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# NATIONAL GEOGRAPHIC

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# NATIONAL GEOGRAPHIC

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## VIETNAM: Hard Road to Peace

### Hanoi: The Capital Today 561

Fourteen years after the unification of Vietnam under communist rule, the Hanoi government is making overtures to the capitalist world. Peter T. White and photographer David Alan Harvey find a nation groping for ways to invigorate a failing economy.

### Hue: My City, Myself 595

Scholar and novelist Tran Van Dinh returns to his birthplace and rediscovers the grandeur and charm of Vietnam's last imperial capital. Photographs by David Alan Harvey.

### Saigon: 14 Years After 604

Officially it's Ho Chi Minh City, but to the man in the street it's still Saigon. Peter White and David Harvey explore a big, bustling city that retains more than a trace of wartime Americanization.

### Western Pacific Rim Map

A double supplement charts the economic progress of a new world power, the western Pacific. Led by Japan's industrial might, with the "little dragons" of Taiwan, South Korea, Hong Kong, and Singapore not far behind, its diverse nations are forging closer ties.

### Finding the *Bismarck* 622

Nazi Germany's most powerful battleship sank in a savage battle with British warships in 1941, after only five days in the North Atlantic. Using sonar and video search techniques, Robert D. Ballard and his team locate its hulk three miles deep off the coast of France.

### In a Japanese Garden 638

A place for contemplation, the Japanese garden can be a stark landscape of rocks and raked gravel or a velvet carpet of moss or grass. Bruce A. Coats explains the philosophy behind these islands of serenity, photographed with an artist's eye by Michael S. Yamashita.

### The Efe: Archers of the Rain Forest 664

In Zaire's Ituri Forest anthropologist Robert C. Bailey studies the Efe, one of some ten Pygmy groups found in central Africa. The way of life of these hunter-gatherers may teach much about our early ancestors.

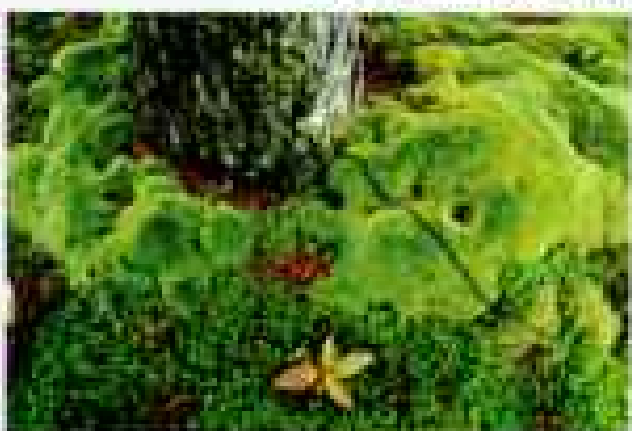
COVER: A young Vietnamese daughter of sampan dwellers maneuvers a reed boat, often used to harvest lotus ponds, around her River of Perfumes home in Hue. Photograph by David Alan Harvey.



VILLAGER NEAR HANOI



BISMARCK'S PORT SIDE

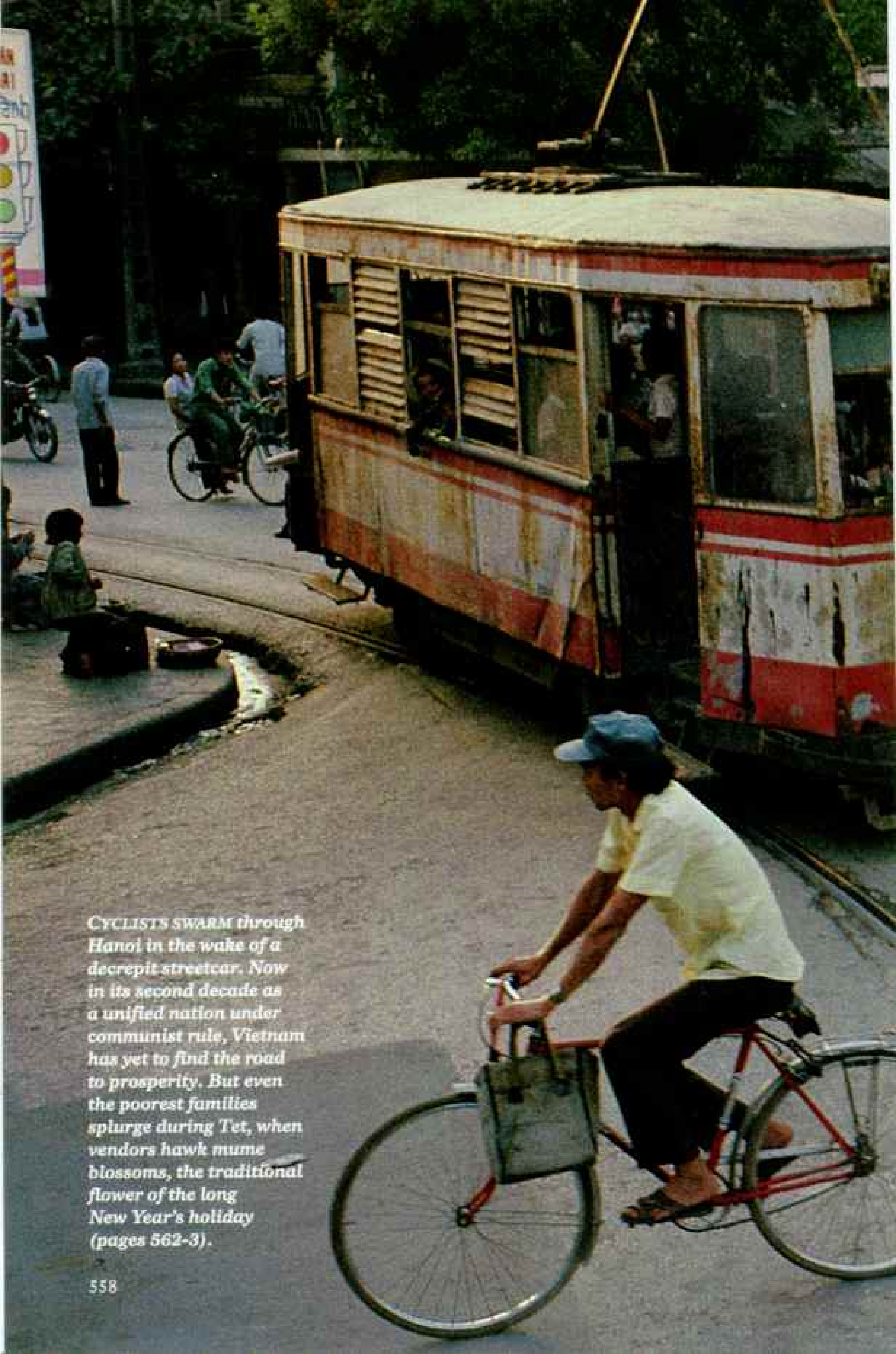


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*CYCLISTS SWARM through Hanoi in the wake of a decrepit streetcar. Now in its second decade as a unified nation under communist rule, Vietnam has yet to find the road to prosperity. But even the poorest families splurge during Tet, when vendors hawk mume blossoms, the traditional flower of the long New Year's holiday (pages 562-3).*







# VIETNAM

## Hard Road to Peace

### HANOI The Capital Today

By PETER T. WHITE ASSISTANT EDITOR

Photographs by  
DAVID ALAN HARVEY

**I** SAW HER on Sweet Potato Street and I'll never forget her. Three feet tall, with a pigtail and a red scarf—maybe eight years old, in her second year of school—she was slowly walking along with both hands holding a newspaper, *New Hanoi*, reading, reading, reading intently. Where but in Hanoi would one see such earnestness in one so young?

And where else so many bicycles? How would I ever cross this swarming intersection—they're coming from every side, they never stop! But it was easy. Walk slowly, keep going, and they'll adjust their course, calmly, avoiding you and one another. In Hanoi, the capital of the Socialist Republic of Vietnam, you can jaywalk with confidence.

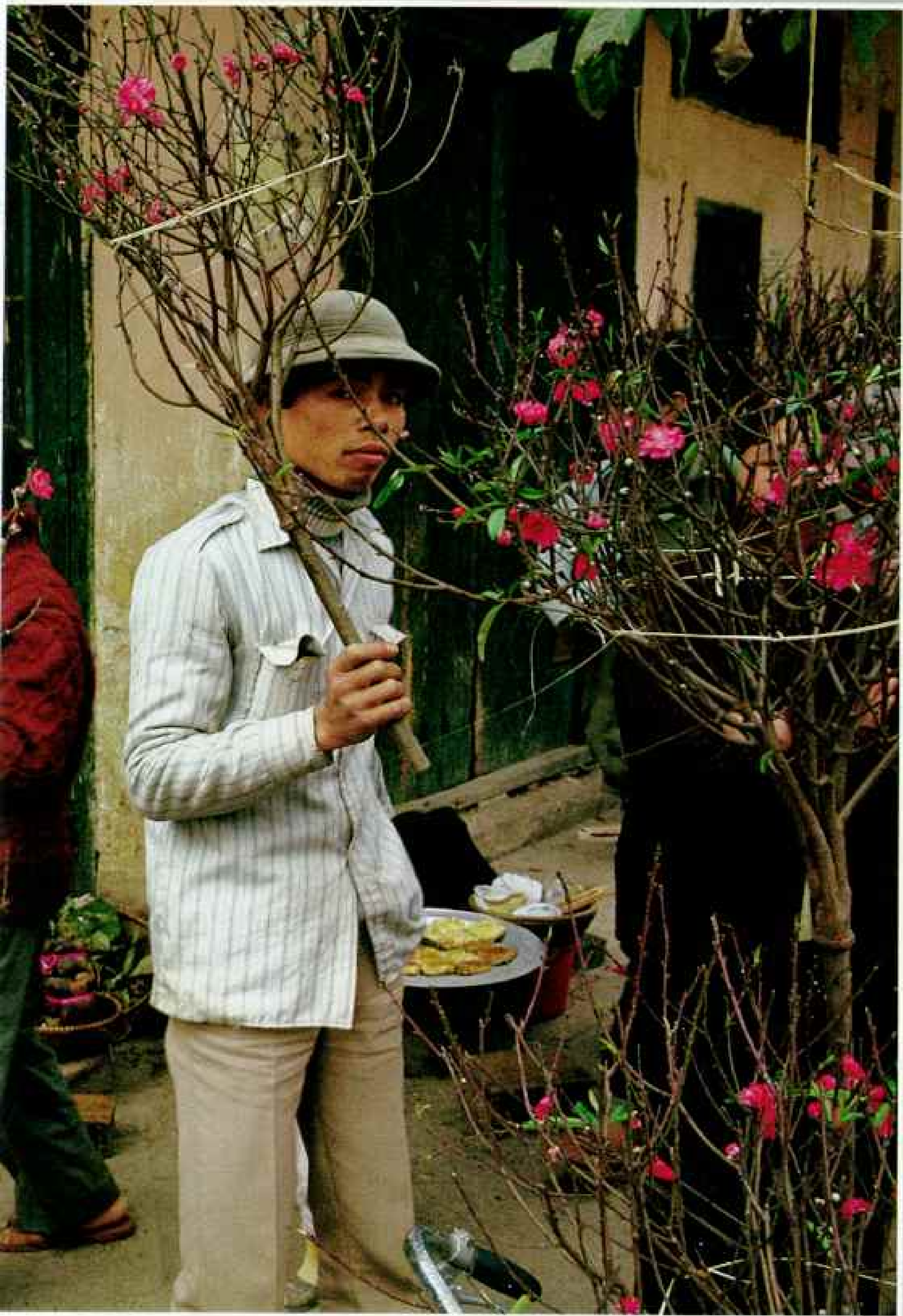
It's a city of trees and a dozen lakes.

White Silk Lake. Bright Heavens Lake. The 2,000-acre West Lake. It's the oldest capital in Southeast Asia, founded in A.D. 1010. Yet every building to be seen nowadays is relatively new. Even in the so-called old quarter—where the streets still have 15th-century names, Tin Street, Jewellers Street, Broiled Fish Street—those narrow little houses were put up only after 1883, when invading mercenaries first hoisted the French flag here. The French departed in 1954, leaving grandiose ministries, an opera house, and villas with yellow facades and green shutters—all late 19th-century style. Yet one continually bumps into something old, into history and legend.

In the heart of Hanoi sparkles the Lake of the Restored Sword: Here the 15th-century hero Le Loi is said to have gone for a boat ride, and a golden turtle rose from the water and took back the sacred sword that heaven had given him to drive out the Chinese Ming invaders. And every one of the four urban and 13 rural districts that make up today's Hanoi municipality—home to one million and two million inhabitants, respectively—contains temples dedicated to heroes who overcame invaders from China. In the 11th century those were the Sung; in the 13th, the Yuan; in the 18th, the Qing. . . .

Alas, Hanoi still has China on its mind. "The northern border is 170 kilometers away," a city official says. "That's less than ten minutes by jet fighter." The (Continued on page 570)



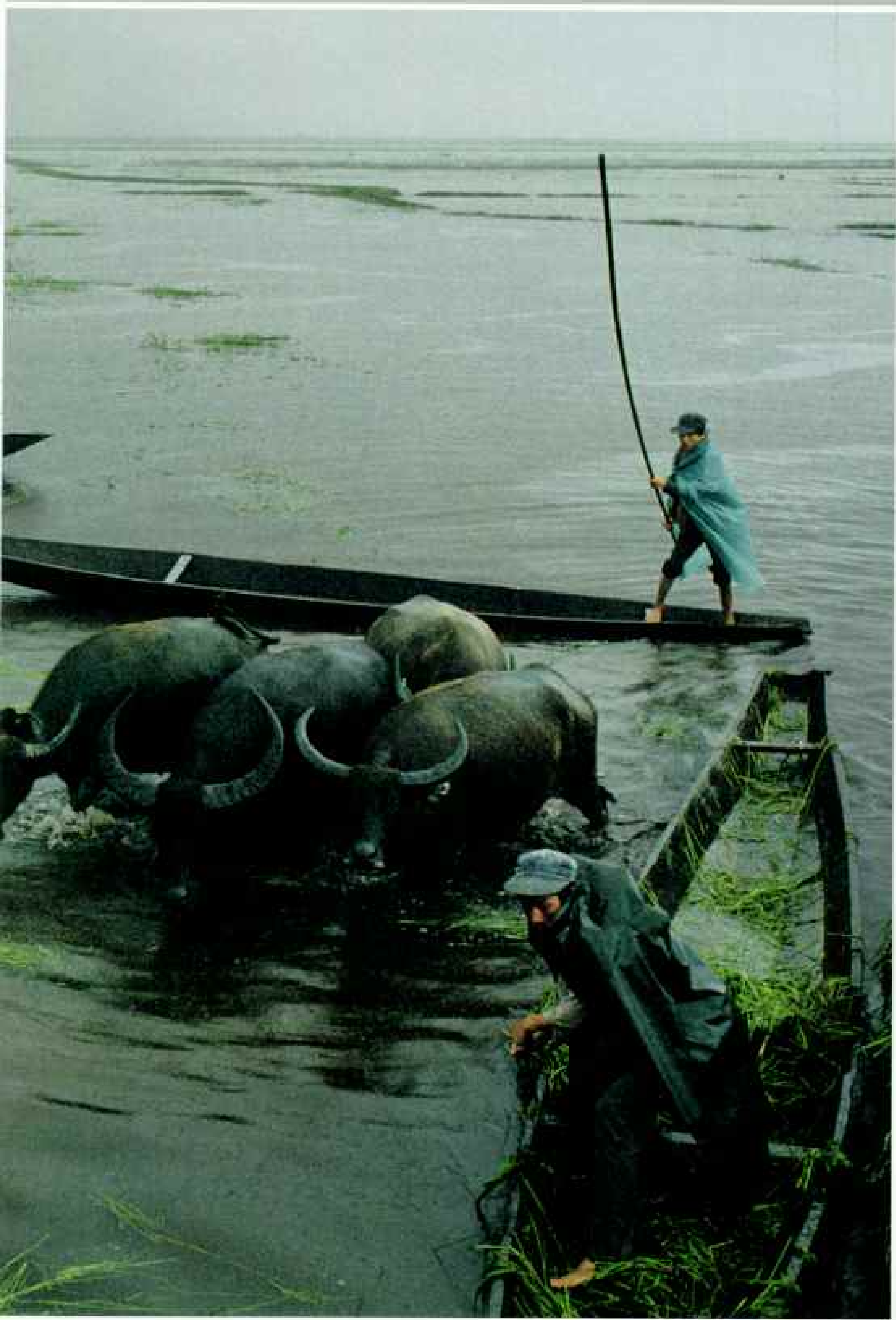




**R**IDING HERD  
in a drowned  
paddy field, rice  
growers corral water  
buffalo in the valley  
of the Red River  
south of the city.  
Used throughout the  
nation for plowing  
fields and other  
labor, the beasts  
still far outnumber  
tractors.

Crude equipment  
and cumbersome  
central government  
planning hinder  
farmers, who never-  
theless managed to  
raise a surplus of  
rice in 1989. But a  
population boom  
since the end of the  
Vietnam War in  
1975 has often  
forced the nation  
to import food.







**A** MARRIAGE of cultures marked the wedding of Vu Thi Thuoc and her husband, Truong Dinh Tien, a university student. Following the old way, the bride was welcomed at the home of her in-laws, where the groom carried her to the bridal bed. Yet her decidedly Western-style dress flouts a tradition that regards white as a color of mourning.

In cities, young people increasingly choose their own mates. In the country, marriages are still often arranged by parents, sometimes before their children have reached puberty.







**Y**OUNG DAREDEVILS celebrate Tet by plunging headlong through the debris of a giant firecracker exploding east of Hanoi in the village of Dong Ky, a fireworks manufacturing center.

In 1968 communist forces broke a holiday cease-fire to launch the Tet offensive, a coordinated attack on major South Vietnamese cities. Although considered a military defeat for the communists, Tet became a psychological victory that led to the withdrawal of U. S. forces and the eventual downfall of South Vietnam.







(Continued from page 561) most recent Chinese invasion was beaten back only ten years ago; even now, a general tells me, cross-border artillery duels occur daily. . . .

Before we go any further, let me tell you why I'm here.

I seek answers to a big question. How is it that these courageous, ingenious, industrious people, who in three decades of armed struggle somehow managed to achieve their aims against far mightier enemies—first France and then the United States of America—have for 14 years now failed to bring to their vast majority even a halfway decent standard of living?

Nobody here disputes that this is so. Officially, per capita income is equivalent to just over a hundred U. S. dollars a year. To make ends meet, a doctor in charge of a hospital has had to be a janitor at night. A distinguished general in his retirement must depend on his wife selling cigarettes in the street; she walks two miles a day so she won't have to lose face with the neighbors.

How do I know this? Well, I go around with Tien, a friendly young man from the Foreign Ministry assigned to translate for me and make the necessary appointments—with an economist, say, or an artist, or a factory boss, or an official of the ruling Communist Party. They're usually friendly too, some very much so, and more than once, when we've touched on matters that seem delicate, they suggest that I "write between the lines," so to speak.

But sometimes I don't need a translator, and so when I describe how certain things work here—what people face in the struggle of daily life, for instance—and I don't attribute that to anyone, you'll know that I heard it from people who don't want to be identified or identifiable.

A note about what people here believe, according to Tien: If you pass a funeral—that's good luck. If you go out early and the first thing you see is a woman—that's bad. Even if she's good-looking? Yes; if she's ugly it's even worse.

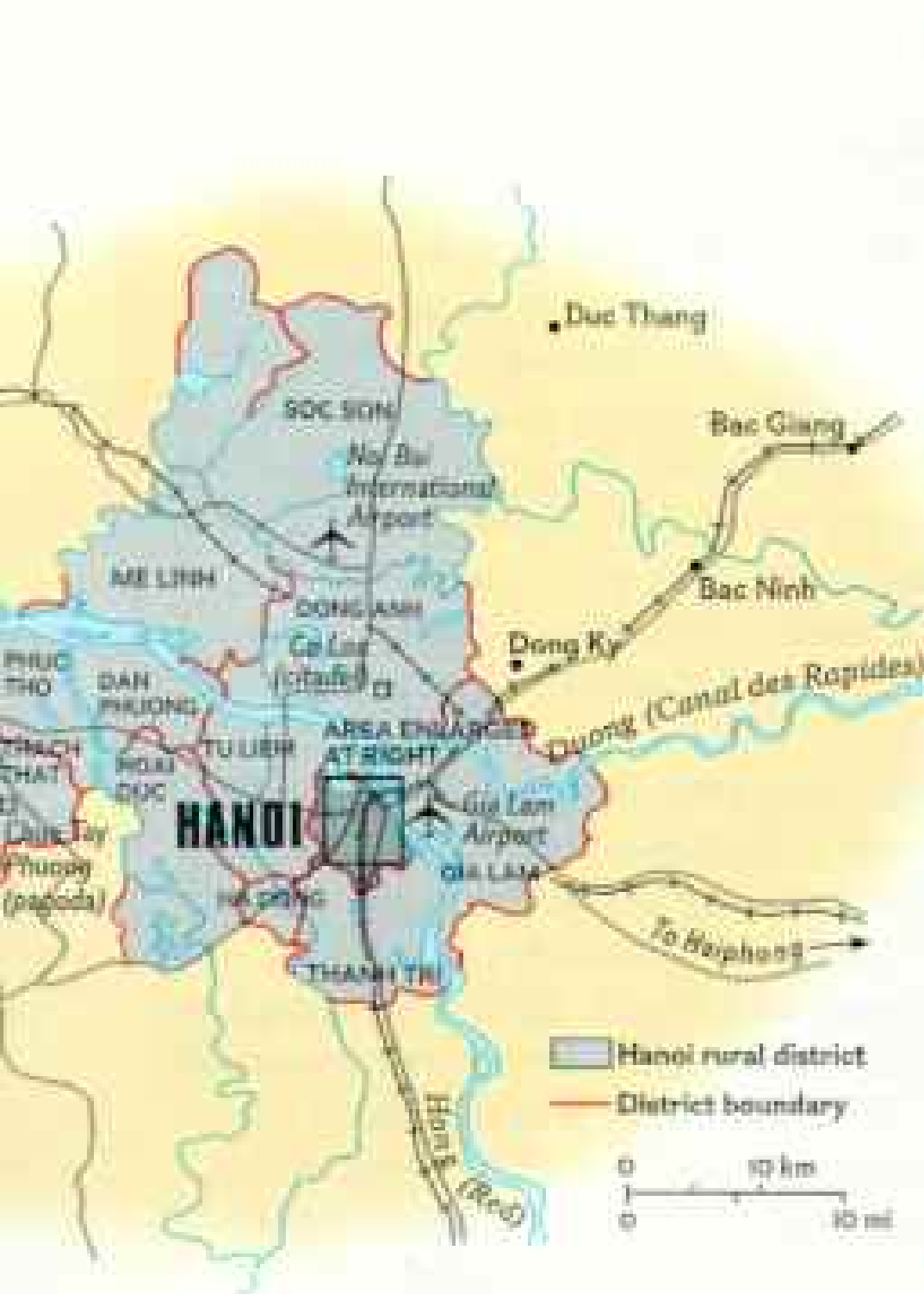
**H**ANOI IN JANUARY! It's chilly, surprisingly so. After all, we're in the tropics—at the latitude of Calcutta, Honolulu, and Havana—and no higher than 56 feet above sea level. The explanation is the cold damp winds



*BEARING THE IMAGE* of cities half a world away, Hanoi retains a flavor of France in its architecture and tree-lined boulevards. The city was a seat of the colonial government of French Indochina from 1887 until 1954. After years of fighting between the French and communist revolutionaries, Hanoi became the capital of North Vietnam upon the partition of Vietnam in 1954.

