coastal palace of Ethiopian emperor Haile Selassie now lies abandoned along the shore of Massawa. Eritrea was federated with Ethiopia in 1952 and annexed outright in 1962.

Located across from Saudi Arabia's Farasan island group (See *Aramco World*, November/December 1994), the Dahlaks are bare, brutally hot, and pancake flat. The Umayyads established a penal colony there, but found no other use for them. Poet Abu al-Fath Nasr Allah al-Iskandari, quoted by Yaqut al-Rumi in his 13th-century *Kitab al-Buldan*, wrote, "The worst country is Dahlak, for whoever lands there, dies there." The saying *"In dahkhalta jazirat Dahlak satansa ahlak"* may owe its survival more to its rhyme than its meaning, but it certainly sounds forbidding: "He who sets foot on Dahlak forgets his family."

Only a handful of the archipelago's islands are inhabited today, but the largest—Dahlak al-Kabir, or Big Dahlak—was the seat of an Islamic sultanate from the ninth to the 13th centuries. To visit from Massawa requires a five-hour passage across seas so rough that it is advisable to entrust one's life only to Muhammad Ga'as, a quadrilingual Afar seaman who has sailed these waters since boyhood.

Ga'as owns the *Doha*, an 18-meter (60') diesel-powered, tiller-steered *sambuk*—a type of vessel H.R.P. Dickson called "the preeminent pearling boat of the Gulf"—built in a shipyard across the Red Sea in Jizan, Saudi Arabia. He employs Captain Ahmad Din and a four-man crew, all of whom proudly claim to know their way "from Suakin to Djibouti on this side, and from Jizan to Aden on the other."

From Massawa's jetty, Ga'as sets course first by Dissei Island's rocky summit and the Buri Peninsula's cape, and, once in the open sea, by compass alone. Ahmad Din scans the waters carefully even far from land, for many of the Dahlaks are but mid-ocean shoals. Luckily, all he sees on this trip are flying fish and dolphin—the latter he calls *abu salamah*, father of safety.

Stiff crosswinds push up high swells that the *sambuk* mounts on the diagonal. Waves wash over the deck and drain down the center hatch. "Is the sea big today?" a passenger calls somewhat desperately over the noise of the wind.

"Big? No, today is small. Big is in the Bab al-Mandab, the size of a house!" he chortles.

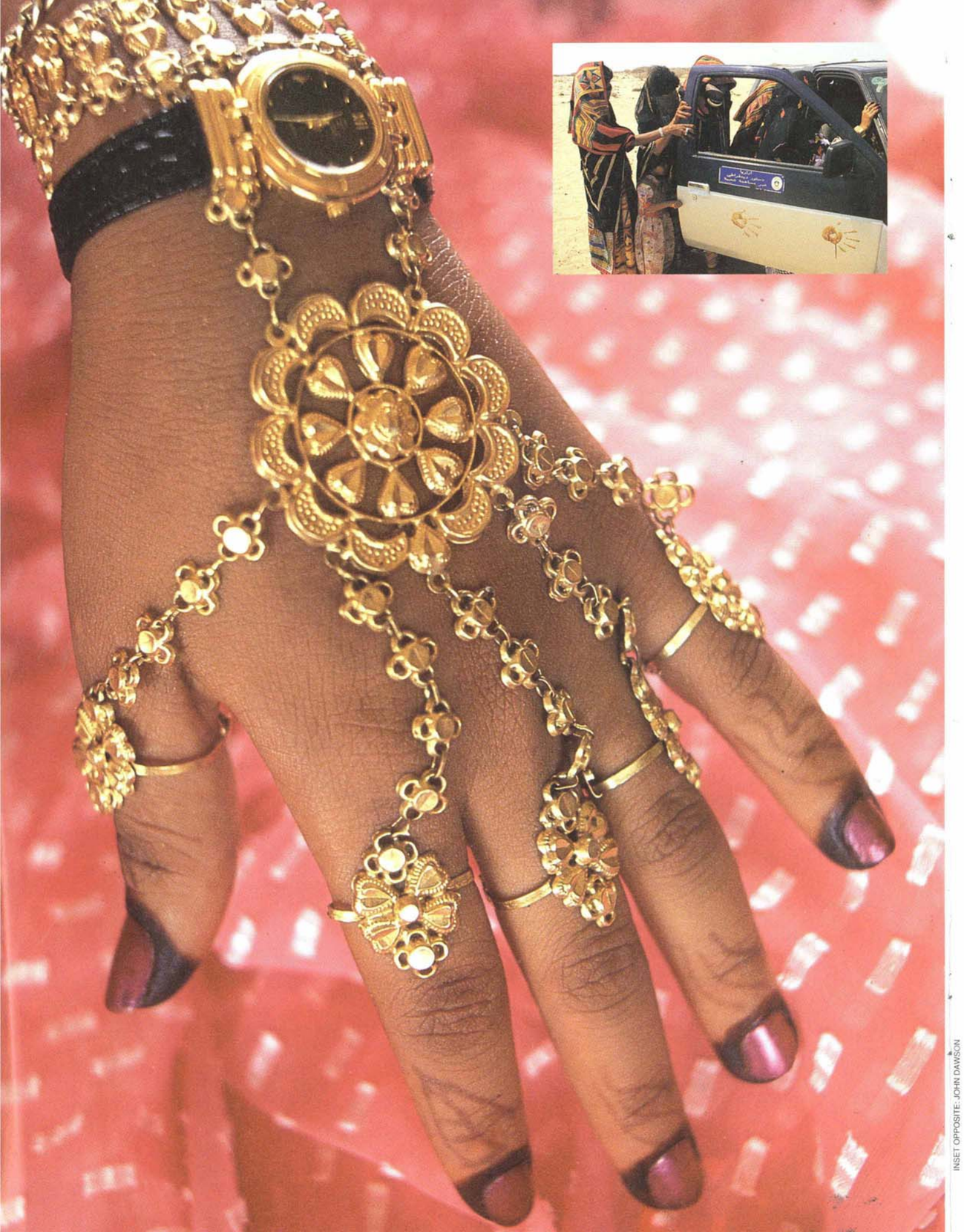
At last we enter a shallow lagoon on Dahlak al-Kabir's windward side, near the site of the long-vanished sultanate's seat of power. All traces of it are gone, except for monolithic underground cisterns carved from coral stone and a 2000-grave necropolis. Ali Mu'min, keeper of the island's 50 camels and thousand sheep and goats, watches over the cemetery. He points to the headstones of black basalt and red and gray schist that bear Kufic and cursive Arabic script incised into their polished surfaces.

Henry Salt, a Royal Navy officer who visited Dahlak in 1814, wrote in *Voyage to Abyssinia* that the cemetery "still exhibits many vestiges of its former consequence"; the headstones remain among the best examples of their kind anywhere in the Islamic world. Nineteenth-century orientalists René Basset and Bendetto Malmusi removed many of them to museums in France and Italy, but most remain in place, and scholars continue to be drawn to the funerary eloquence inscribed upon them:

> *Oh God, verily Abu 'Abd Allah Muhammad, son of 'Abd al-Rahman, son of Muhammad, is Thy servant and son of Thy two servants. Thou has taken him for Thyself and hast chosen for him what is near Thee. He lies prostrate in Thy presence and controls for himself nor harm, nor profit, nor signs rendering manifest his actions, waiting for the day of reckoning, announcing that he has put aside his faults, hoping in Thy mercy, expecting Thy forgiveness, seeking protection from Thy chastisement. Oh God, be compassionate of his prostration and make him forget his loneliness. He died, may God be pleased with him, on Wednesday, 23rd of Sha'ban of the year 327 [June 15, 939].*

Near the cemetery, at a Ramadan *iftar*, or fast-breaking evening meal, Yunis Hassan recalls the time not long past when pearling supplied the village income. A pearl weighing 10 grams once fetched him 10,000 French "riyals," he says, but he more often went five days without a find of any sort. "It was not our talent that gave out, but the market," he claims. With a hint of nostalgia, he adds, "For me, three minutes underwater and 15 meters deep [50'] was never a problem. Let the new government bring us new buyers."