During the Vietnam War Hanoi's industry was decentralized to lessen the effect of U. S. bombs, and collective farms were organized around the city to ensure its food supply. A series of annexations has created a metropolitan area of three million residents covering more than 800 square miles.





*Hanoi: The Capital Today*

from the north, from China. And why can the temperature stay over 100°F for a whole week in July? Hot damp winds from the west, from Laos. I remember how pleasant it could be in early November, on a typically dry mild day. . . .

A cock crows before dawn, and by 6 a.m. it's light, men are jogging around the Lake of the Restored Sword. A woman pulls a bamboo trap out of the water and takes out a couple of tiny translucent shrimp. Middle-aged men and women toss soccer balls at one another; some play badminton with or without nets; a hundred old men and women form a horseshoe and in unison raise arms and lower them, thrust torsos right and then left, jump up and down—all with loud *aahhhs* and *oohhhs*.

Across the lake wafts a delightful breeze. A group of young women, finished with exercising, marches to the office. And I'm off to a little food shop nearby that's said to have the best noodle soup in town; great for breakfast, with rice liquor. Then on to the Viha bicycle works. The momentous Sixth Party Congress called for *doi moi tu duy*, meaning "renovation" or "new thinking," and specifically decreed reform in agriculture and manufacturing, to boost production. I'd like to find out what the effect has been on this typical state-owned factory.

I see skilled workers with antiquated machinery stamp out parts, shape them, and weld them together (pages 584-5). Two or three of every hundred bicycles get a motor-driven stationary test run of two hours, carrying four weights that add up to 180 pounds; one bicycle with seven weights of 210 pounds bounces over simulated potholes—it'll be run until it breaks down, to see what parts need strengthening.

But why is spray painting done way over there and assembling across the street? Why do so many workers just stand around long before lunchtime?

The vice director and the factory party chief are full of explanations. It all boils down to this: They've been given a target—for this year 16,000 bicycles—"and we can meet that target, so why change?"

But didn't the party congress call for increased production? Oh yes, they say, they've been thinking about improving their operations, "but that's not a simple matter, it takes time, lots of time."

The Sixth Party Congress also legalized private enterprises, and now I watch the country's top leader—Nguyen Van Linh, the party's general secretary—touring a private factory set up in a town house on an alley in the Hai Ba Trung district. Downstairs, looms weave cloth out of silk bought from farmers; upstairs it's imprinted with colorful designs. The proud proprietor says he started four years ago with 15 employees, "as a cooperative." Now he has 85 workers, paid according to their output. Last year he exported \$100,000 worth to Japan, and the profit is his alone; he's paying 10 percent in taxes.

General Secretary Linh looks delighted. "Ah, you started very small, you're producing increasingly for the domestic market and for export, you're becoming a red *tu san!*" *Tu san* means "private producer, capitalist."

Linh's entourage smiles in unison.

"This is good for you, for your workers, and also for the state," Linh says. "Which means you contribute a lot to the building of socialism!" And he's off in his little white Soviet-built Lada to encourage another Hanoi entrepreneur.

In theory, the entire party bureaucracy shares the secretary general's enthusiasm for new thinking, but in fact this is not so. I get my first inkling of that at the Youth Cultural House, where before a thousand onlookers a jury will select *hoa hau*, literally the "queen of the flowers"—or, you might say, Miss Hanoi. This is something very new.

Two dozen finalists strut across the stage—wearing the traditional *ao dai*; then the tightest of blue jeans; and, yes, bathing suits, 1960ish bikinis! From time to time I glance at the two middle-aged party bigwigs in the front row. One grins happily and applauds each contestant, the other sits frozen-faced as if at a state funeral.

**N**EW THINKING also enables me to witness something very old. It's the traditional incense ceremony at the Temple of Literature, first raised right here in A.D. 1070—dedicated to Confucius, in a way the first Vietnamese university. For centuries it was the site of triennial examinations in the Chinese classics. An inscription enumerates successful competitors: In 1733, for instance, out of

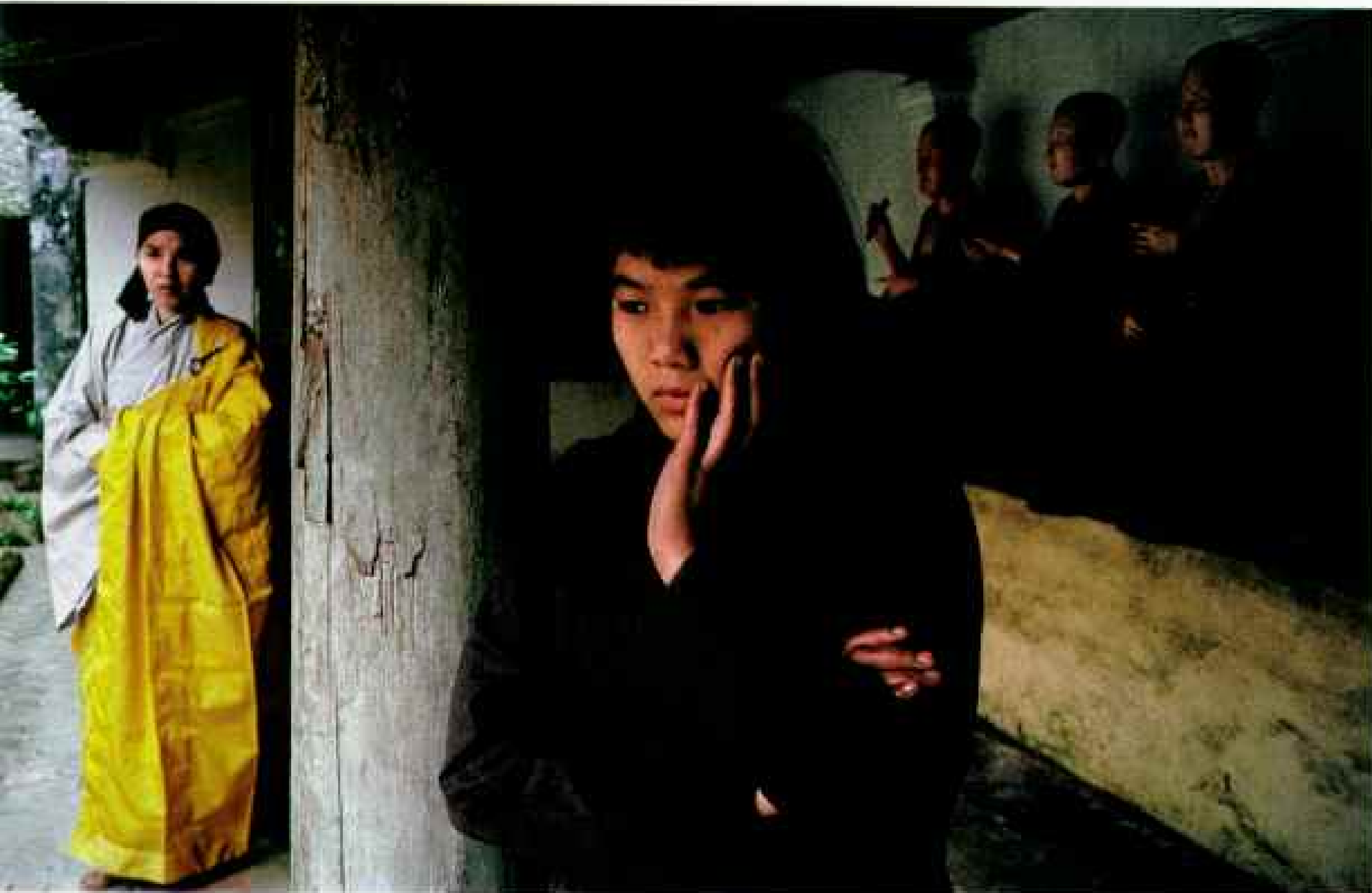




*SMART TAPS ON A DRUM* summon the spirit of assistance (left) in a Confucian temple at the site of the ancient capital of Co Loa in the Hanoi suburbs. The ceremony pays homage to King An Duong Vuong, defeated by the Chinese during the third century B.C.

At the Buddhist monastery of Chua Tay Phuong, first built some 1,400 years ago, a novice pauses for reflection as her teacher waits nearby. Lifelike statues of bodhisattvas, carved in the 18th century, embody the search for enlightenment.

Although some officials maintain their suspicion of believers and the number of religious leaders is still limited, the government has begun to demonstrate more tolerance of public displays of faith.





*FORMER FOES* meet at the Institute for the Military Blind (above), where Bill Franke shows another veteran his shrapnel wound. Both men were injured in the Mekong Delta in the 1960s. Franke, a St. Louis businessman, is a volunteer with Operation Smile International, which does corrective surgery on children in poor countries. In a Hanoi hospital, he carries a girl to the recovery room.

A bridge over the Red River (facing page) that links the interior with strategic Haiphong harbor still shows the damage done by American bombers. Vu Ky, personal secretary to Ho Chi Minh, maintained a bedside vigil as the revered communist leader lay dying in 1969. The room is kept as it was then.



3,000—eight. They became royal officials, mandarins.

This day there's an outpouring of tradition. Men in robes of blue. Sinuous sounds of traditional flutes, strings, and drums. Yellow-robed ladies bearing trays with incense sticks, oranges, and packets of tea; they approach the altar with measured step, kneel, prostrate themselves. . . .

"I've never seen this in my life," says Tien, and no wonder. He's 30, and it hasn't been done here for 44 years—"not since the year of liberation from the French." So a member of the Hanoi party committee tells me. "We thought this was something feudal, to be done away with. I advocated bringing it back. But there was a lot of argument." Approval finally came from the highest authorities, apparently not without dissent. Prime Minister Do Muoi, a member of the politburo, had been expected to attend. He didn't show up.

Foreign Minister Nguyen Co Thach, who's also in the politburo, tells me yes, there are disagreements among the 13 members. "How to renovate our economy? Some want more liberal policies. Others are doubtful. We are groping in the dark."

Odd, I've come to his ministry to hear about his strategy of withdrawing from Cambodia, about defusing the confrontation with China—and the foreign minister talks about the economy?

"Everyone must be concerned with the economy," says Thach. "Look at Hanoi, the city is undergoing destruction! Because the rents are too low, not enough to maintain the buildings. Or the price of rice—we sold it so far below the market price that people wasted it, they fed it to the pigs! Now we all agree we must have a market economy."

**N**DEED, ECONOMIC REALITIES are a daily obsession in Hanoi. Nearly everyone is on the state payroll, but the monthly salaries are so low that one can live on them only a couple of weeks. So one needs additional income—a little job, a little business. And things from abroad. That's why so many apply for jobs in other communist countries. It's a privilege to be picked for a textile mill in Czechoslovakia or an automobile plant in East Germany.

On the sidewalk outside the Labor Ministry a hundred young men and women



are fingering their new passports. They'll soon be off to open a new mine in the Kemerovo region in Siberia. I ask a young man how long he'll be gone. "Six years." Isn't that terribly long? He says he wishes he could stay longer. "Then I could send more things to my family."

What's sent home is not so much to keep or use but to sell—a big factor in Vietnamese family budgets. Typical goods from the Soviet Union: mirrors, electric irons, pressure cookers. Replacement elements for hot plates—very profitable! Maybe a plastic Christmas tree. From relatives now in the U. S. or Canada, or France or Australia, come occasional bonanzas—blue jeans, shoes, cassette recorders, big sellers all, at big prices.

Many Hanoi families have relatives





*THE LAST TRIP HOME* begins for some of America's war dead at a Hanoi airport. As a C-141 transport stands ready, 23 boxes of human remains are prepared for shipment to the U. S. Army Central Identification Laboratory in Hawaii in November 1988. Before takeoff the boxes were placed in metal caskets, which were saluted by American military officers. The months-long process of identification yielded the names of nine U. S. servicemen. Some 2,300 Americans are still reported missing in action in Indochina.

abroad, especially in France, who also send money, often regular monthly contributions. That's how one can buy what's most pressingly needed and now and then a bit of luxury, maybe an electric fan.

Very good too is when a family member can go abroad as a sailor or student, or on a diplomatic mission, and bring back a secondhand motorcycle, free of duty. Maybe a Peugeot. Or a Honda; that might sell for 15 *chi*, which is 55 grams of gold. At the time of my visit that was 4.5 million Vietnamese dong, or about \$800, enough to start a nice business. . . .

But who can afford to buy such big luxury items?

Oh, all kinds of dealers, I'm told. There



are small "resellers," and bigger ones who take the train or trucks south to Ho Chi Minh City and bring back goods smuggled in across Cambodia from Thailand. Really big resellers can accumulate money very fast, a government economist tells me. "There are very rich people here, in dollars and in gold." In the old quarter one of those 12-foot-wide houses — with a shop selling Thai sports clothes or Taiwanese watches or Japanese cosmetics — might go for a hundred *luong* of gold. That's four kilograms, at the moment worth 260 million dong, or \$52,000. If you don't think that's a lot, consider this: It's roughly 9,000 times the average monthly salary.

But for the majority the drab daily routine

is an incessant struggle to make ends meet. That's the main reason why, every month, hundreds still find their way to a certain beach in Quang Ninh Province, on the Gulf of Tonkin. A family will scrimp a long time and pay all it can in the hope that one son might get on a rickety motorboat to Hong Kong — and then maybe on to that life of opportunity they've heard exists in North America and in France. . . .

**A**H, THE FAMILY! It comprises not only the living generations but also the dead ancestors whose spirit is embodied in the living. Thus the ancestors are always present, always honored — but especially so during Tet, the exuberant three days of celebration at the beginning of the lunar year, in January or February. There should be new clothes, at least for the little children, and lots of good food. It takes a lot of preparation.

Dozens of booths have sprung up around the Lake of the Restored Sword, offering packets of tea, liquor, and boxes with candied fruit. And a new luxury item, Vietnamese-made instant coffee! Tien is pleased. "In the past two years they've chosen beautiful women to sell these things. Before they didn't care how they looked." It's all the same stuff at the same prices, he says, so they try to compete that way; state shops now may hire help on short contracts and get rid of the ones who don't do well. "At last they're learning how to run a business."

Crowds jam the Tet flower market, set up out in the streets of the old quarter. Miniature orange trees — no, those are kumquats — peach tree branches, cut flowers, balloons. It looks chaotic, but the Flower Market Committee assures me it's carefully organized. Each seller — most of them come from the flower village along the West Lake — has paid for his assigned bit of space.

On the eve of Tet the biggest pagoda in Hanoi is full of smoke and people. They gently shake smoldering incense sticks before huge gilded images of Buddha. Around midnight begin the firecrackers — they'll be going off around Hanoi by the millions. They come by the string, each primed for hundreds and even thousands of explosions. Some have small powder loads interspersed with big ones — *crackle, crackle, crackle, boom!* "It's to make everything unhappy go away," says



*ZEALOUS REVOLUTIONARY* since the 1920s, Gen. Vo Nguyen Giap (above) today commands his government's program in education, science, and technology. Ngo Quoc Toan, a pilot who shot down two American jets, has returned to the family flower business (top). A barred window now allows light into a cell at the Plantation that had only air vents when Navy pilot John S. McCain III was imprisoned, beaten, and forced to sign a propaganda statement. McCain is now a U. S. senator from Arizona.

Tien the next morning, when the crackling and booming is again in full swing. Bluish haze hangs over the old quarter as if it were a battlefield. It's a war on unhappiness, on misfortune.

The first day of Tet is for making visits of well-wishing and eating enormous meals. One of my hosts quotes an old saying: "Hungry all year but Tet three days full." Another waxes nostalgic: "Tet used to last a month. You'd show up at the office, have some drinks, and go home again. But no more. Now it's like that only for a week."

By late evening there normally still is bustle and noise from people and shops, but not tonight. On Tin Street, Basket Street, Oil Street, all is calm, all is silent. On Leather Street faint sounds come from a window, it's TV. Everyone's home, quietly eating Tet, as the phrase goes, meaning enjoying Tet.

Out in the dim and unaccustomed calm I become aware of the great trees spaced along the sidewalks, some 40 feet apart. Sunk into the spaces between used to be little round concrete air-raid shelters built for one.

"When the American planes were 50 kilometers away, we heard alarm three," I've been told. At 30 kilometers, alarm two. At alarm one you'd get in and pull the concrete top over your head. Sometimes two would



30







*PROSPECTS BRIGHTEN for laborers working potato fields on a collective farm, thanks to Hanoi's flirtation with private enterprise. Under the government agricultural reforms, individuals may lease plots of land for as long as ten years. After meeting his quota, a farmer may sell his surplus on the open market.*

*Established in hopes of putting more food on the table, the farm incentive program is aggravating another problem. As the government seeks to reduce the birthrate, it meets resistance from farmers who want more children to work their leaseholds.*



squeeze in, or three. "Two was best, less scary." It would only be for 15 or 20 minutes, but maybe several times a day or during the night. People also had such shelters in their houses, under their beds. . . .

Intensive bombing came just before Christmas 1972, aimed at military objectives, warehouses, the Red River bridge—but bombs don't always land where they are aimed. In the Army Museum I've seen four-barreled anti-aircraft guns, Chinese-made, and SAM-2 missiles and radar trucks from the Soviet Union. Hanoi put up the fiercest air defense ever recorded. Hundreds of downed U. S. airmen wound up in Hanoi prisons—they called them the Zoo, the Hanoi Hilton, the Plantation (page 579). There was torture, to make them tape antiwar messages. . . .

Those prisoners went home in 1973, after the signing of the Paris peace accords. And the sidewalk places where the little shelters were have been paved over; they're gone without a trace. But I've had graphic reminders of the human cost of what happened here not so long ago.

U. S. military specialists are here to search crash sites for remains of Americans still missing. At the Hanoi airport I watched sets of remains in wooden boxes placed in aluminum caskets and ceremoniously carried—while officers of the U. S. Army, Navy, and Air Force saluted—aboard a USAF C-141 transport plane, to be flown to the Army's Central Identification Laboratory in Honolulu.

And in a smoke-filled pagoda I've just seen rows of small pots with flowers and incense sticks, some with photographs. A middle-aged woman noticed me and pointed to a photo of a young man, holding a little boy, next to a young woman holding a baby. Then she made a gesture—bombs. She didn't look angry, just sad.

**I**'M SURPRISED there are so many Americans in Hanoi. Reporters are here from newspapers big and small and from the television networks. It was difficult to get visas in the past; it's easier now.

Groups of Vietnam veterans are visiting too—some help in hospitals. The authorities make it clear they're glad to see Americans, the more the better.

"We wish for a better relationship," says

Tran Tan, the mayor of Hanoi. Like every other official I've met, he hopes there'll soon be diplomatic relations. I tell him a lot of my countrymen would say, oh sure, they're after our dollars! What should I say to them? Mayor Tan laughs. "It's not your money. Just do not treat us as an enemy. Stop embargoing us. Treat us as you treat everyone else."

The largest number of Americans in town, hundreds of them, are *Viet kieu*, "Vietnamese living outside," who returned here to be with their families for the holidays. A young woman with a job in a bank in Boston says she'd been worried—would the police bother her? But she's had no trouble. Her little nephews are prancing around in their new Boston Red Sox jackets.

**T**HE HANOI CHILDREN I meet take foreigners in stride in the inner districts but not in the suburbs. Outside a primary school, at lunchtime, a hundred youngsters crowd around me, looking up cheerfully. I can hardly move. Tien asks them, don't you know how to behave? A boy answers with a big grin, "Yes, the teachers say do not surround the foreigners and stare at them."

When the kids first spot you, they shout "*Lien Xo, Lien Xo!*" That's Vietnamese for Russian, but they say it to all the Westerners because the majority are in fact from the Soviet Union—technical experts, advisers, tourists in groups. Explain that you're an American and they become even more excited. One or two are sure to shout *Good Mor-Ning!* Or *Hell-O.*

I've noticed that the Soviets tend to ignore the children and go around with unsmiling faces. It's said they've been ordered to stay aloof—no wonder one senses a coolness toward them. Still, this must puzzle the Soviets. After all, Vietnam receives massive Soviet aid, not just war matériel but necessities of daily life.

At dockside in Haiphong—the harbor of Hanoi, some 60 miles east on the gulf—I've watched a freighter from Odessa unload a tractor, a truck, a diesel locomotive. Stacked on the dock were steel reinforcing rods and rolls of newsprint, made in the U.S.S.R. What's going back to Odessa? Grass carpets, hats. "Good stuff," said the first mate. Vietnam also sends rubber, tea, coffee. "We've



*THE UPPER CRUST* of a theoretically classless society includes top government workers, professionals, and a handful of entrepreneurs. Preparing to celebrate Tet, a well-dressed couple stop their motor scooter to buy flowers.

In a relatively luxurious home, television producer Tran Duc (left, at right) and his family pay respect to their ancestors.

For others, the chance for a better life means a temporary job in another country or outright emigration.









*BENT TO HER TASK, a woman welds bicycle frames for a nation that travels mainly on two wheels. An independent producer of bike parts (lower left) helps meet the demand. Such initiative is now encouraged by General Secretary Nguyen Van Linh (lower right, at left), who visits a private textile plant. Hanoi Mayor Tran Tan, at right, points out additional facilities.*

put in billions of rubles," says a Soviet economist, "and got perhaps 10 percent back."