Back on the mainland, and perhaps as far from Dahlak's pearldiving world as one could imagine, live the Rashaydah, Eritrea's only native Arabic-speaking ethnic group. Culturally and linguistically distinct from Eritrea's other peoples, proud of their self-reliance and, as camel herders, mobile enough to



INSET OPPOSITE: JOHN DAWSON

Arabia is the Rashaydah's past—but Eritrea is their future.

The most recent arrivals among Eritrea's nine major ethnic groups, the Rashaydah crossed to Eritrea from Arabia in the mid-19th century. Opposite: preparing for her wedding, a Rashaydah bride with henna-dipped fingertips shows part of the elaborate gold jewelry she will wear at her wedding celebration later in the day. Inset, henna handprints on the door of a Rashaydah-owned pickup truck will bring good luck to the wedding party. The bumper sticker reads, "Eritrea: People's Project for a Democratic Constitution." Parliamentary elections and adoption of a national constitution are planned for 1997; Eritreans hope they will ensure that the sacrifices of the present generation will benefit the next.

escape central authority, the Rashaydah have only recently begun to assimilate into the Eritrean economy and the country's political life. For this it took a 30-year war and a decade-long drought.

The Rashaydah crossed *en masse* from the Arabian Peninsula to the Red Sea hills in the middle of the last century. At once they began to face difficulties: with the Sudanese Mahdi, whom they opposed; with the Italians and the British, who cut the tribe in half when they drew the boundary between Eritrea and Sudan; and finally with the Ethiopians, who embroiled the unwilling Rashaydah in the Eritrean war.

Says Hameed al-Khubail, a leading Rashaydah trader, "We have always been different from our neighbors, but now, in a new state with legal protections, we control our fate." This indeed could mark a new beginning, and one wonders how it might compare with an opportunity that the tribe sadly lost in 1963, when Saudi Arabia's King Faysal invited the tribe to repatriate to Saudi Arabia: Only the Sudanese government's orders to the Rashaydah to leave their livestock behind blocked the deal.

Al-Khubail's wedding that evening provides a glimpse of the strength of the Rashaydahs' attachment to Arab tradition. Loading up with guests at Massawa's outskirts, five trucks careen over sandy tracks to northern beaches where Al-Khubail's camels graze. A honeymoon tent, decorated with ostrich feathers, acacia branches, silver anklets and a hand mirror, symbols of the new household, stands ready. Coffee and cardamom are pounded together in a mortar.

After breaking the day's Ramadan fast with dates and going on to main courses of lamb and rice, guests begin antiphonal calls in praise of the bride and groom. The crowd of nearly 100 circles around sword and stick dancers, who perform to the drilling pulse of drums of several sizes. The drum heads are tuned by heating them over the coffee fires. A boy grins in the crowd. "*Al-Rashaydah samha*!" he says: "The Rashaydah are the greatest!"

Before the dancing is finished, small clusters of men wander up the last dune to sit in the moonlight and gaze at the sea as the wind blows southeasterly from Yemen. The language they speak is an Arabic not long removed from the Hijaz, and the camels they breed are of the bloodline established by the tribe's legendary ancestor, 'Antar. Arabia is the Rashaydahs' past—but Eritrea is their future.

And so it is too for the eight other peoples joined with them in creating Africa's newest state. ⊕

Writer and filmmaker Lou Werner (left) studied at the American University in Cairo and lives in New York. His latest film is A Sheepherder's Homecoming. *Cairo-based Lorraine Chittock (right) is a former staff photographer for* Egypt Today *and photographer-author of* Shadows in the Sand: Following the Forty Days Road, *to be published in December.*

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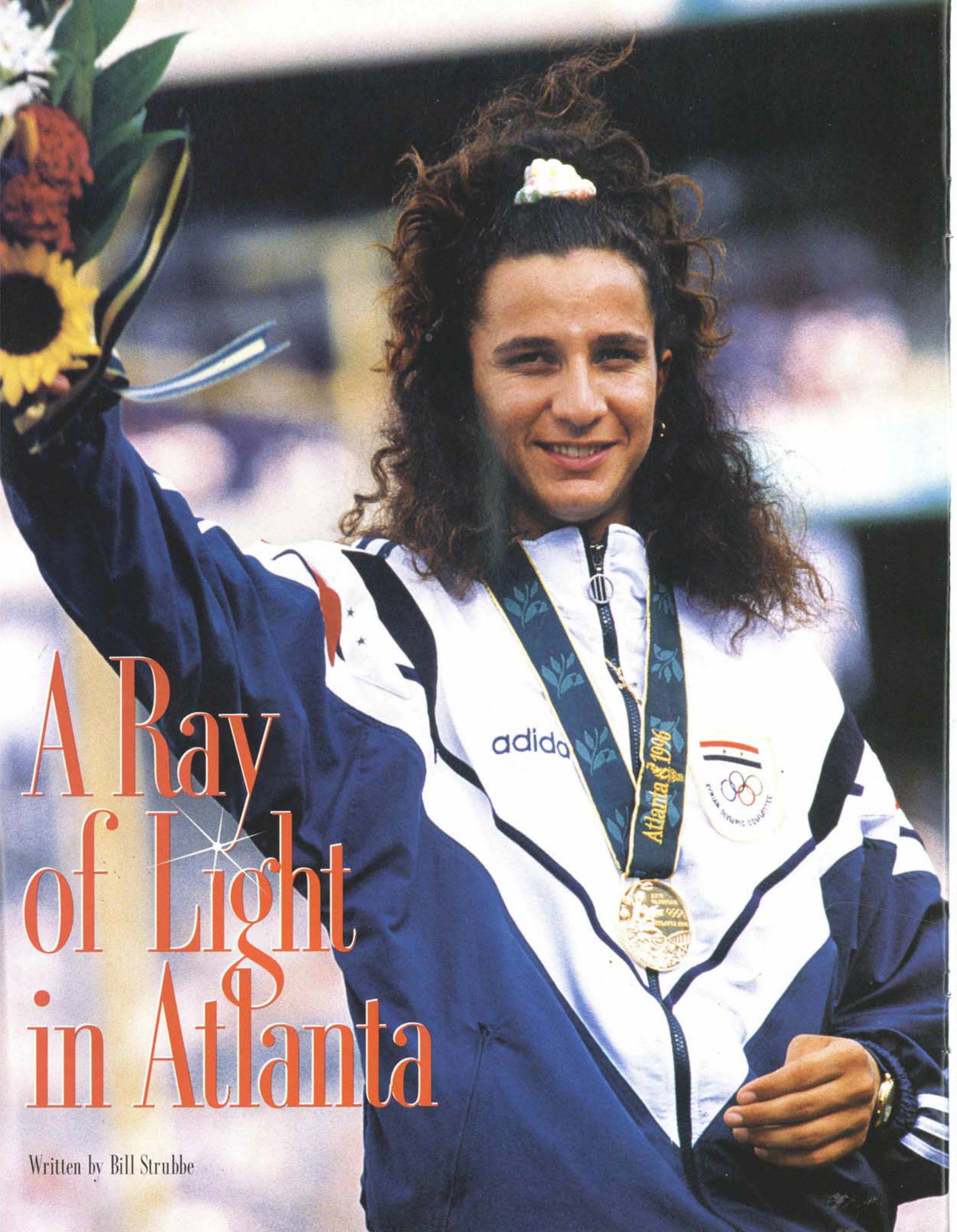


OPPOSITE: TONY DUFFY/NBC/ALLSPORT; RIGHT: MIKE HEWITT/ALLSPORT

A Ray of Light in Atlanta

Written by Bill Strubbe

Her shoulders draped in her country's tricolor flag, the heptathlon gold medalist relished her victory lap around Atlanta's Olympic Stadium.

It was a moment of special pride, for the flag was the two-starred red-white-black of Syria, and the winner was Ghada Shouaa, the country's first Olympic gold medalist.

Virtually unknown until she won the world championship last year, Shouaa took home Syria's second Olympic medal ever by winning the most multifaceted—and the most grueling—of the women's competitions.

"I wanted to show an athlete at her best, and show the Arab world at its best," she told *The Washington Post*.

Shouaa became the third Arab woman to win Olympic gold, after Nawal El Moutawakil of Morocco won the 400-meter hurdles in 1984 (See *Aramco World*, September/October 1984), and Hassiba Boulmerka of Algeria took the gold in the 1500 meters in 1992. As such, she has become a Syrian national hero and an inspiration for young athletes—especially female athletes—throughout the Middle East.

Shouaa, whose family name means "ray of light," grew up in the village of Maharda in central Syria. Long-legged even as a child, she was nicknamed *ghazalah*, or gazelle. She competed in cross-country, later starred in basketball, and at 14 began serious training. In 1990, at the recommendation of the Syrian national sports federation, she focused on the heptathlon.

Now, she trains in Cyprus under Russian coach Kim Bukhantsev. Because she speaks only Arabic and he only Russian, the two communicate with signals, flashcards and through an interpreter—although Bukhantsev is gradually learning Arabic.

In the heptathlon, women accumulate points in seven events held over two days: 100-meter hurdles; high jump; shot-put; 200-meter sprint; long jump; javelin toss; and 800-meter run.

After competitions in 1991 in Tokyo, Damascus and Malaysia, Shouaa traveled to Barcelona in 1992 for her first Olympic Games. She was 18 then, and the youngest heptathlete on the field. She placed 25th.

Two years later, Shouaa won the Asia Games heptathlon with 6,360 points. In 1995 she surprised the sport's stars in Gothenburg, Sweden, won 6,551 points and was crowned world champion. This year, only two months before the Atlanta games, she took top honors at Götzis, Austria, with an impressive 6,942 points—just 349 below the world record, set by Jackie Joyner-Kersee of the US in 1988. As the Atlanta games opened, the two women faced each other head-to-head: Joyner-Kersee had won gold at the two previous Olympiads, but Shouaa's score at Götzis surpassed every score the record-holder had garnered since the Barcelona Olympics in 1992.

But there was no showdown. Early the first day, Joyner-Kersee injured a hamstring on the 100-meter hurdles. When her withdrawal was announced, Shouaa, "obviously upset," according to one observer, interrupted her own preparation and walked over to offer consolation. "I regret very much that Jackie had to give up," she later told Reuters.

After leading at the end of the first day, Shouaa covered only 6.26 meters (20' 6½") in the long jump—far from her best—and dropped into second place. Then she and Urszula Wlodarczyk of Poland both cleared 1.86 meters (6' 1¼") in the high jump, Shouaa's shot-put flew nearly two meters beyond Wlodarczyk's and Shouaa's javelin toss proved to be her best ever. Shouaa retook the lead and finished with 6,780 points, 217 beyond the total of silver medalist Natasha Sazanovich of Belarus.

Virtually unknown until she won the world championship last year, Shouaa took home Syria's second Olympic medal ever by winning the most multifaceted—and the most grueling—of the women's competitions, the heptathlon.

"It is the dream for athletes all over the world to win, to succeed at every competition—but nothing is like this, because this is the Olympics," she said to *The New York Times* before leaving Atlanta. "The more you reach and gain, the more you must become humble."

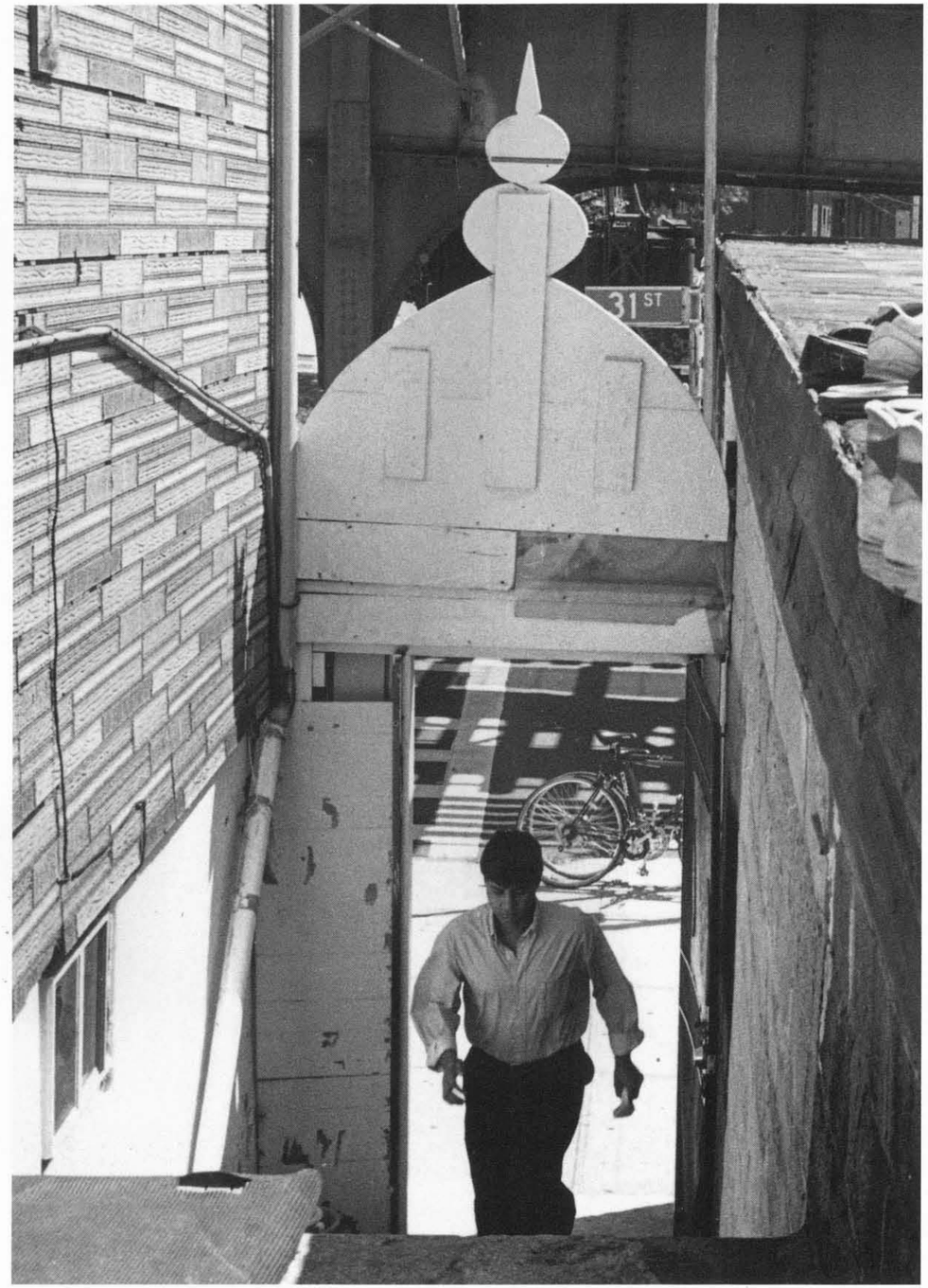
In Damascus, however, when Shouaa returned home after the Games, thousands packed the airport, and she was paraded through the city to the cheers of crowds lining the streets.