**O**H, TO GET away for a while from the grubby present and far into the Vietnamese past! That's easy, only a 25-minute drive away—across the Red River and into Hanoi's rural Dong Anh district. There's something timeless about this flat landscape of the Red River Delta. It's a world of rice fields, some flooded, some being plowed, some with yellowish green shoots a foot high. Two women are swinging a basket on strings, rhythmically, to move irrigation water from one field to the next. Men and women carry baskets with fertilizer; excrement of water buffalo is good, I'm told, but pig excrement with chopped tree leaves is best.

And there it is, what has been called the Troy of Vietnam: Co Loa, capital of King An Duong Vuong, established 255 B.C.

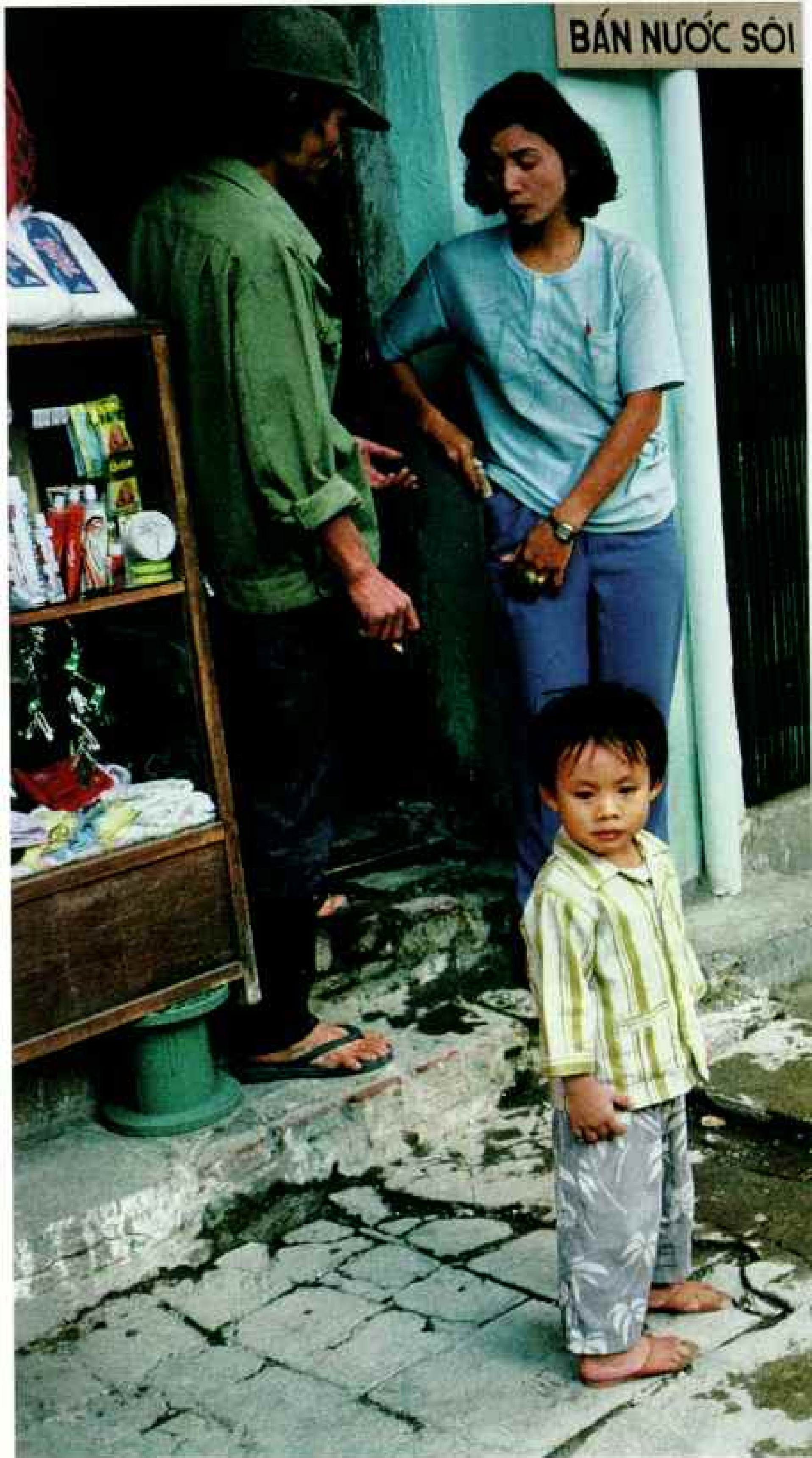
That much is documented history. With it goes this legend: A golden turtle helps the king build his city and tells him, "The prosperity of the kingdom depends on the will of heaven. If men can correct themselves and be virtuous, heaven will help them." The turtle gives him a magic trigger for his cross-bow, to make him invincible; each arrow can kill 10,000 enemies. Thus the king routs the first Chinese incursion. But through trickery the Chinese general obtains the magic trigger, attacks, and defeats the king. . . .

Back to history: Co Loa was taken by the Chinese in 111 B.C. And for the next 1,050 years the land of the Vietnamese remained under Chinese domination. King Ngo Quyen at last ejected the Chinese in the tenth century; subsequently King Ly Thai To founded a new capital with the auspicious name Thang Long, meaning Soaring Dragon. Its present name, Ha Noi—the two words represent the Vietnamese pronunciation of two Chinese characters, "river" and "inside,"



*MARKETPLACE, playground, a place to bathe the baby or wash the clothes, the streets of Hanoi are seldom quiet. As children tussle, a man strolls in his military-style helmet, common headgear even for civilians.*

*A woman makes change after a sale at her display of food items and knickknacks. Above her head a sign advertises boiled water. Because of the risk of disease, tap water is often boiled, and restaurants scald their plates before serving food. So prevalent is the problem that the main Hanoi hospital devotes an entire ward to children with gastrointestinal disorders.*









*QUIET DISCIPLINE* underlies the works of musician and poet Van Cao, whose "Advancing Army Song" became Vietnam's national anthem. He enralls audiences by meditating, then playing extemporaneous compositions that are never repeated.

A contestant clad in a 1960s-style bikini does a turn during Hanoi's first beauty contest. Like their counterparts in Western countries, entrants were judged not only on beauty but also on their views about such topics as the ideal marriage partner.





signifying the city inside the bend of the Red River—dates back only to 1831. By then the Vietnamese rulers had moved their seat south, to the city of Hue.

**A**LIVING SYMBOL of Vietnamese martial success is Gen. Vo Nguyen Giap (page 578). He made the French surrender at Dien Bien Phu, then helped devise strategy that held U. S. forces at bay, and in 1975 crushed the South Vietnamese Army to force the unification of all Vietnam. I find him disarmingly modest.

“Our general staff made plans,” he says, “but what mattered most was the creativity of the people.” He gives me half a dozen examples, like this: A woman transport commander on the Ho Chi Minh Trail—the many-branched military supply line to the

south—figured out what to do about magnetic mines dropped by U. S. planes to blow up trucks. “After the plane passes, you come out of your hole, take a piece of steel on a long rope and pull it past the mine, so it explodes harmlessly.”

Today Giap, still a four-star general, is deputy prime minister in charge of education, science, and technology. “Now the challenge is economic,” he tells me. “We must give creativity a chance.” He says he has a dream, that Vietnam will advance to the level of the most advanced countries of the world. “That dream will come true. I think of it day and night.”

Maybe I shouldn’t have, but I blurt out something that’s been bothering me, about the retired three-star general now so poor that his wife must sell cigarettes in the street. Is this true?

General Giap says, “It is true.”

**T**HE MOST INFLUENTIAL Vietnamese of this century is Ho Chi Minh—the legendary Bac Ho, or Uncle Ho, as he liked to be called—who dreamed not only of an independent but also of a prosperous Vietnam. I visit the man who knew him best—Vu Ky (page 575), now 68, for 25 years his secretary and with him every day until he died 20 years ago.

I ask Vu Ky about the gigantic marble mausoleum in the Ba Dinh district where President Ho’s embalmed body lies on display, like Lenin’s in Moscow. How can that be reconciled with the spirit of this man who disdained to move into the French governor general’s palace, who had a little wooden house built instead, near a pond, specifying the least expensive timber?

Vu Ky says that as the president’s health worsened, “I sent three doctors to the Soviet Union to learn the embalming technique. But we didn’t tell him, he would have squashed the idea.” Now Vu Ky oversees construction of a gigantic Ho Chi Minh Museum, to open next year on his hundredth birthday. “The little house represents how Bac Ho lived and acted. The mausoleum and the museum correspond to his importance in the eyes of the people.”

What if Bac Ho could be alive again tomorrow, what advice would he give? Vu Ky reflects a moment. Then he tells me, “This is what Bac Ho often said: ‘Life

always creates difficulties. You must move forward and not be afraid to make mistakes. But don't allow mistakes to go on too long. And don't cover up the difficulties. . . ."

**M**ISTAKES, difficulties—talking about these seems to be part of the current party line. The economic mess is rooted in "fundamental mistakes by the leadership," says a German-trained economist; he's the top economic adviser to the general secretary.

"They wanted big projects—just look at that new Red River bridge! Huge investment, little traffic!" And all industry state-owned, all agriculture centrally directed—big errors! A state monopoly on trade—no incentive, catastrophic!

"We now try to change all that"—maybe there'll be good results, real changes, in five years. "It will depend on whether we can improve our economic mechanism, on how much capital we can raise, on a new political climate in Southeast Asia."

One can sense the beginning of change in Hanoi. Businessmen from Thailand and Japan are sniffing around for new markets. Contracts for offshore oil exploration have been signed with French, Dutch, and Australian companies; loan officers are expected from the World Bank. In the old quarter private coffee shops are multiplying; so are private restaurants, shoemakers, and tailors all over town, even private dancing places. Private shops new and old offer things brought across the border from China—apples, cooking pots, sewing machines.

But will five years be enough to make a big difference? The mess goes deeper than is dreamt of in that adviser's economics. It's rooted in the minds of the people, in their daily lives and in their past. Look:

In those five-story apartment blocks for civil servants in the Dong Da district—built in the 1970s and 1980s, all already looking decrepit—a couple is entitled to 12 square meters, 10 by 13 feet; with two kids, it's 11 by 15. The windows have no glass, only shutters, and there's no heat, so people go to bed in winter with thick socks and quilted jackets and trousers.

Now say the electricity is out on your block, and you connect a wire to another block, so your apartment will have light. Neighbors will complain—why do you have

electricity and we don't? Or say you get a barrel and a pump so you can have running water on the second floor; they'll throw your barrel away and say you're selfish, why don't you fix the system so everyone can have water upstairs? "It's jealousy, under a pretense of collective interest," I'm told. You'll come to the attention of the *chinh quyen*, literally the "political power," meaning the administration. Always, everywhere, you're under some kind of *chinh quyen*.

There's the block committee—it keeps a file on you and can report to the community committee that you're not good for the community. Want to travel abroad? Your file will be checked. Or a bad report could go to the ministry where you work. For example: Anonymous complaints say so-and-so brought back ten motorcycles from abroad; he didn't, but the investigation takes three months and goes all the way up to a deputy minister. In short, you're surrounded by jealousy and suspicion. "All these walls have ears and eyes."

In the state office, or factory, the unspoken guideline is caution—even if one has risen, after party school, to be a deputy department head, with a bigger apartment and maybe a car and a driver. Whatever comes up, the question in the back of one's mind is—if I do this or sign that, is it safe, will it be good for me? There's much talk of new thinking, new ways of doing things, but it's still the same routine—where is this paper, and that paper, you must have five papers. You must explain to Mr. Minh, and to Mrs. Nga, and then see Mr. Tuan. . . .

Because everyone is afraid. The administrative practices are patterned on the Chinese model. Which was patterned on the Soviet model. But the underlying model of mutual suspicion—of distrust of the individual—goes back to the traditional Vietnamese village, to centuries of unsettled times, rebellions, civil wars. Only the need to repel foreigners made people pull together, but in wartime, I'm told, the paranoia could even be worse—"Anyone could be a spy."

**S**EARED INTO THE CONSCIOUSNESS of many a family is what happened during the land reform of the 1950s: "to take off the yoke of the feudal landlords."

Villagers were incited to denounce





LURED BY SIGNS promising reasonable prices, a customer makes quick work of a bowl of fried noodles and beef (left).

With refrigeration a luxury in Vietnam, animals are often slaughtered just before cooking. In a specialty café, a cook will wait until the last minute before butchering two dogs for the pot. The fondness of many Vietnamese for dog meat—boiled or roasted—does not diminish their love of the animals as pets.

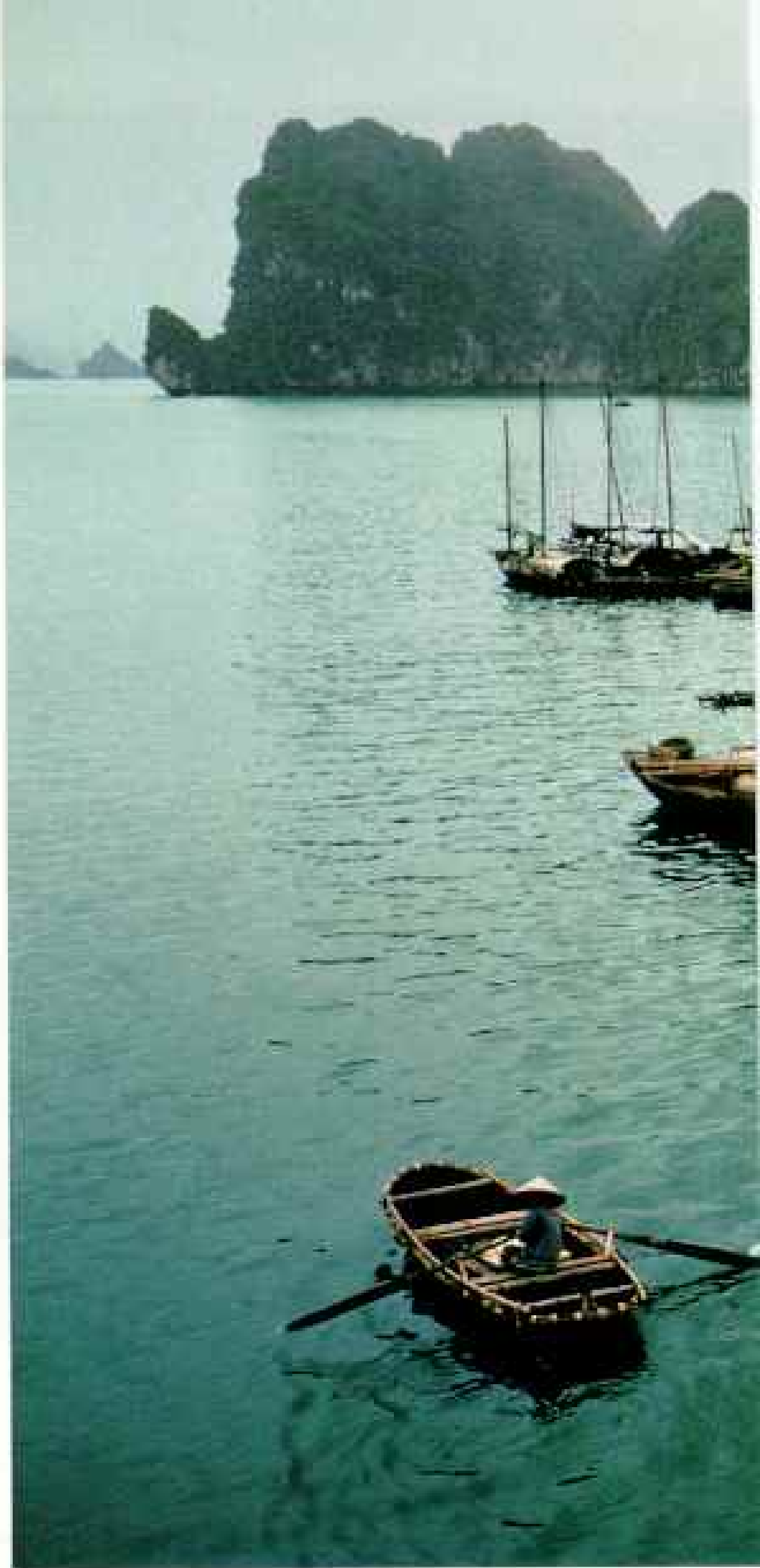
*ETHEREAL FORMATIONS* said to house spirits rise beyond sampans fishing Halong Bay, for centuries a place of inspiration for poets. Dotted by more than 3,000 islets, the waters of Halong wind through coves where guides lead boatloads of sightseers on torchlit excursions. A trickle of tourists from the West now joins the stream of those from communist countries. Vietnam, hungry for foreign currency, is asking Americans to come back, this time in peace.

"despot landlords" before "people's courts." Sentencing would be swift—expropriation, imprisonment, or immediate execution. That way thousands died. It was the Chinese model at its most virulent. Then the leadership admitted that there had been big errors. Bac Ho himself went on the radio—he said he felt responsible. And he cried.

Later the government sought to redress the worst mistakes, I'm told. What if your father had done great service to the party, and to the revolution, and had been imprisoned anyway? "You'd get a document saying what happened had been wrong." And for his big house, now full of strangers, you'd get symbolic compensation—maybe a 15-by-24-foot apartment in Hanoi.

**N**OWADAYS, so I hear, there are lots of gastric ulcers among officials; they're torn between what they have to say and what they'd like to say. "Especially the older ones, who once had faith in the party." They're disappointed to see so much unemployment, nepotism, corruption; rising criminality, disaffection among the young and even within the People's Army; in short, so much failure. Many supported the party in the first place only because it was the one effective force to get rid of the French. "They didn't fight for communism but for survival of Vietnamese culture."

But a wise old member of the party's central committee minces no words. He quotes what an adviser told the first Chinese Han emperor 2,000 years ago: You can conquer the world on horseback, but you can't rule the people that way. "After the victory in 1975," he says, "there was an explosion in the heads of our leaders. They thought they



could do anything. It was communist arrogance, communist vanity." He adds those are Lenin's words, not his.

What had best be done now? A West German expert brought here by the United Nations Development Program, to improve the production of maps, says that before moving in modern printing machinery the old building had to be completely renovated. It simply wasn't suitable. To bring Vietnam into the mainstream of modern life, will the entire political framework have to be junked? That may well be the next big question. The next party congress has been announced for 1991.



**I**T'S A COOL February morning, soon I'll be going home. Tien says it's a good time for dog meat—boiled, with ginger, and roasted, with plum sauce. I eat, but my heart isn't in it. The talk of the town is *Gone With the Wind*—it was on TV last night. "Interesting," a man says, "a clash between an industrial and an agricultural economy." Several ladies tell me Rhett Butler will get Scarlet after all.

But in the final scene he walked out on her! "Ah yes, but surely he'll come back to this fine woman who cares so much about the farm of her ancestors, about her family. Those are the things that count—sooner or

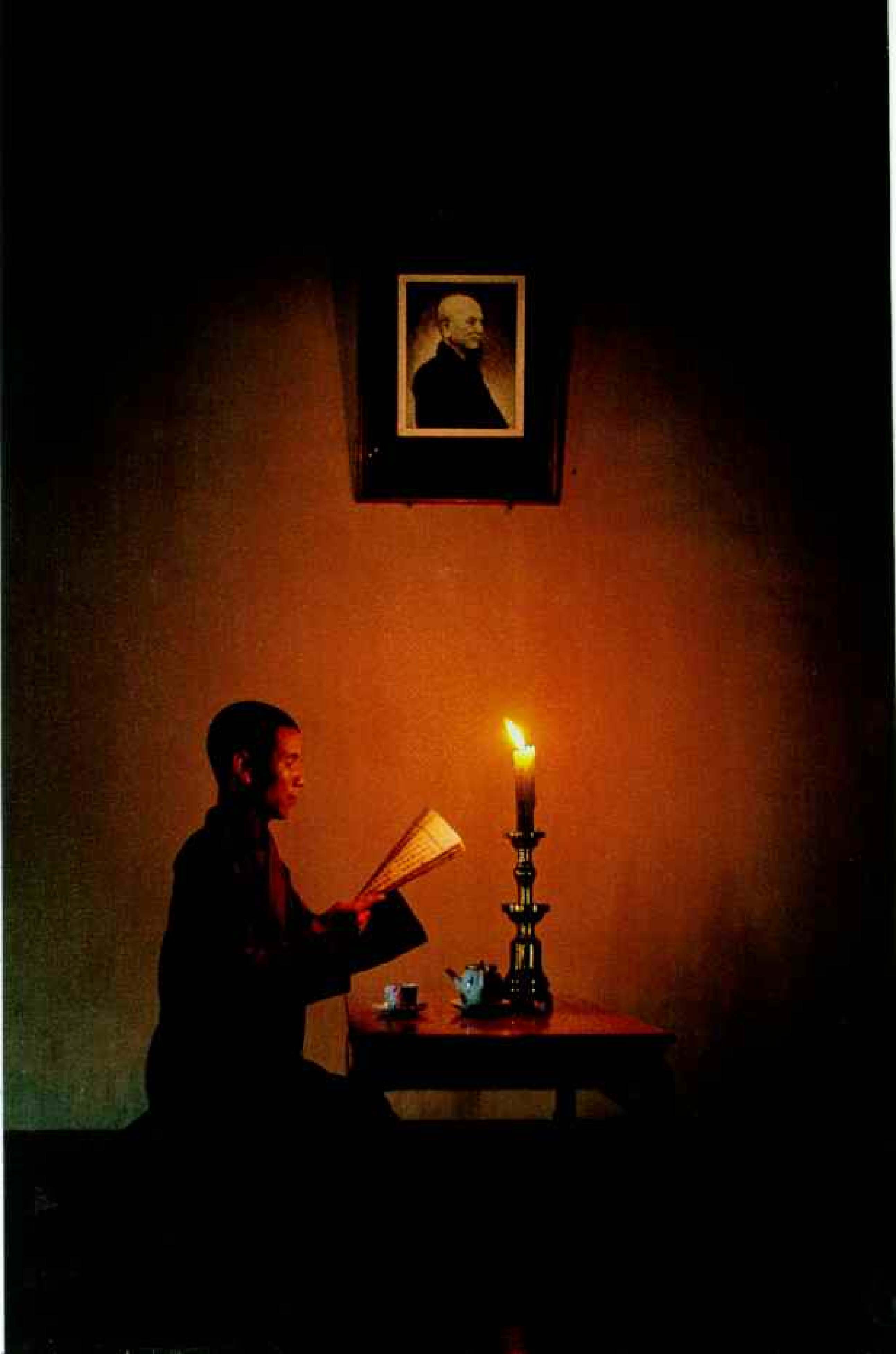
later he must realize that." I suppose what I've heard so often must be true: The Vietnamese can be determinedly romantic.