As the world record appears well within her reach, Shouaa may soon have the opportunity to be one of the world's most humble athletes.

Free-lance writer Bill Strubbe is based in western Massachusetts.

JAVELIN TOSS, 800-METER RUN, 100-METER HURDLES, HIGH JUMP, SHOT-PUT, 200-METER SPRINT, LONG JUMP

Gawsiah Jame Masjid | 31st Street, Astoria, Queens



MOSQUES OF NEW YORK CITY

THE DOME & THE GRID

Written by Jerrilynn Dodds
Photographed by Ed Grazda

By 9:00 on this crisp morning the light-filled prayer hall of the mosque at New York's Islamic Cultural Center was already full, and the crowd had begun to form for prayer on the Center's grounds and sidewalks. When the muezzin's call came an hour later, neat lines of men and women stretched further still, filling the breadth of 96th Street and of Third Avenue. The familiar New York City traffic noise was, for a few minutes, distant and muffled. The skyscraper canyons went uncannily silent, and down them resounded the call to prayer. It was 'Id al-Fitr, the Feast of the Breaking of the Fast of Ramadan.

If a mosque can be any place where prayer is performed, then much of New York City became a mosque that February morning. In Flushing Meadow in Queens, more than 6000 Muslims prayed shoulder to shoulder. At the same moment, outside mosques that could no longer contain their numbers, lines of worshipers sat diagonally across Atlantic Avenue and Fulton Street, facing Makkah, the holiest city of Islam. Throughout the city's five boroughs, this 'Id offered a rare sight: the ordered, hushed spectacle of New York's enormous Muslim communities united in public.

As the principal port at which Muslims from nearly every Islamic country enter the United States, New York City is home to somewhere between 250,000 and 400,000 Muslims, the world's most diverse concentration. Immigrants and different groups of American-born Muslims bring to the city such a variety of languages, cultures, professions and political and social concerns that it is only during a celebration like the 'Id that the diversity of the community becomes clear.

In the five boroughs of New York there are more than 70 mosques. A few break the commercial skyline with domes and minarets that declare their difference from the relentlessly Cartesian cityscape. But many are inconspicuous, architecturally demure, almost hidden; many are only interior spaces, entered through storefronts, garages or modest homes whose visual vocabulary blends with the neighborhood.

Whether they present themselves saliently or discreetly, these mosques are always more than mere places to pray: They are the loci of the identities of New York Muslims as members of the *ummah*, the community of the faithful. They are the places where the sense of Islamic community is shaped and nurtured. Architecturally, these mosques foster an image of Islam in an urban landscape otherwise fashioned almost entirely by non-Muslim imaginations.

But how can any one architectural space create an identity for Muslims who represent such diverse cultures and languages? And how can any building represent Islam as a distinct way of life at the same time that it marks a community that is integrated—often well integrated—into New York's secular urban society? Photographer Ed Grazda and I visited more than a dozen of the city's mosques to explore these questions.

The mosque named Fatih Camii (*faht-EE JAHM-ee*, "The Conqueror's Mosque" in Turkish) is hard to spot even as you drive by it on Eighth Avenue in Brooklyn's Sunset Park. Its low, broad, arched facade hints at the building's previous days as a theater. Now, stripped of its projecting marquee, it takes its place quietly in a line of shops. The modest exterior is in keeping with the low-key signage of this commercial neighborhood, and provides very little suggestion of what lies within.

From the lobby, doors open into a voluminous space beneath a shallow stucco dome, lit by an intricate chandelier. This was once the theater's auditorium, and those entering find themselves facing the former stage, now a gallery for women: Separated from the men's section by movable screens, it is now the back of the prayer hall, for in changing the theater into a mosque, the orientation of its principal space was refocused—in this case reversed—toward the *qibla* wall, which faces Makkah.

This wall is the great artistic achievement of Fatih Camii. Lustrous painted tiles imported from Iznik, Turkey, cover most of the wall with intricate, traditional floral patterns and bold inscriptions in Arabic and Turkish. At the center of the wall is the *mihrab*, the prayer niche that identifies the direction of Makkah.

To its right, the narrow stairway of an elegant tile-covered *minbar*, or pulpit, reaches into the room. The elaborate, repeating pattern of the tilework creates a contemplative world divorced from the noise and energy of New York's streets.

"Prayer in New York, as in any other place, is about submitting oneself completely to the will of God," says Imam Hilmi Akdağ, one of the three religious scholars at Fatih Camii. "It helps, here in particular, to have a place where it is possible to shut out concerns with the everyday world."

The United American Muslim Association, which runs Fatih Camii, faced several challenges common to communities seeking to create centers for Muslim worship in New York. The first was to find a space large enough to hold the worshipers, whose numbers ranges from 400 during normal Friday prayers to more than 1000 during the holy month of Ramadan. Once the space was found and the old theater purchased in 1981, there were other basic requirements to be met. A mosque must be turned toward Makkah, but the theater wasn't. A mosque requires open space, unencumbered by furniture. And a mosque must provide separate spaces for men and women during prayer.

With much effort, the auditorium was reoriented, the theater seats were removed, and a passageway to the former stage was built for female worshipers. Lace-covered screens visually separate men and women. "It isn't a big deal," says a teenaged girl wearing Doc Martens, a headscarf and an oversized Oxford shirt. "It keeps our minds on God."

The tiled *qibla* wall, with its pattern that extends outward—at least in potential—to infinity, exemplifies the central distinction between Islamic traditions of architectural ornamentation and those that dominate in New York. Islamic ornamentation excludes representations of animate beings, which Muslims believe can only be conceived and created by God. New York City, on the other hand, fairly bristles with images of faces and bodies, bold advertising narratives that stare out from

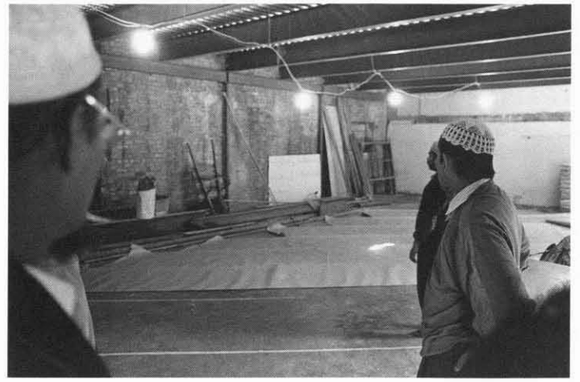
buses, billboards, walls and subways, admonishing and enticing, all seeming to radiate from that enormous outdoor temple to the image, Times Square. Now consider how much power is required to resist such a juggernaut of secular and commercial culture.

At Fatih Camii, the visual challenge of New York is met with a gesture to the potent past of Islam in Turkey. In evoking the traditional arts of Ottoman Turkey, the tiles provide a focus of common identity for this primarily Turkish Muslim community.

But Fatih Camii has touched not only the faithful. Once the mosque was established, other empty buildings in the surrounding blocks also found new occupants, which increased both commercial activity and community pride. "Since the congregation renovated the building and began to function, the entire neighborhood has profited," says Lt. Vincent Fragapane, community affairs officer of the New York Police Department's 66th Precinct in Sunset Park. "The whole strip is safer and more alive."

Today Fatih Camii includes a weekend school for children, a dormitory for visiting students from Turkey, rooms for ceremonies and celebrations, a night school for adults and an office that publishes a magazine that, like the Iznik tiles in the prayer hall, provides a link to the culture that unifies the diverse congregation. Although the mosque association's members are primarily Turkish Muslims, its leaders and members are proud of its international membership. On most Fridays, the *khutbah*, or sermon, is in Arabic, Turkish and English. "There were two weddings here this weekend," Akdağ remarks, "a Pakistani couple, and a Turkish bride and groom. Of course we are all Americans really, but this is a very international congregation in its cultures."

At an *iftar*, or fast-breaking dinner, at Fatih Camii last Ramadan, the men ate in the building's spacious lobby while the women celebrated in a separate area upstairs. "It is good to have a place in Brooklyn where our children can be with other Muslims and know it is not strange to keep such traditions," one mother says. "A building, a real place to be, where they can see and feel our culture, understand our beliefs, and not feel 'different.'"



"Welcome to Bosnia's newest mosque!" was the proud, almost playful greeting we received on entering the boxy four-story house in a residential neighborhood in Astoria, Queens. Like Fatih Camii, the Ali Pasha Mosque—one of New York's newest mosques—also reflects the desire to preserve traditional culture in New York, a matter particularly urgent for this founding community of immigrants and refugees.

There is special pride in this mosque: Under Islamic law, mortgaging is not permitted, and thus this house had to be a cash purchase. "We started in 1990, and little by little we raised enough money in the community," says Hasan Delj'aanin, the mosque's treasurer. "A lot of people were surprised. We did it the proper way, without a mortgage. In New York that is an accomplishment."

Led by a board that includes businessmen, computer specialists and construction workers, the house was converted into a mosque and cultural center, with meeting rooms and lodging for the imam and students. With no sign and no exterior changes, this mosque signals to the street its congregation's desire to blend into its Queens community.

Inside, however, the main entry leads into the principal prayer hall, a full floor clear of room divisions and furniture, ornamented only with small chandeliers and a large photo of Makkah on the *qibla* wall. Upstairs, on the second floor, is the women's prayer hall, where closed-circuit television allows worshipers to see and hear the prayers.

In the main hall, exposed wooden columns support the building's beams, all the wood scrupulously stripped and finished by community members. Carpenter Hamo Huria made a lacquered *minbar* and Qur'an stand, working from his memories of those he had seen in Bosnia, and he is planning to build a wooden *mihrab* in the same fashion.

"This is the style of many traditional buildings in Bosnia and Herzegovina," says the mosque's muezzin as he nails a piece of paneling to the wall of the mosque's unfinished basement. "Many older, hip-roofed mosques look like this on the inside. We are lucky here. Many of us come from the same village, and a number of us worked as carpenters in Bosnia."

But not all design stems from Bosnia: "We have had help from Muslims from all countries," says Bayram Mulič, imam of the mosque. The wall-to-wall carpet that covers both floors of the prayer hall in a deep red Turkish design was donated by an Egyptian businessman, he points out. "All the ideas for the mosque's design were determined in consultation with the community. Somebody said, 'I will do the stairs.' Somebody else said, 'I will do the painting.' Nobody knew exactly how it would look until the end. So you see, in the end, God did this."

The Ali Pasha Mosque thus reflects the goals of its community: first, to fit gracefully and unobtrusively into its neighborhood; second, to fit into the community of New York City Muslims, and finally to nurture a deeply rooted Islamic Bosnian culture that is still threatened in its homeland.

Mulič believes the design of the mosque's interior may attract Bosnian immigrants and help them find their way back to Islam. "First you need only a place to pray for everyone, not just for Bosnians, but then, if you can, it is important to make the mosque nice, maybe even traditional." He especially wants to reach Bosnians who grew up in secular Yugoslavia. "They believed they could have Bosnian tradition without Islam. But there is no artistic or architectural tradition, no cultural Bosnian tradition without religion. There is no secular tradition that you can separate from Islam."

"Sometimes a real down-and-out type will walk down our street," says Assistant Imam Karim Shakur of the Masjid Malcolm Shabazz. "He'll be dragging his feet, his shoulders hunched, but then he'll catch sight of our mosque, and he'll remember how much pride the Muslims have in this neighborhood, and he'll walk tall as he passes our block."

Shakur is not exaggerating the impact of Masjid Malcolm Shabazz, the Malcolm Shabazz Mosque, on the corner of Lenox

Avenue and 116th Street in Manhattan. This traditional mosque with an international congregation is a point of pride for the Muslims of Harlem. Its broad, silver dome interrupts the conventional rectilinear skyline and suggests the existence of options in a neighborhood scarred with the empty lots and abandoned buildings that are the architectural witness of urban despair.

Indeed, the Malcolm Shabazz mosque, constructed in its present form in 1965 and adopted by the Muslim community in the early 1970's, is the center of a lively community that supports the private Sister Clara Muhammad School, a bookstore, restaurants and a range of social services for children, the sick and the elderly. The mosque's leaders, including Imam Izak-el M. Pasha, have helped develop an international market in a vacant lot across the street, a contribution to economic revitalization. Now, they plan to initiate construction of public housing and housing for the elderly on another corner of the mosque's intersection.

Masjid Malcolm Shabazz occupies a three-story brick building faced with panels that frame two floors of large, arched windows. Its plump, onion-shaped dome, though architecturally anomalous, sits on its roof with authority. The dome and the arches are potent visual reminders of the presence of Muslims in the neighborhood, Imam Shakur explains, but they "reflect what people used to think Islam was about. They have more to do with an old-fashioned American interpretation of Islamic architecture than with Islam in general. [That architecture] has served us well, but we are thinking that, in our next mosque, we might turn to West African Islamic forms [See *Aramco World*, January/February 1996], to an architecture that better reflects the background of many in our community."

Though Shakur sees the dome of the Masjid Malcolm Shabazz as a bit Orientalist—that is, as reflecting a Western idea of an imaginary East—the objection dissolves in the streams of light that pour through the mosque's large, arched windows. Luminous and austere, the open prayer hall's only adornment is the tiny pastel mosaic patterns that cover the slender columns that support its ceiling. These are humbly functional versions of the complex, abstract mosaics that grace mosques in North Africa, Spain and the Fertile Crescent.

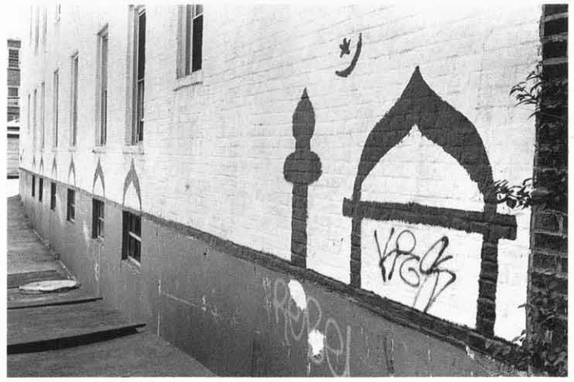
"In New York, there are too many distractions," Shakur says. "Distractions from the street, distractions in the subway, the newspapers and billboards. The room in which we pray must be restrained. It can only have light and love. There can be nothing here to distract our minds from God."