Before heading for the airport, I drive out into Hanoi's Soc Son district, to the temple of Thanh Giong, the quintessential Vietnamese hero. Long ago, when he was three years old, he sent word to the king, asking for a sword and an iron horse. Overnight he grew up, to great size and prodigious strength, and defeated—guess whom? The Chinese! Then he disappeared into the clouds. . . .

Can the Vietnamese find some miraculous way out of their difficulties—soon?

I hope so. □





**T**HE VIETNAMESE WORD *minh* can be translated "my body, myself." The people of Hue call their city Hue Minh, as if the stones of its palaces and temples, the waters of the River of Perfumes, and the tombs of its bygone heroes and emperors are the bones, bloodstream, and spirit of this most historic, civil, and beautiful of Vietnamese cities.

"Wherever I go, I always miss Hue," a folk song says. "I miss the cool breeze on the River of Perfumes, I miss the clear moon over the Imperial Screen Mountain."

These poignant words ran through my mind last November when I returned to Hue after more than three decades of absence, and I wondered if the city of the song, the city I remembered so fondly from my earliest years, still existed.

My efforts to contact old schoolmates had failed; communications between Vietnam and the United States, my adopted country, were difficult and slow. I half-expected to find the war-torn city in ruins and its spirit subdued. Would I myself, a son of Hue who had become an American citizen, be welcome in "the place where my placenta was buried and my umbilical cord was cut"?

Hue soon gave me reassuring answers to these troubling questions. On my first morning I visited Dong Ba (Eastern Wave) Market with my NATIONAL GEOGRAPHIC colleagues. When the market women heard me speaking English, they asked if I was *Viet kieu* (overseas Vietnamese) and how long I had been away from home. When I answered in the Hue accent—

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TRAN VAN DINH is the author of two novels, *No Passenger on the River* and *Blue Dragon White Tiger*, that take place in Hue during and after the Vietnam War.

# HUE

## My City, Myself

By TRAN VAN DINH

Photographs by  
DAVID ALAN HARVEY



*Serene as a Buddhist monk, the last imperial capital of Vietnam keeps vigil over the past. The author (above, at right) found orchids and poets still blooming amid the sampan villages and graceful gardens of his native city.*

a soft, drawling, almost inaudible way of speaking—one lacquer-toothed woman cried out in happy surprise: "He still speaks like us! He has been away for so many years, and he is still *de thương*."

This expression means "likable, charming," and in Hue it is a great compliment. After so many years of absence I truly felt that I was home again.

Later, to my delight, I found most monuments and palaces in

Dai Noi, the "great interior" of Hue, in recognizable condition. The imperial capital built in the 19th century by the founding emperors of the Nguyen dynasty preserved its alluring beauty and its architectural poetry.

To its people Hue is a poem, but it began in a legend. In 1601 Lord Nguyen Hoang, father of the Nguyen dynasty, visited a rude village on a site now occupied by the Citadel. There, on a hill shaped like a dragon head, a



peasant had seen a lady dressed in a red gown and green trousers. She prophesied: "Soon a true king will come here to build a pagoda that will attract and converge all the heavenly forces and energies of the *Long Mach*—Dragon Veins." Thereupon she vanished into the blue heaven.

Lord Nguyen Hoang built a pagoda on the hill and named it Thien Mu (Heavenly Lady). In 1844, under Emperor Thieu Tri, a seven-story tower was added, with each platform dedicated to a different

manifestation of Buddha. Thieu Tri also completed all the monuments and palaces started by his grandfather, Gia Long, and by his father, Minh Mang.

**W**HEN I ENTERED Hue's famous Quoc Hoc (National Studies) School in 1937, the city, with a population of less than 50,000, was seething with underground politics and bursting with above-ground literature and arts. Writers, poets, teachers, students flocked to bookstores and

coffee- and teahouses to discuss the latest issue of the liberal reformist paper *Ngay Nay (Today)* or the newest avant-garde novel by one of the authors of the Tu Luc Van Doan (Self-reliance Literary Group). Some used the occasion to whisper a word to a comrade or a colleague about a secret meeting on a sampan on the River of Perfumes.

The "in" place was Lac Son (Mountain of Joy) refreshment kiosk-cum-bookstore at the entrance of Dong Ba Market. Lac Son was our living room, study, library, and kitchen. A





Stone mandarins guard the tomb of Nguyen Emperor Khai Dinh. In 1802 the Nguyens unseated their rivals in Hanoi and established court at Hue. Attended by the country's best musicians, astrologers, chefs, and physicians, they refined cultural traditions that continue—despite the abdication of Khai Dinh's son, Bao Dai, to Ho Chi Minh in 1945. The mandarins governed from the Citadel, where the central entrance of the Noon Gate (below) admitted only the emperor. Today Hue's 350,000 residents live both within and outside the Citadel, which walls a third of the city's six square miles.



young writer—authentic or would-be—might descend on the Mountain of Joy about four in the afternoon after a long siesta. He would then order a cool drink—fresh lemonade was popular in those days—read a magazine or chapters of a book, or hold court for a small group of admirers or patrons.

By six in the evening he would switch from cool drink to black coffee, a necessary preparation for a predinner beer or Pernod. Then he would select his favorite dish from a street vendor—say, *bun bo* (hot peppered pig feet with beef noodles)—and ask Lac Son to “pay for me and put it on my bill.”

Ignoring the sign that hung on the door (“Our shop has no



money, so please, brothers, do not ask for a loan”), the pretty young cashier would comply. Later she might advance more money if the well-fed writer felt that his feet were too light to bear him safely home. She knew that the owner of Lac Son was a patron of the arts—and she may have guessed, too, that the boss was a member of the outlawed Vietnam Communist Party.

He had much company in Hue. My own school produced such revolutionary alumni as the future president of North Vietnam, Ho Chi Minh (then named Nguyen Tat Thanh); North Vietnamese Prime Minister-to-be Pham Van Dong; Gen. Vo Nguyen Giap, the victor at Dien Bien Phu; and poet



*Flamboyant in death, Emperor Khai Dinh had his tomb filled with porcelain and glass and a bronze likeness of himself (facing page). To ensure eternal harmony, Nguyen kings oriented their tombs precisely amid pine- and bamboo-cloaked hills.*

*The 30-acre necropolis of poet emperor Tu Duc (above) moved one visitor to call it the place*

*“where grief smiles and joy sighs.” War damage and a lack of resources have choked efforts to preserve the monuments from torrential rains, tile-cracking vegetation, and typhoons.*

*Buddhists visit Hue’s 60 pagodas regularly for prayer and celebration. Incense burns before a guardian at Thien Mu (top).*







laureate To Huu. On the other political side at Quoc Hoc: the future president of South Vietnam, Ngo Dinh Diem.

In 1945 a group of militant nationalist students from another school became outraged when the Japanese occupation army confiscated rice from Vietnamese peasants, an action that led to the death of two million



*Armed with a grin and a gun, an office worker in Hue performs her annual two weeks of training with the reserve militia, a force of young people who assist the regular reserves in civil defense work. Full-time soldiers handle technical tasks, such as defusing unexploded mines and shells from the Vietnam War.*

*In the region around Hue, the Vietnamese estimate there may be as many as 7.5 million explosives lying in wait for the unwary. Some 4,000 people have been killed and hundreds maimed.*

Vietnamese by starvation. The students, several of them my close friends, set up a restaurant in an orchard serving the best sushi in town. Japanese soldiers came in large numbers to eat this Japanese delicacy. One moonless night the students machine-gunned and killed a dozen officers.

Hue has suffered many wounds of war. When I was a child, my mother taught me *Ve That Thu Kinh Do (The Song of the Fall of the Capital)*, a 3,000-verse poem about the sack of the city by French troops on July 5-7, 1885, in retaliation for a rebellion against the French protectorate:

*People were crying and wailing,  
Children leading mothers,  
mothers carrying babies.*

On May 10, 1845, Hue had had its first experience of American power when the U.S.S. *Constitution*, commanded by Capt. John (Mad Jack) Percival, sent an armed party ashore to rescue a French bishop named Dominique Lefèbvre, who had been sentenced to death by the imperial court. Percival took several Vietnamese officials hostage in a futile attempt to force Emperor Thieu Tri to release Lefèbvre; then his men opened fire on a crowd of civilians. In 1849 President Zachary Taylor wrote a belated letter of apology to Emperor Thieu Tri concerning the incident; it was received by Emperor Tu Duc, Thieu Tri's successor.

"May your God, and my God, prevent the shedding of any more blood between my people and your people, My Brother," Taylor wrote.

But during the communist Tet offensive of January 31 through February 25, 1968, Hue was the scene of one of the bloodiest of all battles between Vietnamese and Americans. By U. S. count, 5,113 communist

troops, 384 South Vietnamese, and 142 Americans died in 26 days of fighting. My youngest brother (the poet Lu Quynh) and one of my nephews, both living in the Citadel, were killed by direct U. S. bomb hits.

According to U. S. estimates, 2,800 civilians were executed by Viet Cong firing squads and were buried in mass graves. The victims included several of my relatives and friends. My questions about this terrible event were answered with saddened silence in Hue, although Nguyen Van Dieu, the director of foreign affairs of the Binh Tri Thien People's Committee, gave me a commemorative history of the battle in which Le Minh, the commander of the communist forces attacking Hue, admitted that his troops had committed atrocities.

"We were unable to control brutal actions by individual soldiers," Le Minh wrote. "The leaders, including myself, must bear the responsibility."

**B**EFORE THIS TRAGEDY Tet, the Vietnamese New Year—a movable feast occurring at the new moon between the winter solstice and the spring equinox—was the most joyful of occasions. Tet is everyone's birthday, the holiday of holidays, an occasion to meditate on the past, to enjoy the present, and to contemplate the future. It embodies the entire spectrum of Vietnamese mythology and religion, the whole concept of man and woman and their relationship to the dead and the living and the spirits.

Every year at Tet, wherever I live, I remember the most memorable Tet of my life, that of 1937, the Year of the Buffalo. I was 14 then, on the verge of leaving home to enter Quoc Hoc School. After the end-of-the-year dinner, during which we



## Burned into the world's memory

**P**rotesting government persecution of Buddhists, Thich Quang Duc, a 73-year-old monk from Hue, immolated himself on June 11, 1963, in Saigon (right). Malcolm W. Browne of the Associated Press took this photograph, which dominated newspaper front pages around the world the next morning. Buddhist leaders delivered a funeral address beside Quang Duc's remains, then asked for assistance from the U. S. military personnel advising South Vietnam.

Restricted in receipt of donations and in land ownership by the French, who ruled Vietnam from 1884 to 1954, the Buddhists saw little improvement in their status under Roman Catholic President Ngo Dinh Diem. In August four more monks immolated themselves. "Let them burn," responded Madame Nhu, Diem's sister-in-law, "and we shall clap our hands." Troops directed by her husband attacked pagodas on August 21, arresting more than a thousand people. Madame Nhu's father, the government's



ambassador in Washington, quit in protest. U. S. support for Diem dissolved, and on November 2 Diem and his brother were killed in a military coup.

Although some 30 monks and nuns eventually burned themselves, Quang Duc's death was the first and therefore the most shocking. At his home pagoda of Thien Mu, the monk who doused him with gasoline displays the historic photograph on the windshield of the car that had carried them through Saigon.

invited our dead ancestors back to join us for a week of celebration and reunion, my father, a Confucian scholar who had withdrawn from the "dusty world of things which disturb the ears and offend the eyes," cast horoscopes for every member of our family.

Father paid special attention to my horoscope, noting that the star of literary achievement, *Van Xuong*, was shining from the *thien di* (foreign travels) position directly upon my *menh*, or fate. He predicted that I would be a literary man who would enjoy a greater reputation abroad than at home. "You will also spend some years in the army," Father said. "The *Vu Khuc* [military star] is also in the direction of your *than* [physical being]."

A heavy silence followed this pronouncement. I am descended from generations of literary men and civil servants, and in the hierarchy of traditional Vietnamese values the scholar ranks highest and the soldier lowest. My mother grasped my hands and said, "I know, with these long fingers, that you can be only a scholar, never a soldier."

But my father's predictions mostly held true. While I was a student in Hue, politics and patriotism claimed me, and in 1945 I volunteered for service in the Vietminh—the League for the Independence of Vietnam—in the war of liberation against the French. Some prophecies remain to be fulfilled: Although I became an American citizen and have lived abroad for many years, I have never become a famous literary figure.

**T**HE DAY I LEFT HUE last fall, I got up earlier than usual and tiptoed to the balcony of my hotel room to have a farewell look at the sleeping city. A crescent moon, delicate as a girl's eyebrow, glowed above the

shadowy blue Imperial Screen Mountain. On the inky surface of the River of Perfumes an almost invisible lone light was moving northward. A hard-working fisherman going out for his first catch? A drunken poet going home on a pleasure sampan? A cool breeze sent ripples across the shining water.

Slowly the thread of the reddish dawn was drawn across the horizon. From afar the bells of Thien Mu were tolling. I thought of home, of my adopted country, the United States of America, a giant across the Pacific Ocean into which the River of Perfumes also flows. How profoundly different our two societies are! In Vietnam a person lives, works, suffers, succeeds, sacrifices not for the self but for the home, the nuclear family, the extended family including the dead and the unborn, for the village, for the nation. These unbreakable strands form the web of relations that define one's place in society.

In the United States every grown-up is on his or her own. The United States is the most open society in the world. It is the greatest show on earth, a huge public theater where everybody speaks out and acts out an intensely individual fate. In the United States one sometimes feels lonely. In Vietnam one is never left alone to be lonely.

Regardless of these differences and despite the grievous wounds of war, I hope that the two countries can live together in peace.

All things seem possible when one is in Hue. Optimism is a tradition there. During the war against the French, because of the scorched-earth policy practiced by both sides, the countryside around Hue was desolated. A poet sighed:

*There is not even one tree  
left on the Imperial Screen  
Mountain:*



*The lonely bird sleeps on the  
bare cold earth.*

This note of pessimism and despair by an intellectual was quickly challenged by a *ca dao*—folk song—of the common people:

*Here is the river, there is  
the mountain:  
They are still the same.  
Our land is as beautiful as  
brocade,  
Why then worry, my love?  
Right now, we are going to  
rebuild our future,  
To provide a tree for the  
bird and a sampan  
For you to cross the River. □*





*Laughing in the rain, students head home from the nation's most famous school, Quoc Hoc (left), where students learn poetry as well as politics. Alumni include Gen. Vo Nguyen Giap, poet laureate To Huu, and Ho Chi Minh.*

*Garbed in the traditional ao dai, now more often worn on holidays and for other celebrations, a cook at Linh Quang Pagoda (above) seems to epitomize the charm and grace of Hue, a city that radiates pride in its past, delight in its possibilities.*

# SAIGON

## Fourteen Years After

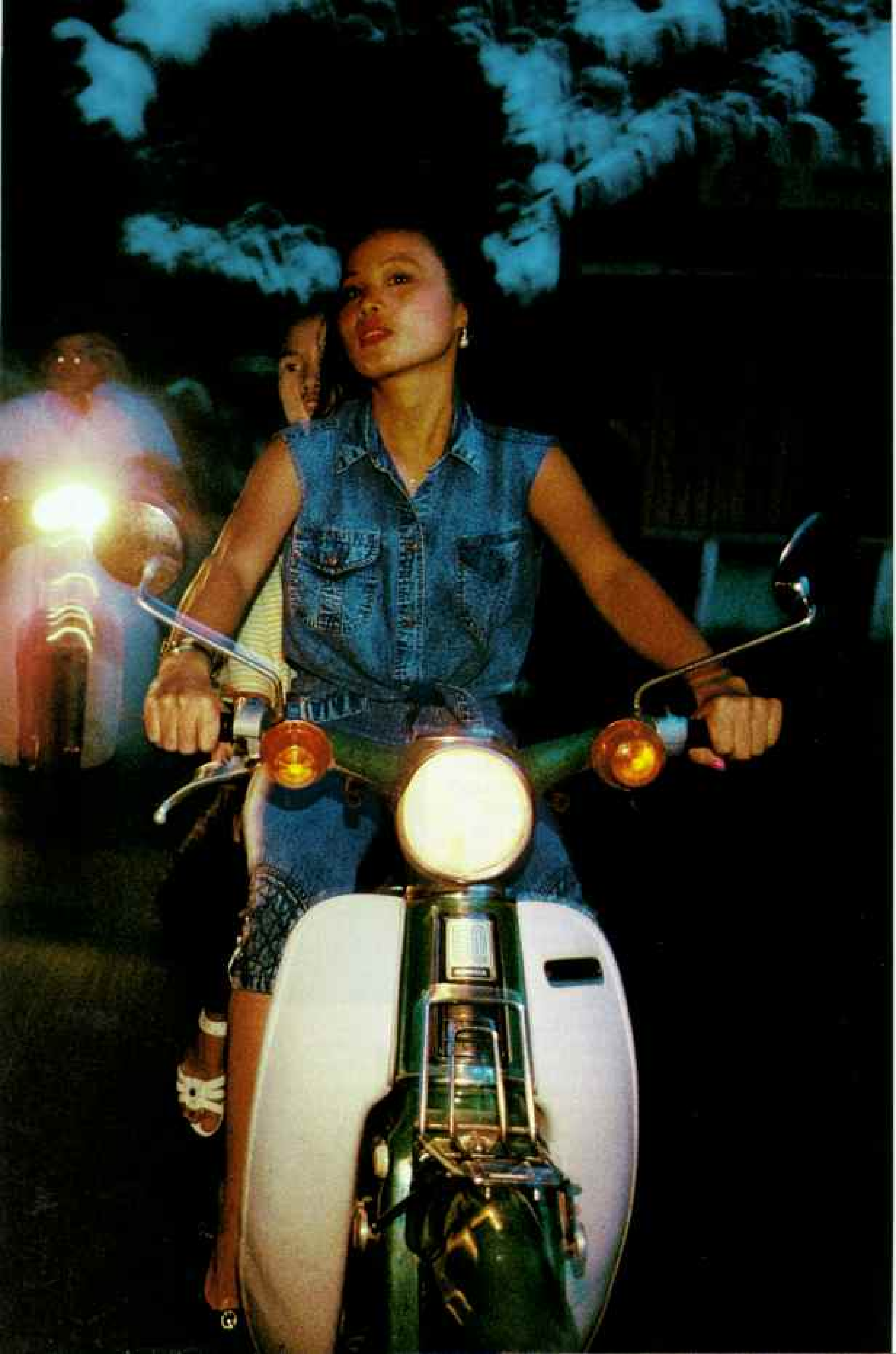
*Few can forget the fall of South Vietnam's capital on April 30, 1975, amid the chaos of oncoming North Vietnamese tanks and outgoing U. S. helicopters. The voice of Saigon, always brash and boisterous, was muted, and a new official name was decreed—Ho Chi Minh City.*

*It never caught on. Today, to the man in the street, Saigon is still Saigon, and the city's spirit is gradually returning. In a new postwar ritual called chay rong rong, on weekend evenings the young, restless, and chic cruise streets where GIs once caroused. Despite Vietnam's political unification, North and South still have their own styles. Hanoi lives by the rules—Saigon lives by its wits.*

By PETER T. WHITE  
ASSISTANT EDITOR

Photographs by  
DAVID ALAN HARVEY







**S**EEKING THAT big red American car, the 1958 Plymouth at right, somehow brought it all back to me: Saigon in the 1960s, when Vietnamese would hire such auspiciously colored cars for a wedding or a festive outing; when a million American soldiers passed through what was then the capital of South Vietnam; when I, a frequently visiting reporter, kept wondering how long this war in Vietnam would last and what changes its end would bring.

The end came one April day in 1975 as a tank of the North Vietnamese army forced the gate of the Independence Palace, now the Reunification Conference Hall. And here I am back once more in what is now the biggest city in all Vietnam, looking out at the wide Saigon River from my huge room in the old Majestic Hotel where I first stayed 28 years ago.

In those days the Saigon way of life still had a lot that was French about it, with foreigners walking around in shorts and everyone taking a siesta after lunch. After getting up I'd look at my little Siamese fighting fish, bought from a street vendor; one was blue and one red—and I kept them separate, each in a glass jar, and if I moved the two jars close together they'd get madder and madder. But never mind looking back, I'm here to go around and find out what's up, what's new. . . .

All these women driving motorcycles and scooters—why do so many wear elbow-length gloves, black, blue, beige? For protection against the fierce sun, I'm told. In the past that was done by the long sleeves of the *ao dai*, the once ubiquitous national dress; in this time of sleeveless blouses and T-shirts, the *ao dai* is only for rare occasions—or for hotel desk clerks and sales ladies in souvenir shops.

The new communist rulers gave the place a new name—officially it became Thanh Pho Ho Chi Minh, or Ho Chi Minh City. But the local daily calls itself *SAIGON*, in huge type, while tiny type just below adds the words *giai phong*, meaning “liberated.” I see that the best local beer is labeled Saigon Export. Could it be that quite a few things here really haven't changed all that much? That even the massive American presence here a quarter of a century ago—fought so bitterly by so many—has left some memories that are now regarded as positive? We'll see. . . .



**B**UT FIRST a glance at the city's history, what there is of it—for unlike Hanoi, Saigon is not very old. A wooden Vietnamese fort and nearby a little thatch-roofed settlement of Chinese merchants trading for rice, that's all there was to Saigon when the French came in 1859. Their men-of-war made short work of the fort, and in 1862 they exported 42,000 tons of rice. And they built prodigiously: a grand



residence for the governor, now the National Museum. A Roman Catholic cathedral that still offers three Masses daily. And an ornate city hall, now the seat of the People's Committee of Ho Chi Minh City; it administers 12 urban and six rural districts—the population is four million and rising.

Question: When do you say Saigon and when Ho Chi Minh City? OK, when speaking to an official, officially, it should be the

*Lovingly maintained, a 1958 Plymouth Belvedere is one of a few classic American cars still rented for special occasions such as weddings, as they have been for 25 years. The poster calls attention to a more important tradition, a day to honor teachers. Both Saigon and Hanoi have long published excellent textbooks in a belief that—politics aside—education is a family affair for all Vietnamese.*

latter; with others, say Saigon if you mean the inner city, districts one and five and six. . . .