At Masjid Malcolm Shabazz, the dome has come to represent the separate identity of this community of faith within the neighborhood. Unlike the congregations of Fatih Camii and the Ali Pasha Mosque, this mosque does not allow the larger community to assimilate it. Rather, its architecture, dominated by its dome, declares the mosque's difference, and announces the congregation's mission to heal the urban fabric.

In other New York neighborhoods, the dome is developing other meanings. There are primarily immigrant congregations—many from cultures that do not habitually use the dome in their home countries—for whom it has begun to represent a common identity linking New York's multicultural Islamic communities. Though the dome in America may have been part of a fantasy image of Islam, fostered by theaters and Shriner's halls, it is nonetheless a genuine, abstract architectural form that requires no pictures, signs or narrative to create an association with Muslims of all nationalities. It is there at Masjid al-Falah in Queens, New York City's first building planned and designed as a mosque, built in 1982 by Muslims from Pakistan and Bangladesh. The two-story brick structure has been rotated to face Makkah, and a dome and minaret have been added.

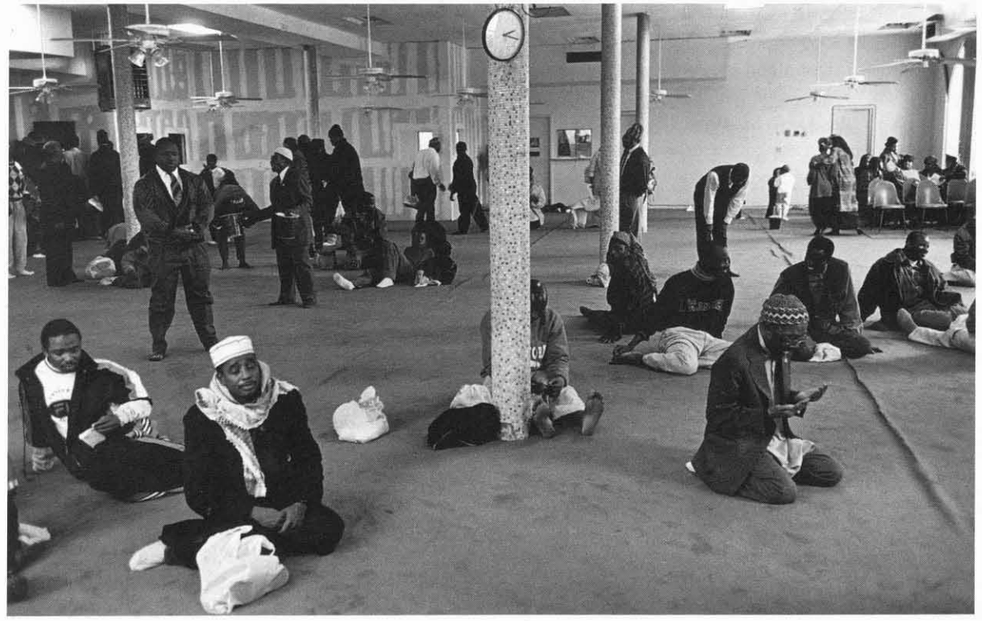
Masjid Al-Bir | 30TH STREET, ASTORIA, QUEENS

Masjid Baitul Mukarrum | 33RD STREET, ASTORIA, QUEENS

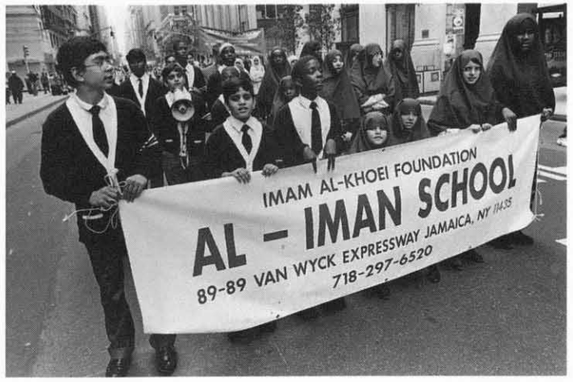


Masjid Abu Bakr Sediq | 33RD AVENUE AND 141ST STREET, FLUSHING, QUEENS

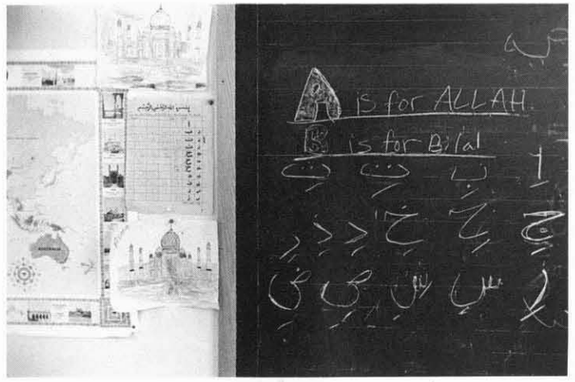
Masjid Malcolm Shabazz | LENOX AVENUE AND 116TH STREET, MANHATTAN



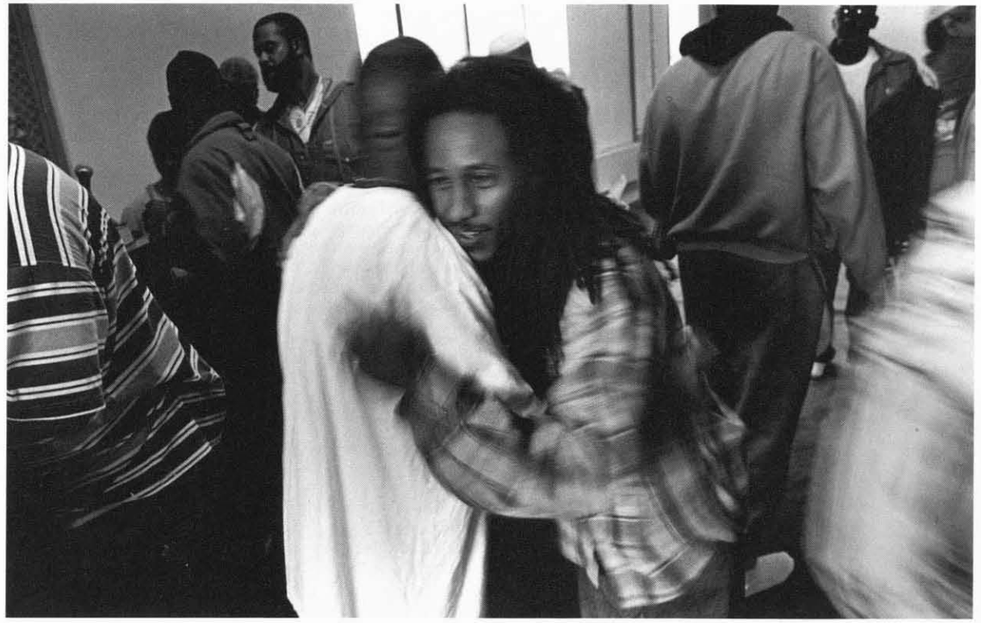
Muslim Day Parade | Madison Avenue, Manhattan



Sister Clara Muhammad School | Malcolm Shabazz Mosque



Masjid Malcolm Shabazz | Lenox Avenue and 116th Street, Manhattan



The dome has become a potent symbol even for those congregations lacking the means to construct one. At Gawsiah Jame Masjid in Astoria, a silhouetted dome shape cut out of plywood marks the door of a mosque housed in a small commercial building. The Masjid Baitul Mukarram in Queens is signaled only by a dome and minaret painted on the wall of the alley that leads to its entrance.