**M**AKE an updating tour of some more Saigon landmarks (map, page 610). The massive U. S. Embassy building, whose bronze plaque I've seen as a museum trophy in Hanoi, now is the head office of the Vietnam State Oil Company. At the former Cercle Sportif, the French-built sports club, 11 tennis courts are as busy as ever. Now this is the Workers Club. Annual membership costs less than a loaf of bread; what you give to the ball boys is up to you.

And the old Rex Hotel, once bachelor quarters for American officers? It's the new Rex, tastefully renovated, buzzing with purposeful activity. On the fifth floor, three dozen businessmen from Taiwan are lunching with Vietnamese *thuong gia*, "trading persons," while a trio plays the "Blue Danube." On the third, a hundred delegates meet for an international symposium on the health of mothers and children; half came from Western Europe and a dozen from the U. S. —including one from Atlanta, from the Centers for Disease Control.

At night there's a cultural show with traditional dancing and music. A singer in a white *ao dai* does a soulful Russian song, a Russian tour group in the audience claps along enthusiastically. For Americans there's "Ghost Riders in the Sky." The climax is strictly Vietnamese: wild gongs and drums, commemorating the battle at Dong Da, where the Vietnamese crushed the Chinese 200 years ago.

There's nothing like the Rex in Hanoi, at least not yet. United Nations officials tell me Saigon is a much better place to be stationed than Hanoi, not only because it has hundreds of good eating places and Japanese elevators that work. If a copying machine breaks, you can get it repaired easily; in Hanoi you'd have to get a serviceman from Bangkok. And for daily family needs so much more is available in Saigon. "But compared with Bangkok, nothing is available."

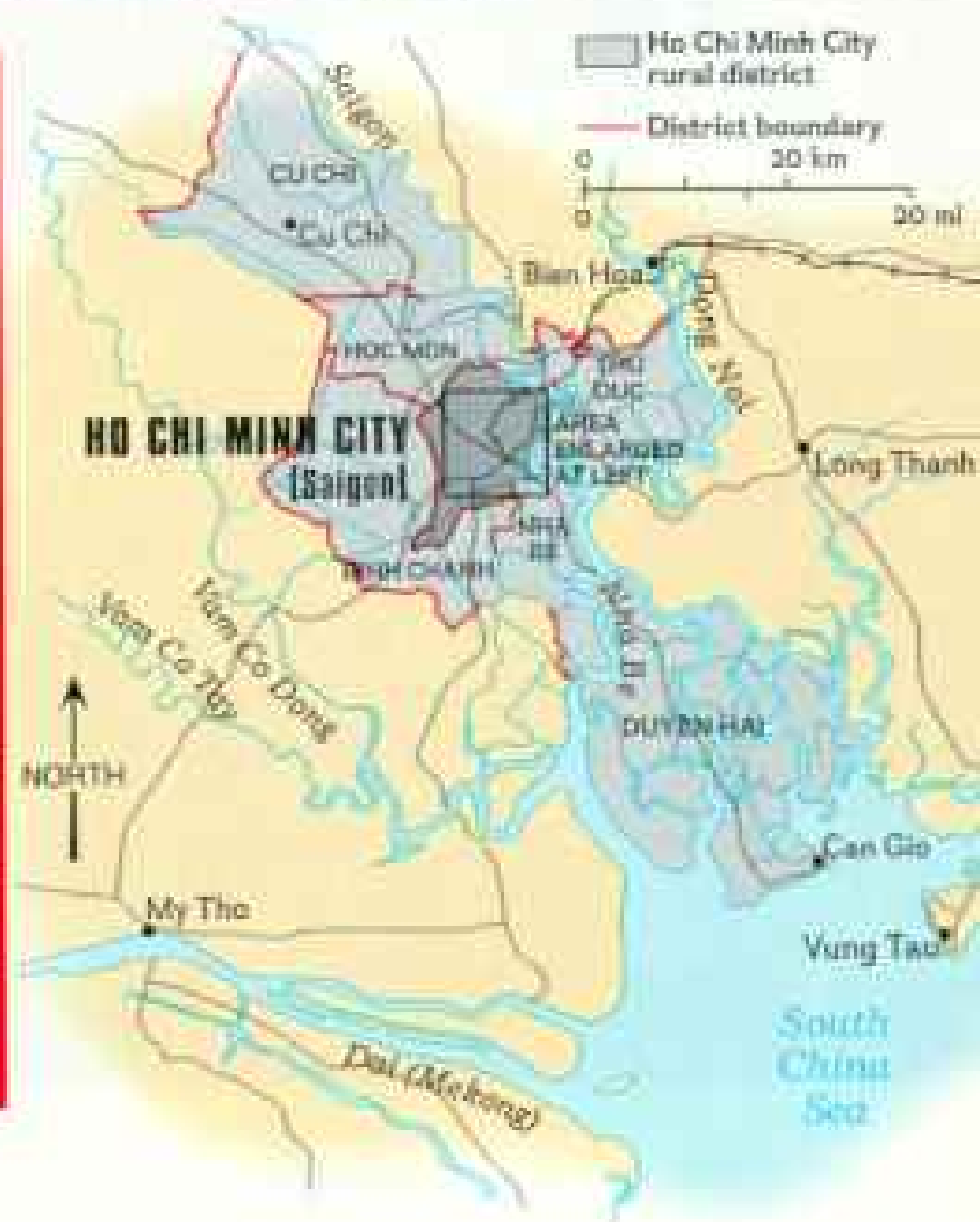
What does Saigon have to offer to the bargain-hunting foreigner? Good paintings. Genuine tortoiseshell combs. Lacquerware inlaid with mother-of-pearl. If you want first-rate Cuban cigars, Russian caviar, or Veuve Clicquot champagne—all that is available in the back room of a little shoe shop on Le

*Only dollars, and plenty of them, are accepted from the well-to-do in the new Saigon-Intershop Supermarket, a joint venture between the government and Singapore businessmen. Most merchandise costs more than twice what shoppers pay in the U. S. Such enterprises attempt to soak up the flood of Western currency generated by overseas Vietnamese. They send consumer goods to relatives in Saigon, who sell them on the black market. Also angling for hard currency, the government-run Saigon Frozen Food Export Company ships seafood (right) to Australia and Japan. Another government seafood export firm experimented with offering three-month bonds at 35 percent interest, which attracted a total investment of 907 million Vietnamese dong—equivalent to the sale of 120 tons of shrimp.*











Steamy monsoon shower veils the Saigon River. Traffic includes Soviet-bloc freighters that unload cargo at wharves where thousands of GIs clambered from troop transports.

The city wears a relatively young face. Only a trading settlement and a wooden fort existed in 1859, when the French captured the citadel and began to create a metropolis in their own image with tasteful villas and broad boulevards. Saigon, the Pearl of the Orient, became the linchpin for the French colony of Cochin China, rubber-rich land that formed much of South Vietnam after the French were defeated in 1954.

The metropolitan area, with a population of four million, includes the former twin city of Cholon (map), home to perhaps 500,000 ethnic Chinese.



Thanh Ton Street, at astonishingly low prices. In "*do la*"—that's right, dollars. The multilingual proprietor offers me a genuine elephant-hide belt; a Russian hands him several bills and walks off happily with a Pasternak novel in a brown paper bag.

Saigon is once again a citadel of enterprise. A Vietnamese official calls it the country's secret capital, its commercial mainspring, the home of the entrepreneurial spirit that may yet point a way out of the nationwide economic mess.

I get a whiff of that spirit in the so-called golden market, half a dozen blocks of busy shops and stalls with goods made or assembled here, or more likely smuggled in. Generators and electric chain saws, TVs and VCRs. Quaker Oats. Shiny red apples— from Oregon? Yes, via Singapore.

I catch a full blast of that spirit from Le Cong Thanh, the very model of the modern Saigon entrepreneur. His company ("founded 1988, I'm the sole owner") produces furniture, ceramics, and a hand-generator-powered flashlight ("I've got orders from Honolulu and Cuba"); machines that make and bottle soft drinks; and ship paint ("better than from Germany"). Soon farmers in central Vietnam whose land is unsuitable for rice will grow certain trees so he can make perfume essence ("I'll pay them in rice").

**I**N THE EVENING, well-heeled entrepreneurs enjoy the food and the band at Maxim's on Dong Khoi, meaning the street of the General Uprising. It used to be Freedom Street, or Tu Do. . . .

Tu Do Street! Twenty years ago those three blocks running north from the Saigon River were teeming with American servicemen and aggressive bar girls. Now it's quieter here. You'll still see a few beefy foreigners with tiny Vietnamese women—but the women are demure guides and interpreters. Some of the foreigners are from the Soviet Union, usually serious faced. A few are Americans, often former servicemen who've been here before, acting extra friendly.

Invariably the Americans are waylaid by young Vietnamese of unmistakably Caucasian or black ancestry, some saying, in English, "I'm hungry, give me money." Those are Amerasians—now 14 to 24 years old, fathered by Americans. To the Vietnamese they're *con lai*, half-breeds, and they tell



*Beneath the surface of this timeless scene, there is real money to be made in a river market on the Rach Ben Nghe, an arm of the Saigon River. Traders make the short trip south to the Mekong Delta, fill their boats with rice, and sell their cargo to wholesalers here. One man told the author he can buy a boatload of 15,000 kilograms of rice in the delta and sell it in this market for a profit of between 150,000 and 300,000 Vietnamese dong. In a single trip he makes the equivalent of five to ten months of a civil servant's salary. The need for a second job, mandatory for virtually all in Saigon, is disappearing fast on this part of the river.*





Tragic legacy, at least 10,000 children known as Amerasians were fathered by Americans in Vietnam. Often scorned by Vietnamese as half-breeds, most yearn to find their fathers in the U. S. Chances are slim, especially for those with physical and mental disabilities at a Saigon agency (bottom). Lucky Amerasians, as well as other Vietnamese seeking to emigrate, find a place in the Orderly Departure Program sponsored by Vietnam and the United Nations. About 180,000—including many ethnic Chinese—have thus been resettled in two dozen foreign countries, with some 90,000 in the U. S. A departing woman shows the hidden cost of her ticket—loss of her family (opposite). An equal emotional toll is paid by those left behind (below).



sad stories, of discrimination and hardship. They're eager to go to America, to find their fathers. . . .

**S**UNDAY NIGHT it's time for *chay rong rong*, the big ride around! It's a post-war Saigon ritual—an exuberant showing off, a letting off of steam. Young men and women on hundreds of motorbikes clatter south on Dong Khoi, then along the river, then up Nguyen Hue and so on, around and around for hours. "We do it in groups," a young man explains as he pauses along the curb. "If you don't go too fast, the cops won't bother you." He's got a 55cc Suzuki and dreams of a Honda 100. While we talk, the usual urchins crowd around—and after the young man and his girl roar off, I find my money gone from my buttoned bush-shirt pocket. I guess I've just met one of Saigon's—maybe the world's—most accomplished pickpockets.

**I**T'S 4:30 P.M. and it's hot. It always is here in the south, where there are only two seasons—rainy and hot; dry and hotter. Outside the central market I see people standing around a blaring radio—it's the Voice of Ho Chi Minh City, announcing winning lottery numbers. I buy a ticket for the next drawing, number 454923. With luck I could win 12.5 million dong. I found a bat flying around my hotel room this morning, and in Vietnam a bat means luck.

What's this across the street? A dozen men and two women sit on mats and lean against a wall. A young man, squatting, just jabbed a syringe into the calf of an old man, standing. "They do it from morning till night," says a woman selling cigarettes. It isn't heroin, that would be too expensive; it's liquefied opium. That's illegal, of course, but you know how it is. . . .

Prostitution is illegal too, and officially there isn't any; the once notorious Tu Do Street bars have turned into food and souvenir shops. But maybe a girl will pass on a motorbike—then two men on another, asking do you like her? If yes, all move on to one of the empty houses set aside for the purpose.

Is there anything left of the old Saigon of rumor and innuendo, intrigue and deception?

Oh, sure. A lady powerful behind the scenes during the former regime now has a restaurant where she welcomes foreigners;





then she'll make up stories about her guests—this Mr. So-and-So, do you know who he *really* is? Ah, the things I could tell you about him. . . .

Then there's Pham Xuan An, who during the war made himself useful to numerous American journalists. He was always so cheerful, so reliable. After 1975 it turned out that Mr. An had been a senior Vietcong agent. Now he lives in a spacious villa and breeds German shepherds. "A very good market," he tells me—people buy them as watchdogs; a good litter will bring a small fortune. Doesn't he still have a government job? He says no, he's retired. But that isn't so; he's in charge of keeping tabs on foreign journalists. How do I know? His present boss, high in Vietnamese military intelligence, says so.

In the garden of a still more spacious villa I listen to Tran Bach Dang, the wartime first secretary of the Communist Party in Saigon, who planned underground activities in the city including the attack on the U. S. Embassy during the 1968 Tet offensive. "I had 20 identities in those days. I was a businessman, a teacher, a banker, a mechanic. . . ." And with a big price on his head he lived right in this villa, next door to the U. S. deputy ambassador.

He's still high in the party, an adviser to the minister of the interior, and a popular author of spy thrillers. He has a cordless telephone, uses a chauffeur-driven white Mercedes-Benz, and plans to start a business newspaper to be printed in English, in Bangkok. What obsesses him is what happened after 1975—that the victory in the war



didn't turn into peacetime economic success.

"The Americans left us a very good infrastructure, roads, bridges, a wonderful airport," he says. "Only now does Thailand have the infrastructure we had." But it's all gone to pot. "Our machines are rusty or gone, those with high skill in management and production have gone away." He says it's hard to get an air ticket to Ho Chi Minh City because Tan Son Nhat, once one of the world's busiest airports, has only one runway in operation. "We hope to open another soon, but imagine—we must bring in Filipinos to help us train air controllers! Before, the Filipinos were trained by Vietnamese. . . ."

Another long-term change for the worse is noted by Dr. Duong Quynh Hoa, a veteran communist who was a leader of the NLF—

the National Liberation Front, as the Vietcong called itself—and is now in charge of the Pediatric Center: "You see a child, you think he's five or six, but in fact he's nine or ten. This is chronic malnutrition."

From 1960 to 1975 Vietnamese children in Saigon were bigger, she says, because of the Americans. "The Americans spent billions of dollars, and the people had butter, condensed milk, all they wanted!" She adds that one may have been against the American presence, as she was, but must recognize that it brought some material gains, both in Saigon and in the countryside. She worries that many children born now may not have normal development, mentally as well as physically, because of malnutrition—that this will affect a whole generation.



Dr. Hoa was minister of health in the Provisional Revolutionary Government of 1975 that was quickly shoved aside by the North Vietnamese—leaving many southerners, NLF veterans, bitterly disappointed; they'd been promised that reunification would come gradually, step by step. . . .

Alas, how many thousands there must be in this city who've been left embittered by the turn of political events. That pedicab driver, so proud of his broken English; he'd been a lieutenant in the old South Vietnamese army. Or the dignified old man who was a minister in the old regime but didn't leave in time and spent 12 years in *trai cai tao*—literally “camp/transform/re-create”—meaning a reeducation camp. He won't say anything bad about his experiences

*Mole at war for 30 years, Nguyen To Manh displays a passageway and a trapdoor in the famed 200-mile tunnel complex of Cu Chi on Saigon's northwest side. At age 12 Manh began digging with the Vietminh to fight the French, and he kept at it with the Vietcong against the Americans. The guerrillas operated amid a subterranean network complete with living and sleeping areas, kitchens, hospitals, ordnance workshops, even printing presses. Underground “street signs” helped visiting officials find their way. In 1966 the Vietcong stole a South Vietnamese tank, buried it, tunneled around it and used their prize, with its radio, as a command center. Such exploits now draw tourists to crawl through a tunnel or two.*



there, but just imagine how he feels. . . .

No wonder so many are anxious to leave secretly, by land across Cambodia to Thailand or by boat. I hear there's a chance you'll be arrested before ever getting off the beach; then you'll stay in jail until your family can buy you out. There's a legal way to go, the Orderly Departure Program, but it can be an awfully drawn-out process. . . .

**T**O A SMALL OFFICE at the airport a Vietnamese-speaking U. S. consul from Bangkok brings his thick files of long-pending cases. Many concern Amerasians; under a special program they may be admitted to the U. S. along with their mothers and siblings—and stepfathers too. There are also family reunification cases. A

lot of these people have had exit permits for three years or more. The consul speaks to a nervous old lady and her daughter, in a manner both businesslike and kind.

"In your family, are there any Communist Party members?"

"Any convicted criminals? Any drug addicts?"

The answers are no.

"Any relatives in the United States?"

The answer is yes.

"Please sign here. And here. . . ."

Now there'll be more waiting, weeks or months, for places on a plane to Bangkok.

In the departure hall I ask today's lucky passengers about their eventual destinations. Not only the U. S. — but France, I'm told, and the United Kingdom, West Germany, the



Netherlands, Belgium, Sweden, Finland. Finland? An old man says his son was wounded in the war; a Finnish hospital took him in and cured him. Then an uncle escaped by boat and waited in a camp in Thailand for years until he too could go to Finland. "And now my wife and I can go also. One goes where one can."

From the terrace outside, hundreds wave last good-byes to relatives headed for today's plane. The air is thick with emotion. Many cry, some stare silently, a young man next to me bites his lip. A man stops near the plane door and turns and keeps looking back until a tiny girl drags him inside.

Many of the emigrants leaving by plane these days are Vietnamese of Chinese descent. There used to be a million of them in Saigon,



mostly in districts five and six, the area known as Cholon; today there are some 500,000—among them a number of businessmen said to have considerable influence in the economy. "These men have capital, they keep their word, they are discreet," I am told. "And they have connections in Hong Kong and Singapore. That is why every day the free-market price of the dollar is set in Cholon." In an hour it's all over the country.

Harassed after China briefly invaded Vietnam in 1979, ethnic Chinese left in large numbers. Tens of thousands, going illegally by boat, perished at sea, as did so many other Vietnamese. . . .

**N**INETEEN NINETY has been proclaimed Ho Chi Minh City's Year of Tourism. What will be the outstanding attractions? There's something new: the tunnels of Cu Chi, about an hour's drive from the city center, in the northwesternmost rural district. This network of some 200 miles of passages—connecting tiny underground chambers, for meeting and sleeping and caring for wounded—enabled Vietcong forces to survive despite all the artillery fire and search-and-destroy missions overhead. The poisoned bamboo spikes and booby traps are gone. A bit of tunnel has been widened so even a relatively fat tourist won't get stuck. Still—crawling just 50 yards in the dark, sweating on your hands and knees, is a claustrophobic experience; but it tells a lot about Vietnamese ingenuity and persistence.

And then there's something old but good—two hours away to the southeast, the beaches of Vung Tau!

In the surf at Front Beach and Back Beach you'll find squealing kids on inner tubes and large ladies—wives of Soviet oil experts—in large bikinis. You can buy cold beer and cooked crabs, and photographers promise to have your picture developed and printed in

*A shot in the arm in Saigon's fight against drug abuse, a rehabilitation center offers care to opium addicts suffering through withdrawal. Acupuncture helps dull the pain, and physical therapy follows. Smoking or chewing opium to deal with minor maladies does not concern officials as much as the increasing number of abusers—perhaps tens of thousands—who inject liquefied opium.*

*A mudder, obviously, carried Dinh Vinh Tin to a win. Halted after the war, racing recently reappeared when a Hong Kong investor staked this new track. Wagering is legal, but for each race bettors must pick the top two horses in order—an exacta—and the government takes a share of the winnings. Likewise the odds are long for Vietnam to find a fast track to prosperity, but there are plenty of gamblers in Saigon.*

15 minutes. Pineapple Beach is more sedate: Its villas, set on a green slope and once used by the powers that were, are now guesthouses for the politburo and assorted senior party members. Factory directors with big expense accounts come here with foreign customers or just with their secretaries. High on a peak in back of it all looms a legacy of the last years of the old regime—a gigantic concrete Christ, his arms outspread toward the South China Sea.

**T**IME FOR ONE MORE MOTOR TRIP: into what used to be the Rung Sat Special Zone, a jungly green haven for guerrillas, and is now the rural districts of Nha Be and Duyen Hai. I cross the Nha Be River by ferry, and after a while I'm on a reddish laterite road, built up through a swampy landscape reminiscent of the Mekong Delta, which begins just to the south. The man-high mangrove trees are good for charcoal, I'm told, and in the small canals there are big fat shrimp. A refrigeration truck passes en route to Saigon, with shrimp to be frozen for export to Singapore and Japan; also to Hong Kong, to be repacked for export to Europe. "To America too, but it won't say so on the label, because of the American embargo."

Another ferry, more bumpy laterite, and over there I see something unexpected: two dozen tiny gray wooden houses, in two neat rows. It's a *khu nha moi*, literally "area/house/new"—a New Economic Zone, baking in the heat.

In one house lives a couple with four kids. The woman says the people here were asked to move from their old homes and rice fields, "persuaded to volunteer." Now her husband can earn money only when nearby shrimp farmers hire him, but when there's no work there's hunger. The man of the house,



red-eyed, says nothing. He huddles under a blanket, shivering. Malaria, says the woman, half the people here have malaria; in the old place, never. . . .

**A**S I PASS through the airport gate I wonder—how can Vietnam start to pull itself out of its political-economic quagmire? Maybe there's a clue in the thinking of a remarkable little group of old southerners, all of them colonels and generals of the People's Army in retirement.





who work a couple of days a week, in shifts, on a farm in Ho Chi Minh City's suburban Thu Duc district.

They're raising flowers, vegetables, and pigs—especially profitable—to help impoverished People's Army veterans; there'll be even more of these soon, demobilized after all the soldiers are brought home from Cambodia. The old officers, caustically critical of the economic muddle, are all good communists still, but with a touching faith in something American. They envision a bright

future for Vietnam—with hard work plus high technology plus *American management techniques!*

They're glad that a former minister of labor, who has taught business management at Georgetown University in Washington, D. C., has come back to help open a school of management. . . .

Well, I hope they won't be disappointed, that on my next visit in a couple of years or five or ten, things will indeed look brighter for all Vietnam. □

# The Bismarck Found



EDDREEST BLOHM & VOSS SHIPYARD, HAMBURG (ABOVE); QUEST GROUP LTD.

By **ROBERT D. BALLARD**  
WOODS HOLE OCEANOGRAPHIC INSTITUTION

*Ghostly gun mount on the World War II German battleship Bismarck, sunk in 1941, is garlanded with sea anemones three miles deep in the North Atlantic. Last June our deep-ocean exploration team found the vessel's remains.*



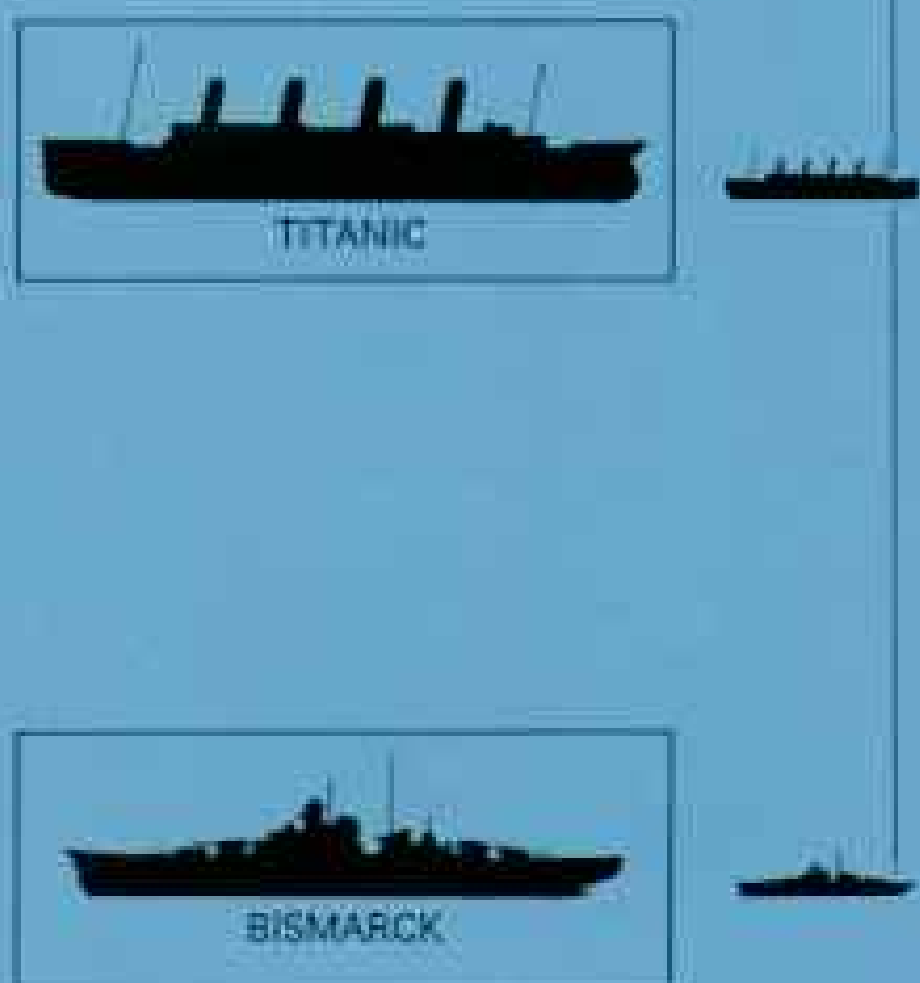


## *Bismarck* versus *Titanic*

They were both state-of-the-art ships that set off on maiden voyages never to return. R.M.S. *Titanic* was reportedly unsinkable, designed to be the biggest, most luxurious passenger liner afloat. *Bismarck* was built for war, her mission to keep supplies from the British. Both ships survived less than a week on the open ocean.

*Titanic* was 882 feet in length, 92 feet wide, and displaced 66,000 tons; *Bismarck*, 823 feet long, 118 feet wide, and her battle-load displacement was 50,000 tons. Both were gargantuan in comparison with the 269-foot-long *Star Hercules*, mother ship for the camera sled *Argo* that found *Bismarck* in 15,617 feet of water in the North Atlantic. When *Titanic* struck an iceberg, she came to rest 12,500 feet down.

DIAGRAM BY WARE SEIDLER



**I**N MANY WAYS it was like the search for *Titanic*.<sup>\*</sup> Both were historic ships: one, a luxury liner lost in collision with an iceberg in 1912; the other, a mighty warship sunk nearly 30 years later in a great running sea battle. Both vessels went down in the North Atlantic in deep water—*Titanic* in 12,500 feet, *Bismarck* in 15,617 feet—and no one knew precisely where. The search area for *Titanic* covered 100 square miles, the one for *Bismarck* 120.

If we had used traditional underwater search techniques, we might never have found either ship. The standard method consists of “mowing the lawn,” sweeping with sonar in a grid pattern across the target area until the ship is located. Although we use sonar, we depend far more heavily on video cameras, and at the outset we look mainly for debris rather than for the ship. Every vessel that sinks releases masses of debris, ranging from the lightest material to heavy items such as anchors and boilers. Undersea currents spread the debris in a long path, with the lightest at one end and the ship at the other. Often a path extends as much as a mile or more. We tow our cameras just above the ocean floor at right angles to the undersea currents and watch for anything man-made. When we find something, we follow the path in the direction of the heavier debris until we come to the ship itself.

Even before we found *Titanic* in 1985, I had hoped one day to search for *Bismarck*. She was one of the most famous naval casualties of World War II. The story of her final days is fascinating, and there was still some question as to who actually sank her—the British or her own crew. With support from Quest Group Ltd., National Geographic, and Turner Broadcasting System, we began the search for *Bismarck* in the spring of 1988.

At the time we knew less about her position than we had known of *Titanic*'s location. The latter had been steaming from England to the United States on a direct course when she went down at a relatively known position. But *Bismarck* had spent her last hours in a momentous battle with several ships (map, pages 628-9), all maneuvering in different directions. Thus there were at least four different estimated final positions for *Bismarck*.

<sup>\*</sup>See NATIONAL GEOGRAPHIC, December 1985, December 1986, and October 1987.

In June 1988 we spent three weeks combing the ocean floor without success. We did find an unidentified 19th-century wooden clipper ship, and the discovery gave us one advantage: From that debris trail we learned that the undersea currents 600 miles west of France run from northwest to southeast. *Bismarck's* debris trail must run in roughly the same direction.

We returned late the following May with a chartered British ship, *Star Hercules*, and our underwater camera sled, *Argo* (bottom right, here snagged with a fishing net). Towed on a 20,000-foot coaxial cable, *Argo* carries forward and side-scan sonar, three remote-controlled black-and-white video cameras, aimed at varying angles toward the bottom, and one still camera.

In the control center aboard *Star Hercules* we could see every feature of the ocean floor and read our constantly shifting position, all displayed on screens over the control panel (top right). Here Tom Crook, a research associate with the Woods Hole Oceanographic Institution, sits nearest the camera. On his left is my 20-year-old son, Todd, who became an invaluable team member and an expert "pilot" of *Argo* during the project. Martin Bowen, a member of our *Titanic* team, sits behind Todd, and I am on Todd's left.

Todd was killed in an automobile accident shortly after our return to Woods Hole. The team lost a beloved companion, and our family lost a boy on the verge of manhood.

We were searching the Porcupine Abyssal Plain, a largely flat expanse interrupted at one point by a series of volcanic seamounts nearly 2,000 feet high. My constant fear was that *Bismarck* might have come to rest somewhere within this mountainous area or may even have been buried in a submarine landslide. For ten days we continued to search without success. Then on the morning of June 6 our luck changed.

I was playing a hard-fought game of Trivial Pursuit in the compartment next to the control room when someone at the console called out, "I've got debris—looks like a length of pipe and some other stuff."

We had been fooled by the debris from the clipper ship, but this time it would prove to be *Bismarck*. Following the trail northwestward, we soon encountered one of the battleship's four massive gun turrets. These had been held in place by the force of gravity, and they had



BOTH BY NATIONAL GEOGRAPHIC PHOTOGRAPHER JOSEPH H. BAILEY

fallen free when *Bismarck* capsized on her way to the bottom. Then at last on June 8 we came upon *Bismarck* herself, a great phantom shape resting in her grave three miles beneath the surface (following pages).

Once above the wreck site we activated our computer-controlled dynamic positioning system, which allows us simply to punch in a desired area of a wreck site or the seafloor that we want to explore or photograph. The computer then coordinates the movement of the ship, the cable, *Argo*, and the cameras to pinpoint the area we want.

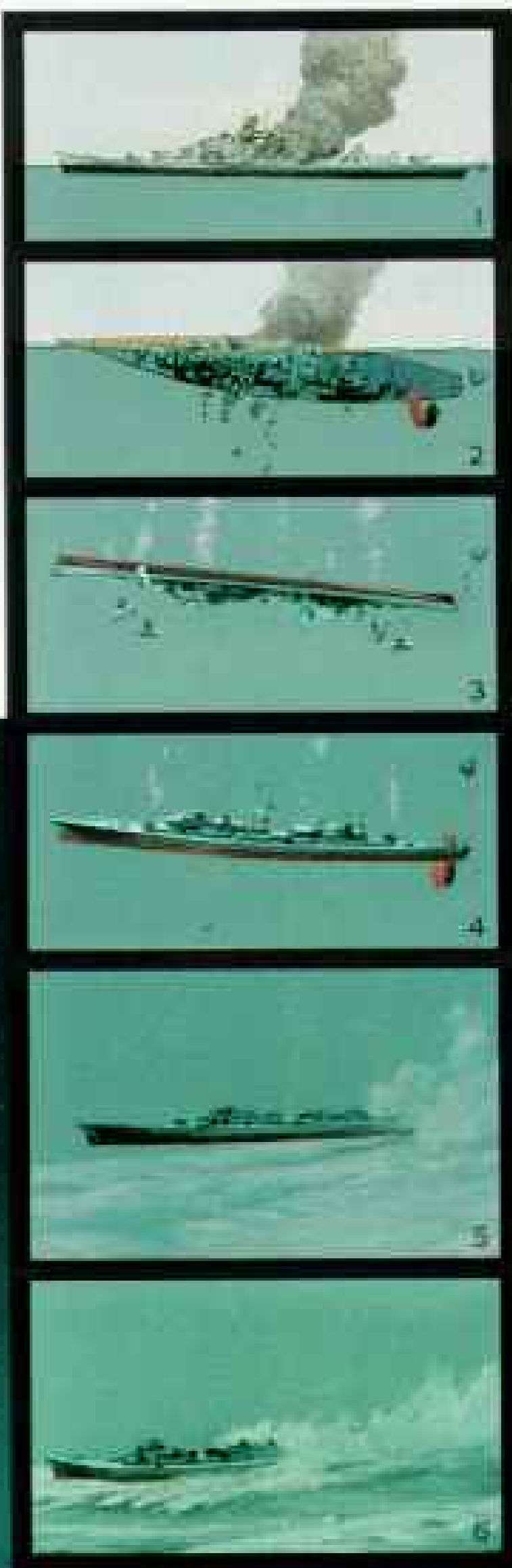
In two days' time we shot thousands of feet of video and more than a thousand still photographs. Piecing some of the latter together, NATIONAL GEOGRAPHIC illustrations editors have helped us assemble the first mosaic portraits of *Bismarck* ever published. They are portraits of a unique ship whose saga is one of the great stories in the history of the sea.

**T**HE HULK of *Bismarck* lies upright on the ocean floor. The sequence at left records the vessel's final moments: (1) starting to sink, (2 and 3) capsizing and dropping gun turrets, superstructure, and other debris, (4) righting en route to the bottom, (5) landing stern first on the sediment-covered slope of a seamount, and (6) creating an avalanche that carried the vessel more than 500 yards down the slope. A painting (right) shows *Bismarck* at rest

on the abyssal plain, her hull buried in 30 feet of mud.

Artist Richard Schlecht spent more than 80 hours reviewing our undersea photographs and consulting with leading experts in order to depict the *Bismarck* exactly as she looks today.

Despite massive damage to the hull and superstructure the ship was in better condition than I had expected—the British warships fired 2,876 shells at her that last day before she sank. We could see the huge openings where the four 15-inch gun



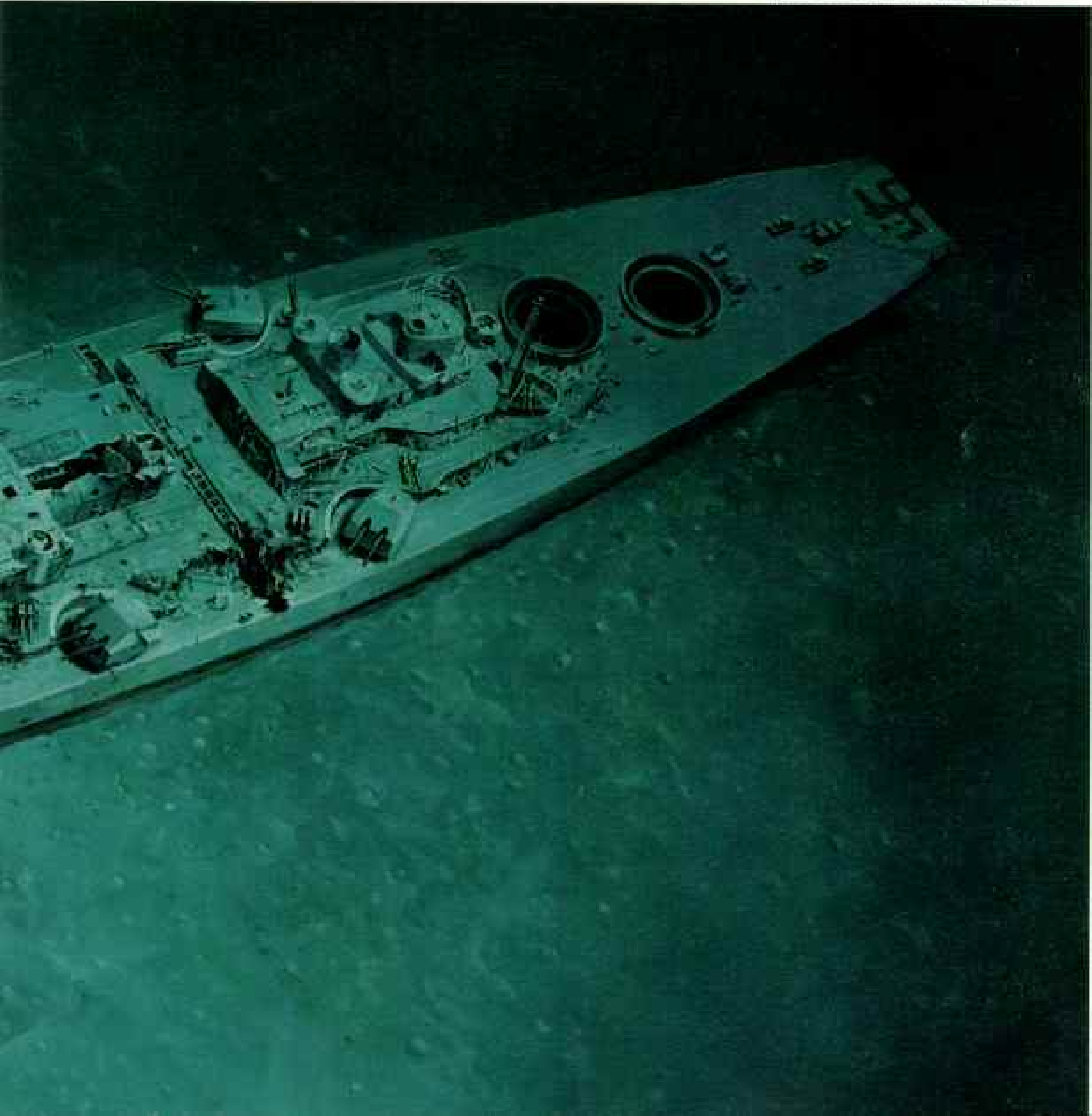


turrets had been and remnants of the painted swastikas at the bow and stern. A section of the ship's stern had broken off, because of a torpedo hit by a British plane, stress from rough seas, gunfire, and the sinking.

*Bismarck* suffered far heavier damage to her port side than she did to starboard, for she received fire on the port side from the British battleships *King George V* and *Rodney*. Lighter ships, the cruisers *Norfolk* and *Dorsetshire*, fired on the starboard side.



PAINTINGS BY RICHARD SCHLECHT; TECHNICAL AND HISTORICAL CONSULTANTS WILLIAM H. SARZES, JR., AND ROBERT O. DALIN



**4** On May 23 Suffolk and Norfolk sight Bismarck and Prinz Eugen in Denmark Strait. Bismarck opens fire on Norfolk, but the latter escapes through fog and mist. With the help of radar the British trail the Germans. Some 250 miles east Hood and Prince of Wales are closing fast. The British battleship King George V and aircraft carrier Victorious join the chase. The carrier Ark Royal and other ships sail from Gibraltar and will eventually join the battle.

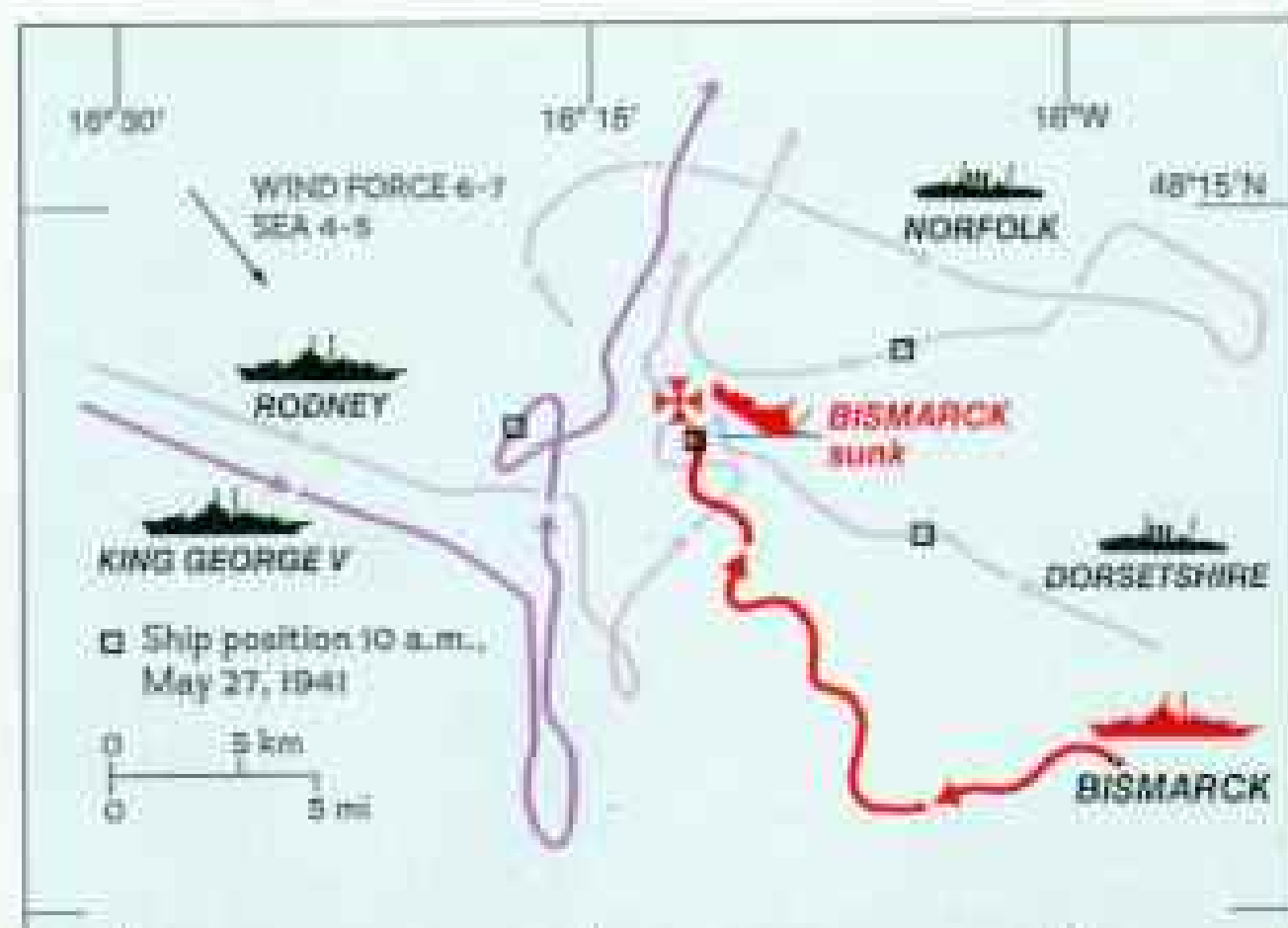
**5** At 5:35 a.m. on May 24 Hood and Prince of Wales sight the German ships. The British open fire, and the Germans reply. A Prinz Eugen photographer snaps Bismarck (below) seemingly engulfed in a flash from its own 15-inch main batteries. At 6:01 a Bismarck shell strikes one of Hood's magazines. The ship disintegrates in a gigantic fireball. Out of a crew of 1,419 only three survive. Meanwhile Prince of Wales hits Bismarck's bow, cutting off access to more than a thousand tons of precious fuel. A second hit reduces the ship's speed by two or three knots. The last photograph taken from Prinz Eugen of Bismarck (opposite, below) shows the ship pitching and down at the bow from flooding.

**6** Bismarck and Prinz Eugen split up, the latter to continue the mission, the former to seek repairs in Nazi-held St-Nazaire, France, 2,000 miles to the southeast. Now low on fuel, Bismarck must take a direct course rather than make a detour away from the British fleet. Near midnight on May 24 torpedo-carrying biplanes from the Victorious attack Bismarck and score one hit but inflict little damage. Shortly afterward Bismarck eludes the British forces.



**7** On May 26 a reconnaissance plane out of Northern Ireland spots Bismarck, now almost within the protective cover of Luftwaffe aircraft based in France. In a desperate attempt to slow Bismarck, torpedo planes from Ark Royal attack and score two confirmed hits, one amidships and the other astern. The former does little damage, but the latter jams Bismarck's rudders irreparably, so that the ship can only steam into the wind—directly toward the British force.