At Masjid Al Abidin, the initial purchase of a house led to successive expansions until the present five-domed building resulted. The form of the domes is similar to those found in Guyana, the home country of many members of the congregation, and they therefore play a familiar architectural role: assisting in the retention of a traditional identity.

"But that is not what the dome means," says Imam Sattur of Masjid Al Abidin. "Perhaps these domes remind us of the Dome of the Rock [See *Aramco World*, September/October 1996], or of the dome of the Prophet's Mosque in Madinah." So in New York, it seems, the dome has come to evoke not only the histories of individual ethnic groups, but also a collective history marked by the buildings that are at the center of every Muslim's experience. Like the Dome of the Rock, such buildings unite, rather than differentiate, Muslims of diverse cultures and linguistic groups. In fact, the dome is the motif chosen to represent all New York Muslims at the annual Muslim Day Parade, where models of the Dome of the Rock and the Mosque of the Prophet appear on floats. Here, architecture becomes a symbol of Islamic presence in the secular world by defining the space in which Muslims come together for prayer.

This notion of the dome as a pan-Islamic form for a heterogeneous Muslim community appears to be behind the coolly geometric dome of the modernist Islamic Cultural Center, one of the largest New York mosques and the one that most emphatically employs architecture to project a strong public identity.

"This mosque was made, in some ways, to receive visitors," says Imam Abdel Rahmen Osman, director of the Islamic Cultural Center (ICC)—and during our interview he made a half-dozen appointments for tours of the mosque by groups from churches and synagogues. The mosque was created for an international community, he explains, with the government of Kuwait taking a leading role in its conception and funding. Far from the community mosques that express assimilation, the ICC boldly proclaims the presence of Islam in upper Manhattan, where its elegant domed mass, set on a wide lot, steers a diagonal course toward Makkah. It's in sharp contrast to the boxed, orthogonal grid of the city's streets and buildings.

Designed by the distinguished New York firm of Skidmore, Owings and Merrill, the ICC combines traditional Islamic features with Western modernist ones. The building links European and Islamic traditions: The hemispherical dome, the prayer hall's cubical volumes and the etched-glass clerestory panels balance an interest in simple geometry that Westerners associate with the Italian Renaissance with the sophisticated play of complex interlocking geometrical forms common in Islamic traditions. Qur'anic inscriptions in austere Kufic script create labyrinthine and infinite patterns that harmonize with the building's forceful grids to create an intricate meditative decoration.

"At the same time," says an architect associated with the project, "we wanted to work from a rational design philosophy, one which revealed the building's structure. The upper level is almost entirely glass, so that you can understand where the weight falls. The weight-bearing members are solid, but the rest is open and translucent."

That kind of thinking, very much in the European and American tradition, is a builder's viewpoint. For those who pray in it, however, a mosque's design, or the implications of its forms, must not intervene in the relationship between worshipers and God. "The architecture has no meaning, of course," Osman says deliberately. "In prayer, all external concerns must vanish."

As a building, the mosque of the Islamic Cultural Center was thus intended to meet the gaze of non-Muslims. "We are in America now, where people are interested in understanding people through their architecture," says Osman. "This is not really our way. But I think that this can be seen as a new era for the mosque. Since this is America, the mosque should be made in an architectural language that Americans understand. Still, that has nothing to do with Islam."

As a Western-trained architectural historian, I had spent months looking for a unifying meaning that might link each mosque and its architectural forms to various aspects of Islam in New York. Some mosques, like Fatih Camii and the Ali Pasha Mosque, blended into their neighborhoods while others, like Malcolm Shabazz and the ICC, announced themselves. Many had adopted the dome as a pan-Islamic form. But no tectonic form seemed as significant as the words of Imam Osman. They expressed an attitude toward architecture shared by many of New York's Muslims, and they were echoed by every imam with whom we spoke.

The idea was that architecture ought not to be over-emphasized or over-intellectualized, as it sometimes is by those of us trained in the Western tradition—especially in New York, where the environment is almost entirely architectural. "Please stop asking about architecture," a member of the Masjid al-Falah had pleaded one day. "It is only the deeds of the mosque that count." Whatever image projected by the mosque, he explained, whatever identity its forms seemed to proclaim, the material forms of the building must melt away before the abdication from the world that takes place during prayer.

"When we pray, wherever we pray," Osman reminded me, "we simply do not take architecture into consideration."

Filmmaker and architectural historian Jerrilynn Dodds teaches Islamic architecture at the School of Architecture of the City College of New York.

Ed Grazda has taught photography at Harvard University and is the author and photographer of Afghanistan: 1980–1989, *published by Der Alltag/Parkett.*

Inside back cover | Prayers before the annual Muslim Day Parade, Madison Avenue and 41st Street, Manhattan

Events & Exhibitions

NY Masjid: *The Mosques of New York City* reveals the way these buildings —some adapted, some designed as mosques—both reflect and create identities. (See page 30.) Storefront for Art & Architecture, **New York**, from November 23 through January 18. Symposium at DIA Center for the Arts, January 11. For details, call (212) 431-5795.

Teaching About the Arab World and Islam is the theme of teacher workshops co-sponsored by the Middle East Policy Council in Washington, D.C., and conducted by AWAIR, Arab World And Islamic Resources and School Services of Berkeley, California. Sites and dates include: **Washington**, November 23; **Cincinnati**, January 20; **Northampton, Massachusetts**, February 6; **Miami**, February 8; **Starkville, Mississippi**, February 10. For details, call (202) 296-6767 or (510) 704-0517.

Satellite, Spade and Sieve: *Interdisciplinary Fieldwork at Merv and Sparta* shows how techniques ranging from satellite-based remote sensing to photomicroscopy play roles in modern archeology. Examples come from the Institute's digs at Merv (Turkmenistan) and Sparta (Greece). Institute of Archeology, **London**, until December.

French Archeology in the Levant: *The 50th Anniversary of the French Institute of Middle East Archeology*. Papers discussing the Institute's history and influence. Musée du Louvre, **Paris**, December 13 and 14.

Central Asian Weavings from the Russian Ethnographic Museum features more than 50 examples of renowned Turkmen weavings on view in the US for the first time. University of Pennsylvania Museum, **Philadelphia**, through January 5.

Islamic Textiles and Carpets shows 12 pieces from the Marshall and Marilyn Wolf Collection. Metropolitan Museum of Art, **New York**, through January 5.

Mistress of the House, Mistress of Heaven: *Women in Ancient Egypt*. 250 artifacts reveal the roles of women in ancient society. The **Cincinnati** Art Museum, through January 5.

Second Asia-Pacific Triennial of Contemporary Art. An internationally acclaimed cross-cultural event presenting the dynamic contemporary art of the Asia-Pacific region. Queensland Art Gallery, **Brisbane, Australia**, through January 19.

Queen Nefertiti and the Royal Women: *Images of Beauty from Ancient Egypt* features a dozen sculptures of women that, together with other art objects, reveal changes in Egyptian ideas of female beauty in the Amarna period (ca. 1353 to 1336 BC). Metropolitan Museum of Art, **New York**, through February 2.