**8** After a night of attacks by British destroyers, the final battle opens on the morning of May 27 (inset). Unable to steer, Bismarck heads into heavy northwest winds. Soon her fire-control system and then her main turrets are knocked out. Rodney and King George V pour in 14- and 16-inch shells at point-blank range on the port side, while Norfolk and Dorsetshire rake the starboard. By 10 a.m. Bismarck is a battered derelict. The German commander orders the ship scuttled, in a coup de grace Dorsetshire fires three torpedoes. At about 10:40 a.m.—whether from enemy fire or the scuttling, but probably as a result of both—Bismarck slides beneath the waves.



# LAST DAYS OF THE Bismarck

**3** The British believe Bismarck is bound for the North Atlantic, but by which route? With a choice of four, the British divide their forces and send the battle cruiser Hood and the newly commissioned battleship Prince of Wales to join cruisers Norfolk and Suffolk on patrol in the Denmark Strait between Iceland and Greenland. On May 22 Bismarck and Prinz Eugen leave Norwegian waters. The German fleet commander heads for distant Denmark Strait, narrowed by ice and minefields to a width of less than 60 miles.



U. S. NAVAL HISTORIC CENTER (LEFT AND BOTTOM RIGHT); IMPERIAL WAR MUSEUM (ABOVE)

**2** Threading the narrows between Denmark and Sweden on May 20, Bismarck and Prinz Eugen are sighted by a Swedish cruiser. The British naval attaché in Stockholm relays word to London. Norwegian resistance fighters report the German ships offshore. A British reconnaissance Spitfire photographs Bismarck (above, at right) with two German merchant ships south of Bergen. Prinz Eugen refuels in Norway, but Bismarck does not, an omission that will cost her heavily.

**1** Construction of Bismarck begins in 1936 at the Blohm & Voss shipyard in Hamburg, Germany. The vessel—considered by many to be the most powerful warship in all Europe—is launched on Valentine Day, 1939, and commissioned on August 24, 1940. After nine months of sea trials and crew training, Bismarck departs from Gdynia, Poland, on May 19, 1941, and with the cruiser Prinz Eugen heads for the North Atlantic. The ship's orders are to disrupt Britain's lifeline by destroying convoys of food and war supplies from North America to British ports.

Ranged against Bismarck and Prinz Eugen is Britain's Home Fleet based at Scapa Flow in the Orkney Islands, including the pride of the Royal Navy, the battle cruiser R.M.S. Hood.



MAP CARTOGRAPHIC DIVISION  
DESIGNER: RALPH BOOMER/WHY-EMMERALL RESEARCH; DESIGNER: ERIC EMERSON  
PRODUCTION: WENDY W. KIFFER, JAMES E. WHELLELAND, JR.; MAP EDITOR: JOHN T. RUSSELL







**P**ORTRAIT OF DISASTER emerges in this mosaic of photographs taken of *Bismarck's* battered bow section. The same area is seen in a picture (left) taken during 1941 sea trials. Each of our photographs records the hour, minute, second, and date taken in the digital readout at the



FROM A PRIVATE COLLECTION (LEFT); QUEST GROUP LTD.; DRAWINGS BY MARK SEIDLER

corner of the frame. Larger numbers—in this case double zeroes—refer to the lowering sequence of *Argo*. An artist outlined areas and details not covered by the mosaic.

Unlike the decking of *Titanic*, which had disintegrated or been eaten away, *Bismarck*'s teak planks were largely intact,

except where they had caught fire or been torn away by enemy shelling. We could see traces of the huge swastika that had been painted on the foredeck. It is faintly visible as black stripes in the photo (left center). One might have expected the crew to remove the swastikas when they entered open sea to avoid

identification by patrolling Allied aircraft. On the other hand, they would have helped the Luftwaffe locate and protect *Bismarck* as she neared France.

Two photographs (far left) reveal *Bismarck*'s starboard anchor capstan with a length of chain disappearing into an oblong shell hole in the deck.

**D**ROWNED BATTERIES, a 4.1-inch antiaircraft mount, left, and a 5.9-inch turret, far right, lie amid a tangle of cables and wreckage along *Bismarck's* upper deck on the port side. Such carnage reminded me of the description of *Bismarck* in her last moments, as seen by a midshipman aboard the British cruiser *Dorsetshire*:

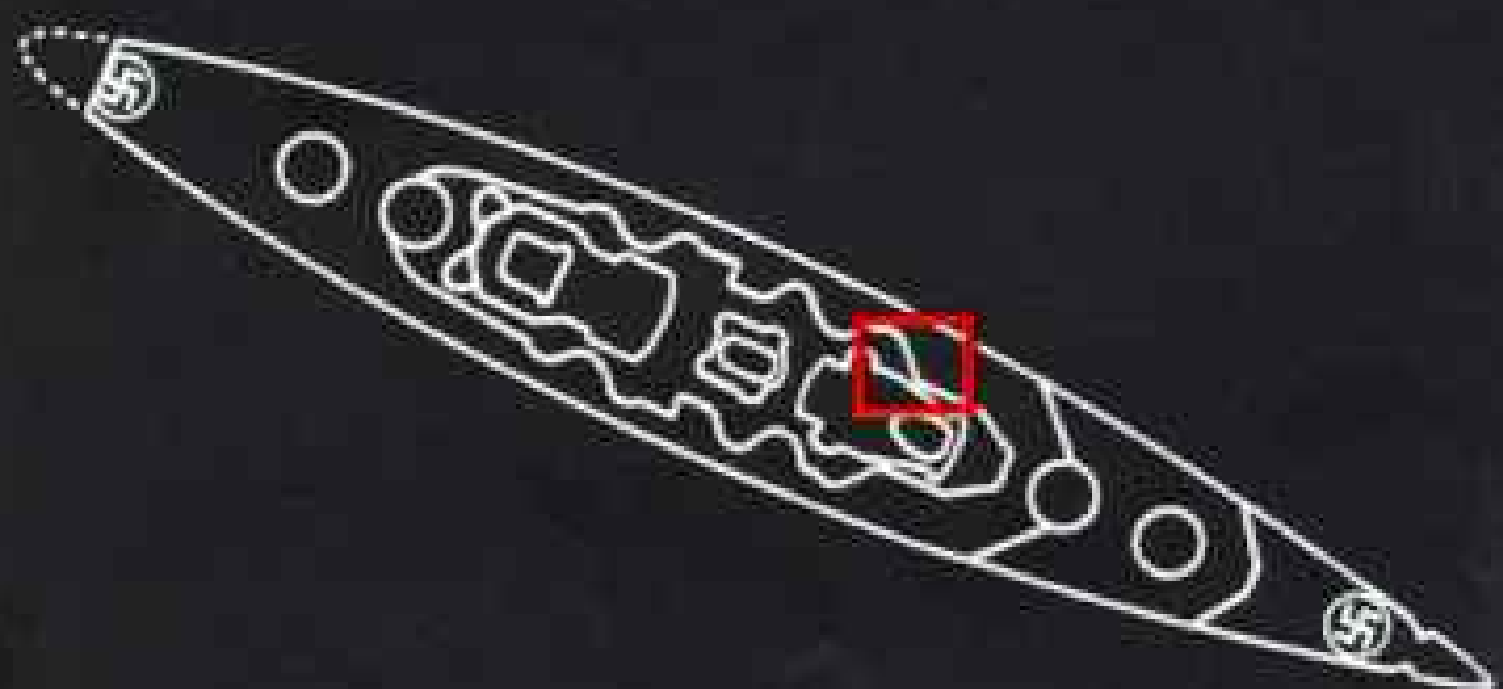
"She [*Bismarck*] was on fire from the bridge aft. Forward of the bridge the guns in A turret were bent backwards—I distinctly remember that—like staghorns, and she'd had a lot of damage on the forecastle. . . . Every time she plunged into the sea—the plates on her port bow . . . were red hot . . . and she went into the sea as a cloud of steam."

Despite her state-of-the-art armament *Bismarck* was unable to fight off the slow, fabric-covered British torpedo planes that crippled her rudders and sealed her fate at the hands of the British surface fleet. These two photographs give a view of *Bismarck's* superstructure running along the bottom of both frames. The frame at far right reveals a porthole looking out above the gun turret.

To get both photographs properly aligned, we had to set them slightly askew, for *Argo* shifted somewhat between each picture, because of submarine currents and heavy seas topside. To record such scenes as these, we used powerful strobe lights aboard *Argo* and film with an ASA rating of 400.

National Geographic EXPLORER will air "Search for Battleship *Bismarck*" on Sunday, October 29, at 9 p.m. ET on TBS SuperStation.

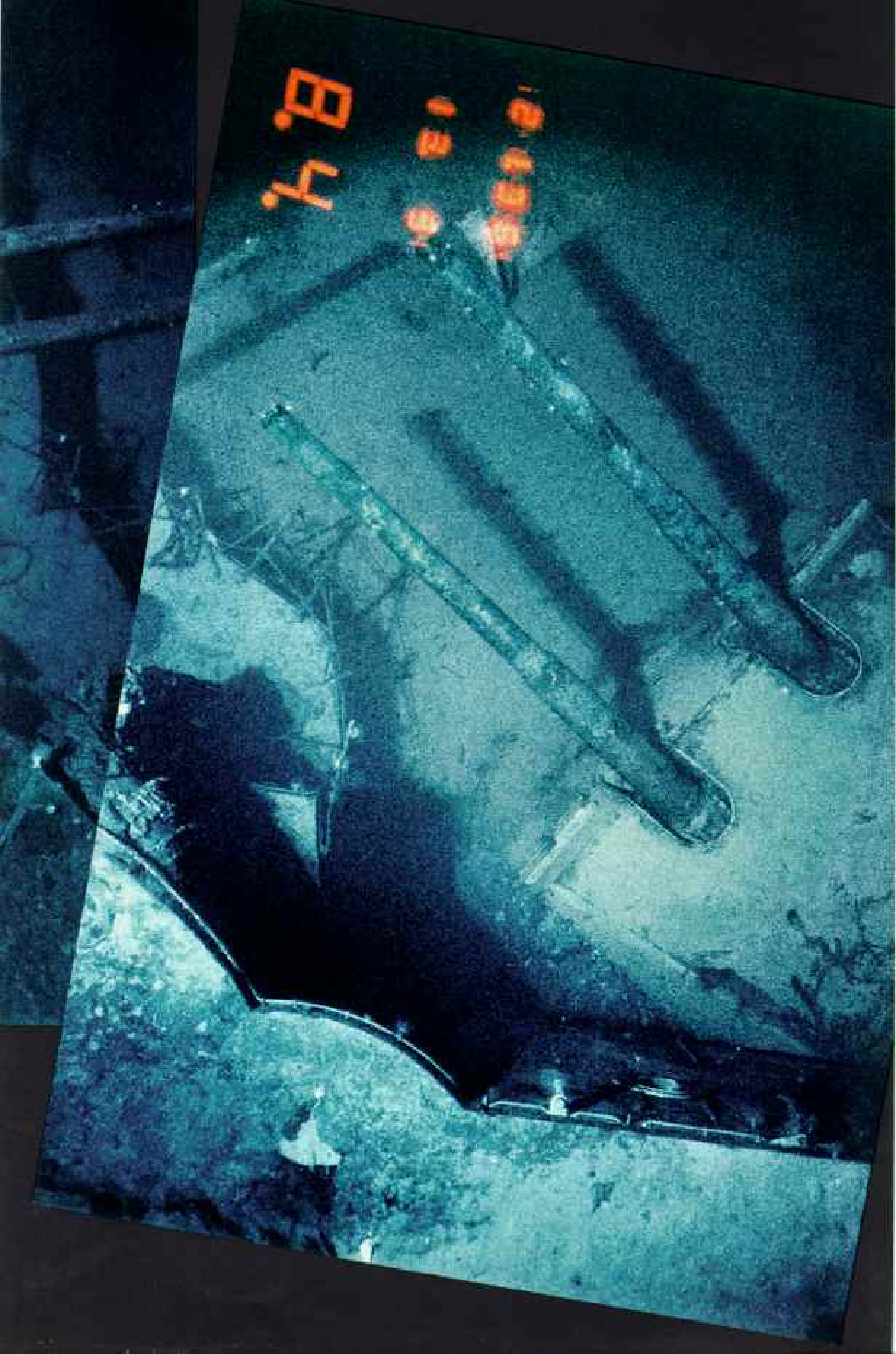
QUEST GROUP LTD.; DRAWING BY MARK SEILLER



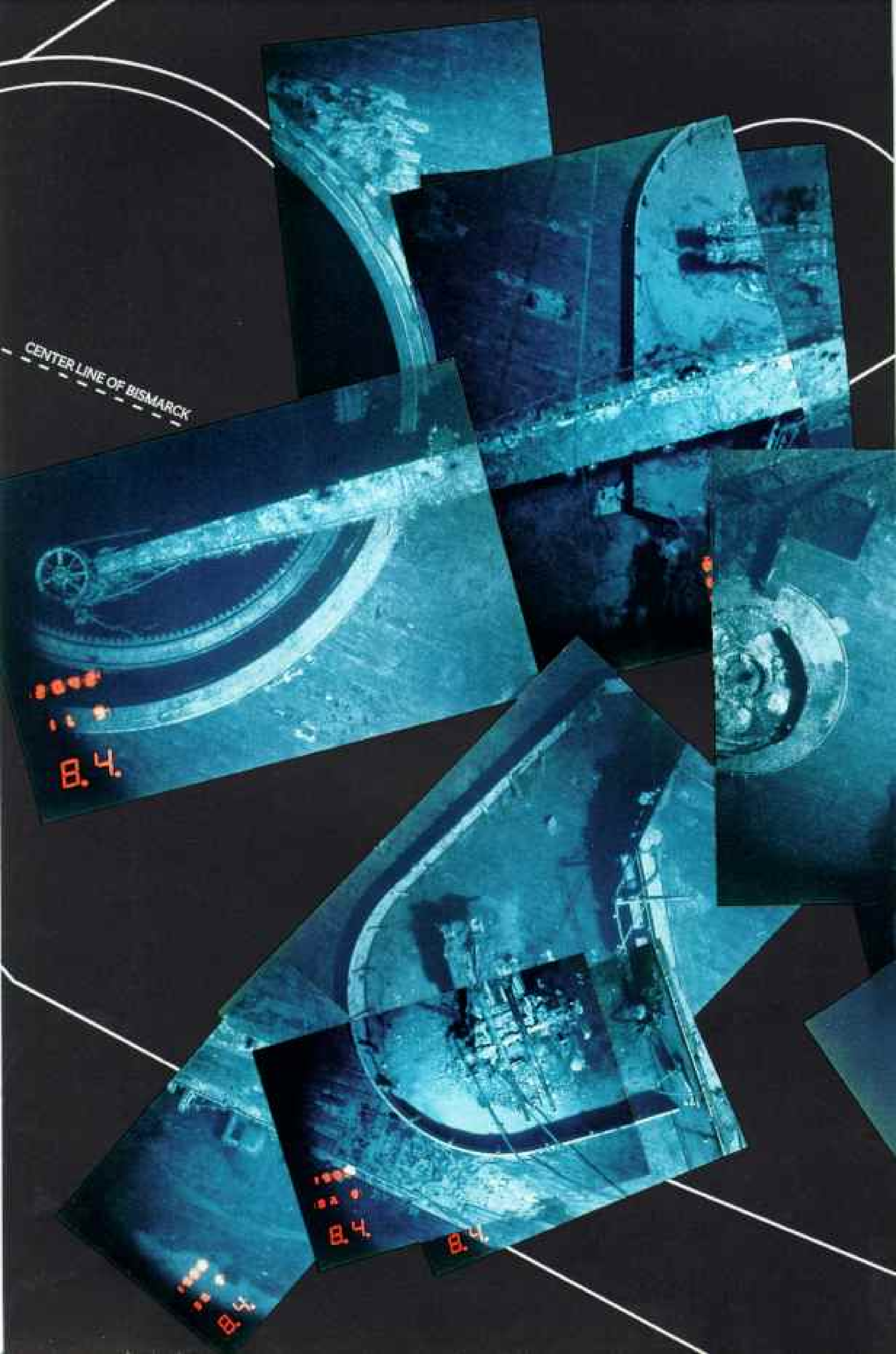


民廿

1933



CENTER LINE OF BISMARCK



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B. 4.

1. 1. 9.  
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B. 4.



JOSEPH H. BAILEY (ABOVE); QUEST GROUP LTD.  
DRAWINGS BY MARK SCHLEIN

**D**ISTINGUISHED survivor, Baron Burkard von Mullenheim-Rechberg was the highest ranking officer to escape *Bismarck*. The young lieutenant commander was fourth gunnery officer, assigned to the after fire-control station. The roof appears in this mosaic at extreme lower right, in the frame designated 19.17. Other photographs show the huge opening for one of the 15-inch main gun turrets, upper left. The arm of the crane used to recover the ship's reconnaissance floatplane lies across the lower edge of the opening. A twin-barreled antiaircraft gun mount appears in photograph 19.09.

Baron Mullenheim was one of only 115 survivors out of a crew of more than 2,200. Picked up by the *Dorsetshire*, he was interned in Canada. A diplomat after World War II, he lives today near Munich, where he wrote *Battleship Bismarck: A Survivor's Story*.

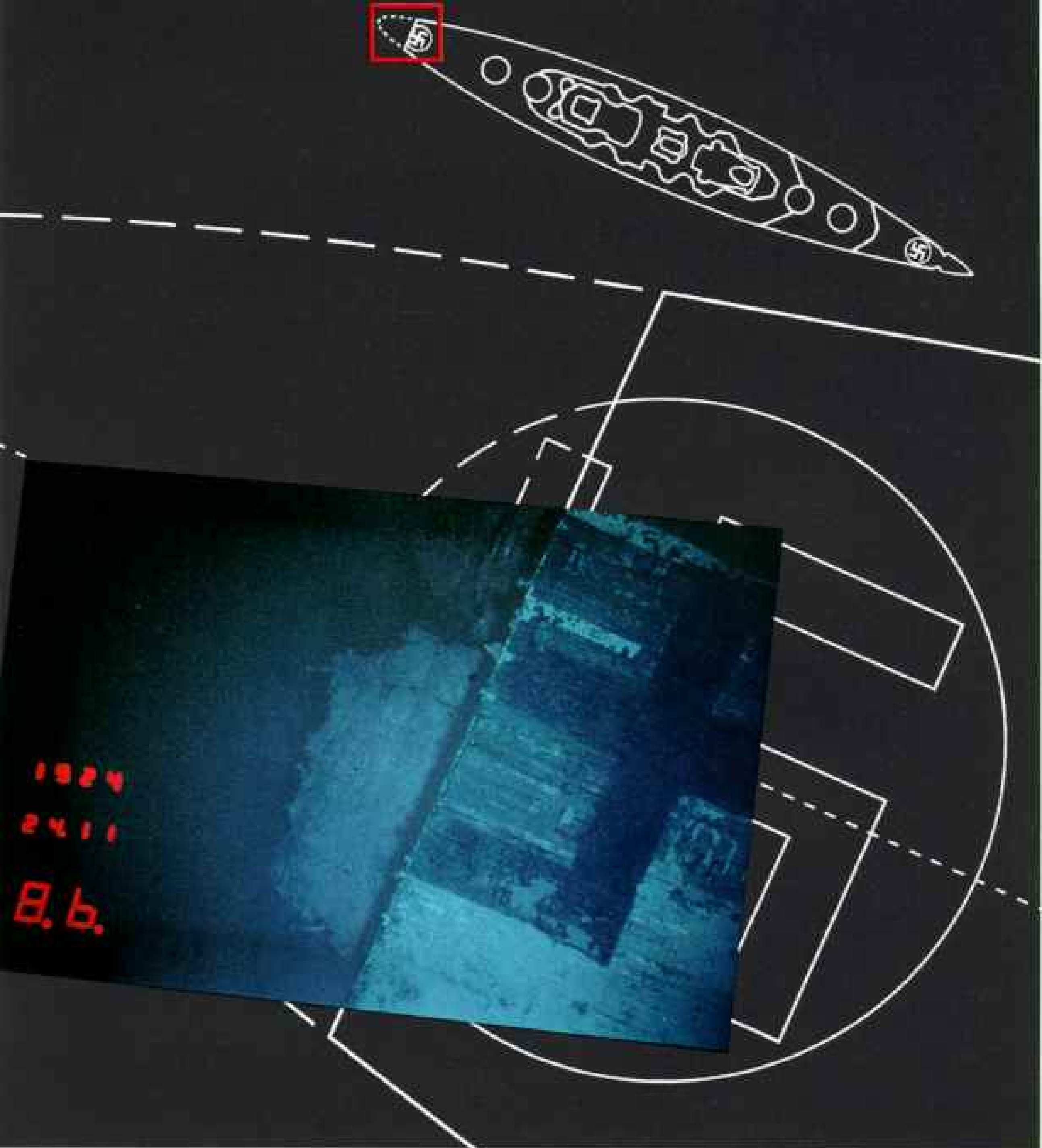




U. S. NAVAL INSTITUTE PHOTO COLLECTION (ABOVE); QUEST GROUP LTD.; DRAWINGS BY MARK SEIDLER



**D**READED SYMBOL, the Nazi swastika, or *Hakenkreuz* (hooked cross), shows clearly on *Bismarck's* shattered stern just forward of the section that broke off during the sinking. Although the British torpedo doubtless contributed to the break, a weak stern was a design flaw of major German warships at the time.



During our initial survey of *Bismarck* I tended to think of her as just another sunken ship, albeit a famous one. But when I saw the bold stripes of the swastika for the first time, I was reminded of the horrors of Nazism and Hitler's campaign of terror on the high seas.

After *Bismarck* sank, the British cruiser *Dorsetshire*

moved in to pick up survivors (top left). Among her officers feeling ran high over the sinking three days before of H.M.S. *Hood*. During the pickup, a British seaman saw a German who had lost both his arms and was in the water clinging to a rope with his teeth. The Briton jumped overboard to help and was charged with deserting ship

in the face of the enemy, but the charge was dropped.