Suzani: *Embroideries from the Oases of Central Asia* displays 11 wall hangings and bed-covers that exemplify this tradition, based in present-day Uzbekistan and Tajikistan. Textile Museum, **Washington**, through February 23.

Symmetry and Pattern: *The Art of Oriental Carpets* explores the conceptual bases for the complexity of design in Middle Eastern and other Asian carpets. The Textile Museum, **Washington**, through February 23.

Art of the Persian Courts uses more than 100 paintings, manuscripts and calligraphic works from the 14th to 19th centuries to explore the spread of Persian culture across the Middle East and Asia. Sackler Gallery, **Washington**, through April.

The Treasure of Troy displays, for the first time since 1939, 414 tooled artifacts of bronze and gold from the 9000-piece collection discovered in Turkey by Schliemann in 1873 and illegally removed to Berlin. Following World War II its whereabouts were unknown until recently. Pushkin Museum, **Moscow**, through April.

Crosscurrents in Chinese and Islamic Ceramics explores varied and mutual influences using objects from the 14th and 15th centuries. Freer Gallery of Art, **Washington**, through Spring.

The Bathhouse: *The Culture of the Bath in East and West* tells the history of the public bathhouse in both the Islamic Middle East and in the Netherlands. Museum voor Volkenkunde, **Rotterdam**, through Summer.

The Gods of War: *Sacred Imagery and the Decoration of Arms and Armor* includes artifacts from the Middle East to India and Japan. The Metropolitan Museum of Art, **New York**, through Fall.

Magic Carpets: *Selections from the Brooklyn Museum Collection* displays seven 16th- and 17th-century carpets from diverse traditions. The Brooklyn Museum, **New York**, through Fall 1998.

Within the Middle East: *Textiles, Dress and Ornament* is a new permanent gallery displaying artifacts from the ninth to the 20th century and from India to Spain. Royal Museum of Scotland, **Edinburgh**.

The Ancient Nubian City of Kerma, 2500-1500BC. Kerma, capital of the kingdom known to ancient Egyptians as Kush, is the oldest city in Africa outside Egypt to be excavated, and diverse objects reveal wealth and artistic traditions. National Museum of African Art, **Washington**, indefinitely.

Permanent Collection of Contemporary Art. A display of some 100 artworks by painters from the Arab world. Institut du Monde Arabe, **Paris**, indefinitely.

The Saudi Aramco Exhibit. Centered on the Arab-Islamic technical heritage, this interactive, "learn-by-doing" scientific exhibit relates the historical background to today's petroleum exploration, production and transportation. **Dhahran, Saudi Arabia**.

Information is correct at press time, but please reconfirm dates and times before traveling. Readers are welcome to submit information for possible inclusion in this listing.

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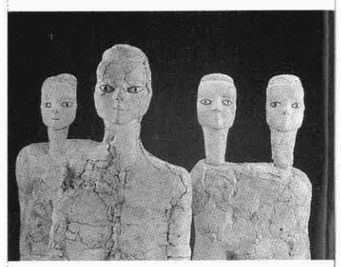
Preserving Ancient Statues from Jordan displays the results of a remarkable decade-long conservation effort that has recovered and partially restored eight of the oldest—and largest—human-form statues ever found in the Middle East. Dating to the seventh millennium BC, they are made of clay mixed with limestone powder and lime plaster—a composition



that indicates the presence of a more advanced firing technology than scholars had previously attributed to that era. The plaster also made the statues fragile: Found in fragments near Amman in 1985, they have been pieced together and strengthened with a variety of acrylic resins in a process detailed in the exhibit. Although the purposes of the statues remain a mystery, the exhibition places them in the context of what is known about ancient art and ritual in the region. For more information, visit http://www.si.edu/asia on the World Wide Web. Sackler Gallery, **Washington, D.C.**, through February 6.

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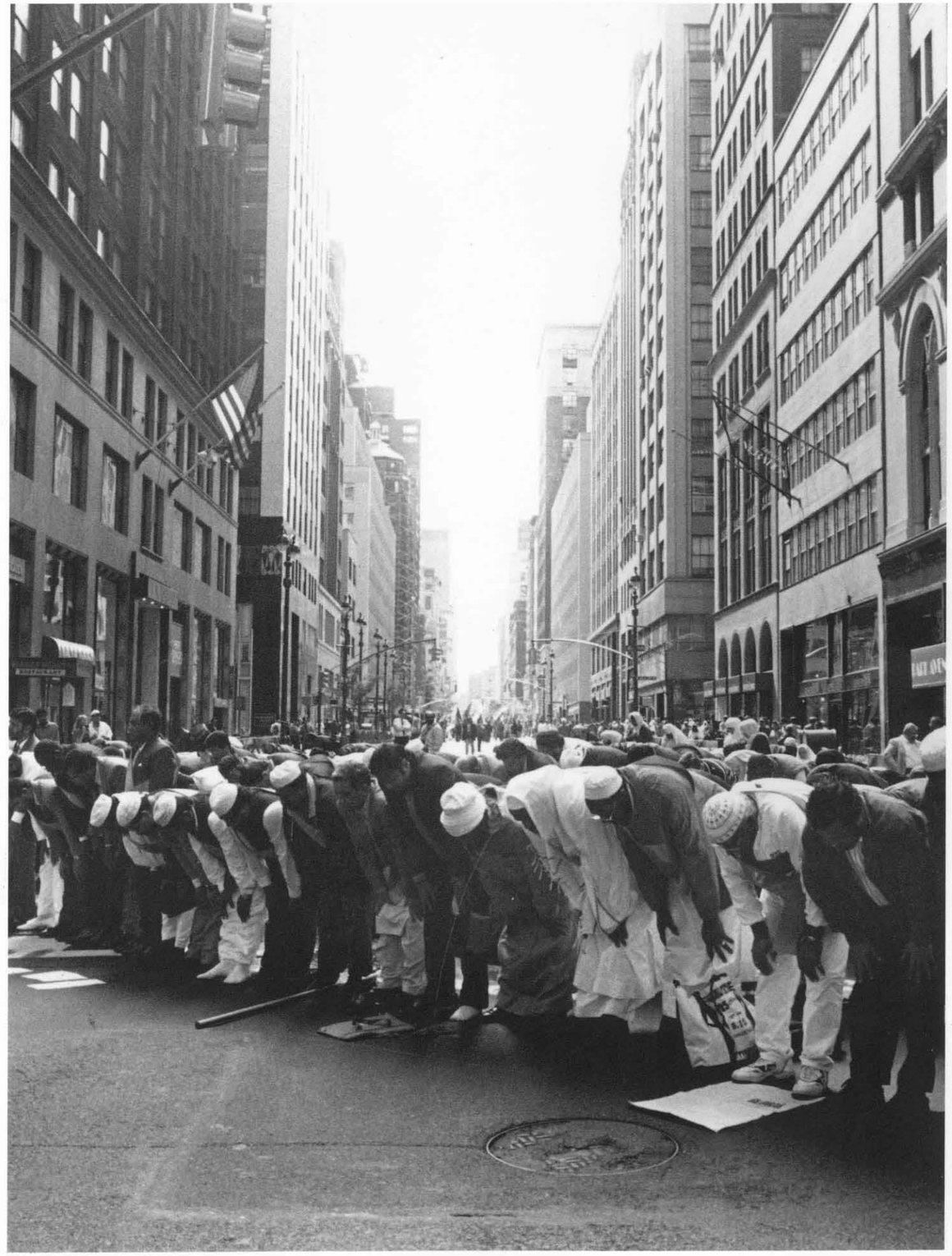

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