*Dorsetshire* picked up 85 survivors before the reported sighting of a German submarine periscope drove her from the area. A solitary seaman's boot on the ocean floor (left) symbolizes to me the tragedy, the high military drama of *Bismarck's* short life. □

# IN A JAPANESE

By BRUCE A. COATS

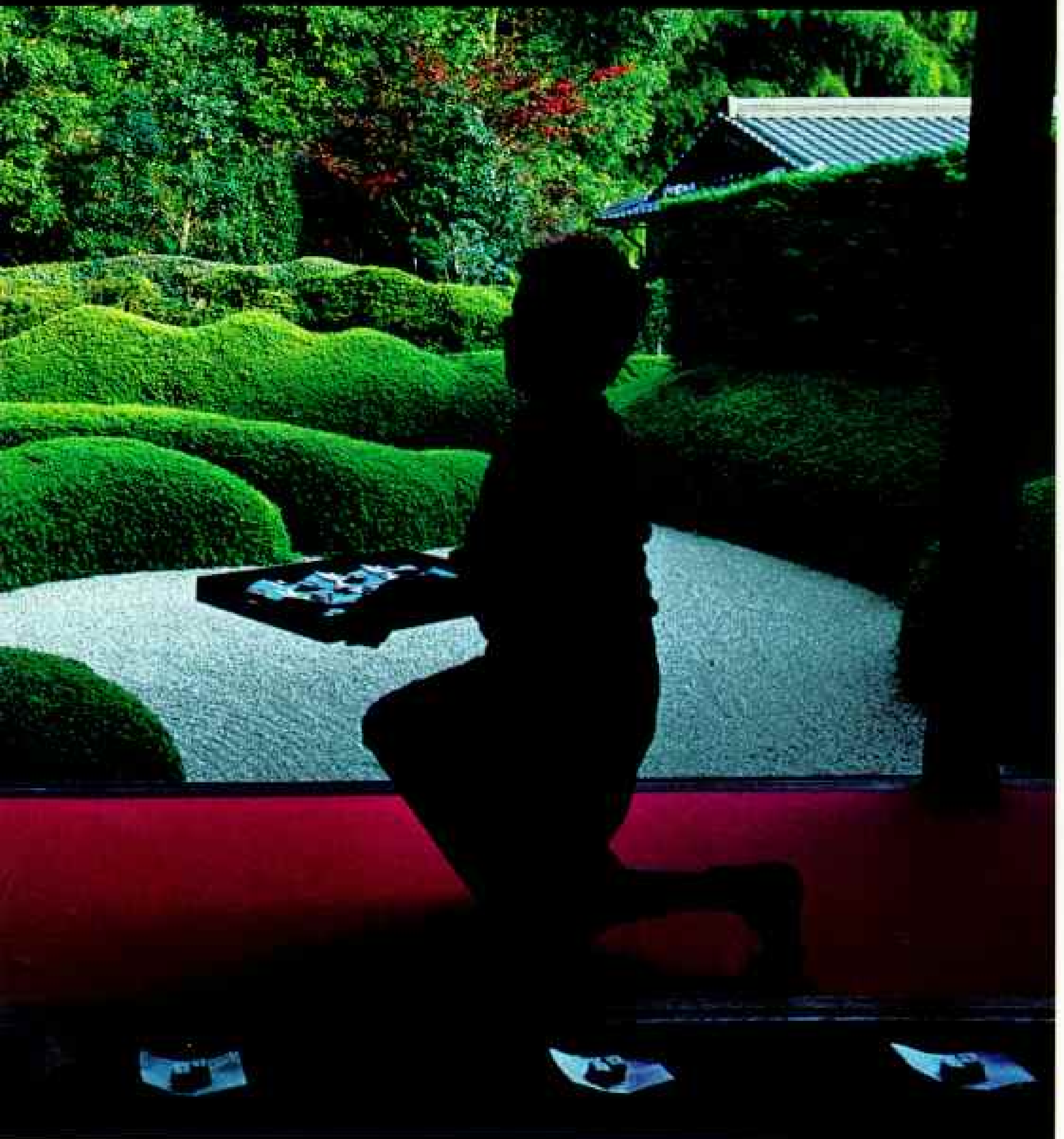
Photographs by MICHAEL S. YAMASHITA





# Garden

*Waves of azaleas flow gracefully across the garden of the Daichiji temple near Kyoto as tea and cakes are set out for visitors. An oasis of serenity in a crowded land, the Japanese garden invites contemplation and calms the soul.*

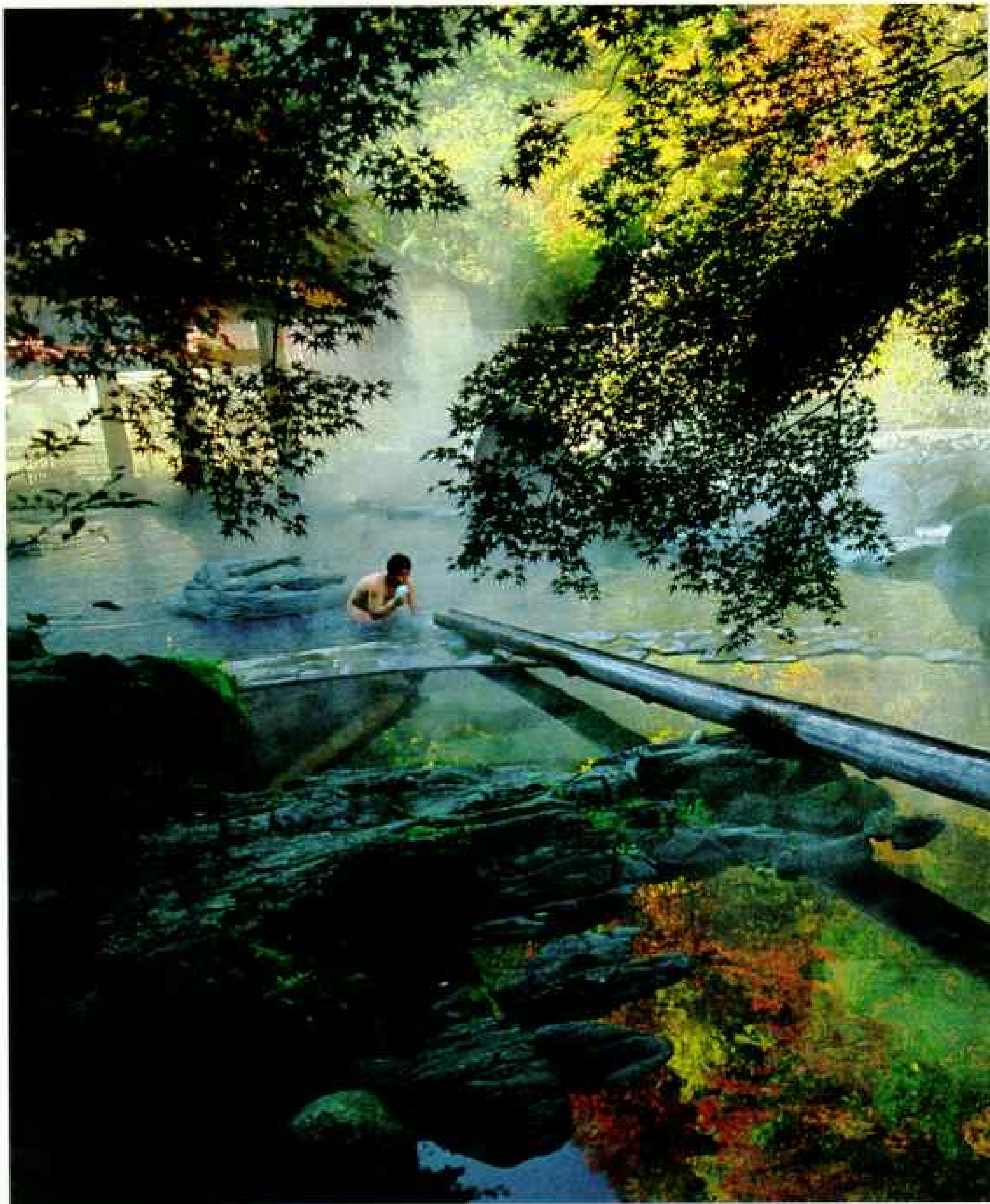






*piritual sanctuary in the heart of Tokyo, a garden of granite and rocks by artist Imai Toshimitsu evokes the city's golden past. Emblazoned on the glowing mural in the office courtyard, the fabled grasses of the Musashi plains recall the site where Tokyo—then called Edo—rose to prominence in the 17th century.*







*How I envy maple leafage / Which turns beautiful  
and then falls!" wrote the 17th-century poet Kagami Shiko. A dreamy haze over Takaragawa  
hot springs envelops a bather preparing to contemplate the beauty of the autumn foliage.*



ONE MORNING IN KYOTO I saw an old man pruning a pine tree next to a gray plastered wall. Meticulously he plucked all downward pointing needles from the boughs, so that the bottom of each branch was clean and its top bristly. Slowly he revealed the graceful lines of the limbs and the twisted shape of the trunk. He worked all day on that tree. When I walked by again eight hours later, the pine looked much older, like the windswept trees I had seen along the northern coasts of Japan. The mottled gray wall behind the pine suggested a dense fog about to engulf the tree, its tortured form seeming to have endured a hundred harsh winters. The old man had transformed a corner of his garden into a poetic vision.

Like generations of gardeners before him, this old man not only copied from nature, he tried to improve upon it. A traditional Japanese gardener designs his site to be in harmony with its surroundings. If nearby hills, distant mountains, or notable buildings can be seen from the property, he is likely to include them in a vista, using a venerable technique the Japanese call *shakkei*, or borrowed scenery. If water is plentiful, he might create a cascade, stream, or pond. As he arranges rocks, digs waterways, raises hills, or places trees, he will remember the gardens of his predecessors, which will help him shape the site at hand.

There is no single Japanese garden style but a wide variety, developed over time to suit various needs.

The idea of a sacred grove or special place associated with the gods gave form to Shinto shrines, which often consist of little more than a patch of gravel and greenery. The desire to create a material expression of nirvana inspired the lavish Pure Land gardens of the Buddhists, where sinuous paths led around temples and artfully shaped ponds. The use of gardens as places for spiritual meditation produced distinctive rock gardens famed for their

meticulous simplicity. And the need for spaces around palaces and private homes created the great estates and tiny courtyards that gave pleasure and enhanced the owner's reputation. Despite such varied functions, an underlying characteristic of most Japanese gardens, simple or complex, is fidelity to the natural forms of rocks, plants, and trees. Other cultures make stones into sculptured shapes or fashion plants into imaginative geometric forms; Japanese celebrate the originals.

UNTIL RECENTLY the craft of designing gardens was hereditary, passed from father to son or son-in-law. The arduous training took about 15 years.

Nowadays the training seldom lasts that long, but the student gardener is still expected to examine nature, to analyze older gardens, and to become the arms and legs of his teacher. The master makes designs in his head; the apprentices move rocks and trees into place, setting and resetting them until they are just right.

My own study began in high school, when I worked part-time for a Japanese gardener who had recently moved to New Mexico. Sensitive to the desert environment, he used piñons, sagebrush, and yuccas to make delightful oases in the Japanese style. Like other master gardeners I have known, he seldom said much and rarely explained things. Instead he directed me with quiet gestures and slight nods so that I would feel instinctively when a rock had been well set or a tree properly trimmed.

It wasn't until the Vietnam War, when my Navy ship pulled into Japan for repairs, that I saw my first real Japanese garden. In Kyoto I was overwhelmed by the lush vegetation that the mild climate nurtures, and I realized that Japanese gardens are not fixed but dynamic compositions that fluctuate with the seasons, the growth of foliage, and the passage of years.

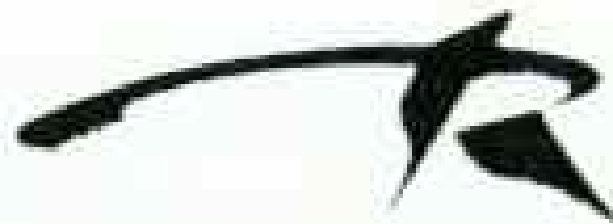
Over time, these gardens have been shaped by the same blend of Buddhist, Taoist, and Shinto tradition that suffuses so many other aspects of Japanese life.

A single rock of distinctive shape can be set apart as sacred to honor the divine spirits

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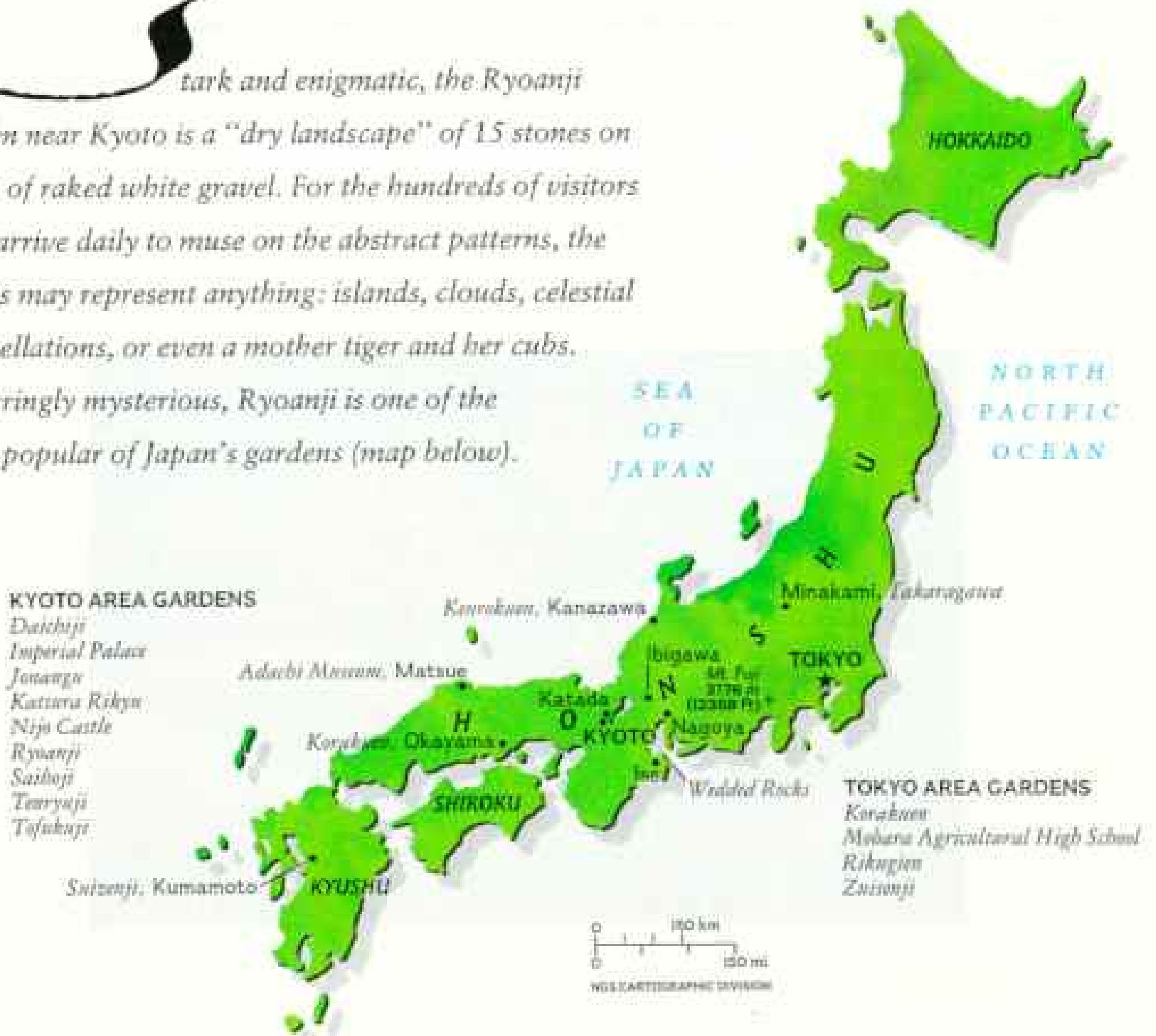


*e-creating nature in miniature has for centuries proved an irresistible challenge for the Japanese. Enamored of Mount Fuji after many visits, a feudal lord named Hosokawa Tadatoshi decided upon returning home to Kumamoto to erect the mountain in his own backyard. Some 350 years later, workers at Suizenji park still hand-trim the grass on his 50-foot-high micro-mountain. Equal care is bestowed on bonsai, tiny trees whose roots and branches have been pruned to stunt their growth. Bonsai master Yamada Tomio holds a 50-year-old Japanese maple worth \$4,500.*






 stark and enigmatic, the Ryoanji garden near Kyoto is a “dry landscape” of 15 stones on a bed of raked white gravel. For the hundreds of visitors who arrive daily to muse on the abstract patterns, the stones may represent anything: islands, clouds, celestial constellations, or even a mother tiger and her cubs. Enduringly mysterious, Ryoanji is one of the most popular of Japan’s gardens (map below).





called *kami*, which, according to Shinto beliefs, are associated with extraordinary features in the landscape. Recently Mike Yamashita, the photographer for this story, was driving through the countryside near Kyoto and was intrigued by a large stone rising out of a broad rice field. None of the local farmers knew why this boulder had been left to stand, but they agreed that it must be hallowed.

Even today in downtown Tokyo small Shinto shrines provide precious open space among the slate gray buildings.

I can usually locate these urban shrines by sound faster than by sight, for they also serve as playgrounds for toddlers. In the Tokyo neighborhood where I once lived, the shrine compound was only about 200 feet square, shaded by a few old pines. The wooden shrine building itself was no larger than a dollhouse, perched on a platform above a patch of white gravel, a symbol of purification. Near a pond where birds drank, a few large stones were clustered. Each day office workers and housewives stopped by to say a silent prayer.

People can still find that island of serenity, but high-rise construction is supplanting

other urban shrines—little wonder, given the extraordinary increase of Tokyo property values. Yet even as the Japanese remake a city, they demonstrate a characteristic regard for nature. New building owners often hold special groundbreaking ceremonies to placate the *kami* and then, as further compensation, may install a little Shinto shrine and garden on the building's rooftop.

MANY OF TODAY'S JAPANESE GARDENS have their origins in the *Sakuteiki*, perhaps the world's oldest garden manual. The book, which originated in 11th-century Japan, was probably compiled by the aristocrat Tachibanano Toshitsuna.

Son of an imperial regent, the young Toshitsuna learned the art of garden making from his father and from gardeners on the family estates. Toshitsuna's book remains a valuable reference for master gardeners. It is also a delightful compendium of well-tested design technique, personal opinion, and age-old superstition. It tells how to dig waterways, set stones, choose plants, site pavilions—even how to make pond bottoms watertight and how to keep shoreline rocks from toppling.



Flowering trees, Toshitsuna writes, look best to the east of a building, maples to the west. A willow, he advises, gives a feeling of formality near a gateway, but the gardener should place it carefully: If its branches reach into the entryway, they will bring bad luck.

Part of Toshitsuna's advice is rooted in the ancient laws of geomancy—the Chinese belief, transplanted to Japan, that destiny is affected by positive and negative energies that pervade the earth. Houses, gardens, and even graves had to be carefully sited by geomancers to take account of these forces. To do otherwise would invite disaster, while benefits would flow to people who properly situated themselves in the landscape.

Some of these rules probably developed as practical responses to China's climate. Winds sweeping down from Siberia could be harsh, so it made sense to shield a house with walls or hills to the north. Important structures faced south, to take advantage of positive forces; the low winter sun came from that direction, and it warmed southward-facing rooms.

Other guidelines seem more fanciful: Any stream had to enter a garden from the northeast and exit to the southwest to accommodate the blue-green dragon of the east and the white tiger of the west. Since evil spirits were thought to move only in straight lines, an open gateway should have a rock or wall just inside to keep them from entering.

THE ANCIENT CAPITAL OF KYOTO, with gentle pine-clad mountains rising to its north, east, and west, is laid out according to strict geomantic laws. Master-planned in the late eighth century, the city was designed to be the equal in beauty, if not size, of China's capitals at Xian and Luoyang. A tree-lined avenue bisected Kyoto and extended about three and a half miles from the city's great south gate to the Imperial Palace on the north.

Time has changed the ancient city, but willows and cherry trees still line its avenues, making springtime especially colorful. Gardens abound: in Shinto shrines, Buddhist temples, public parks, restaurants, stores, and private houses. Each time I visit, this panorama calls to mind the opinion of Toshitsuna, who wrote that trees and plants "bring the magnificence of heaven to the human realm."

Inside the walled compound of Kyoto's Imperial Palace, the emperor's throne room faces south to an enclosed ritual area, where

the ground is covered with white gravel, recalling a Shinto shrine and the emperor's traditional role as intermediary with the gods. Outside are the extensive gardens of the palace compound. A few days each year, when the complex is open to anyone without application, long lines of visitors form outside, even if it is raining. I always enjoy queuing up then, to hear the snatches of local commentary.

"Oh, look how full the flowers are this year!" says one springtime visitor, admiring the cherry blossoms.

"Wasn't that maple tree a deeper red last year?" asks a connoisseur of autumn leaves.

These remarks are whispered, for everyone is respectful as they tour the imperial grounds. The loudest sounds are of footsteps crunching on gravel and of crows cawing in the tall pines.

The emperor could look from his sleeping quarters into a garden filled with low mounds of *hagi*, or bush clover, soothing green in summer and brilliant yellow in autumn. The splash of color made a living picture not to be entered but to be admired from afar.

A JAPANESE GARDEN is never finished, because each site is shaped and modified by successive owners. To look upon any garden is to see only its most recent surface.

I imagine that the founders of the famous garden and temple at Saihoji, on the outskirts of Kyoto, would not recognize the place today. It has changed form and meaning several times since its establishment in the eighth century. Its initial configuration is unknown; by the 12th century it was noted as a Pure Land garden, its pond edged with cherry trees in an attempt at earthly creation of a Buddhist paradise. In the 14th century it was part of a Zen temple, with a new pond and a rock garden for meditation. Since then the temple has prospered and fallen into ruin several times.

Today some 120 varieties of moss flourish in the cool, broken shade of the heavily wooded valley. Fondly known as Japan's Moss Temple, the site is one of the country's most popular attractions (pages 650-51). That renown almost destroyed Saihoji, as fumes from hundreds of tourist buses and cars began to kill the moss. Now the temple is open on a limited basis, its natural beauty recovering.

When I first visited Saihoji nearly 20 years ago, I was already familiar with the garden from countless photographs. My expectations were happily  
(Continued on page 655)



*Deep in meditation, a monk in the garden at Ryoanji rakes a prescribed pattern in the gravel in readiness for the day's visitors. Zen gardeners devote many hours to this mechanical chore; the repetitive activity clears the mind of mundane concerns and helps produce a state of pure concentration. At the temple of Tofukuji in Kyoto a checkerboard pattern of coarse sand imposes an artful symmetry on an ever shifting medium. Decorative raked patterns traditionally conjure up visions of ripples, scalloped waves, streams, and whirlpools.*









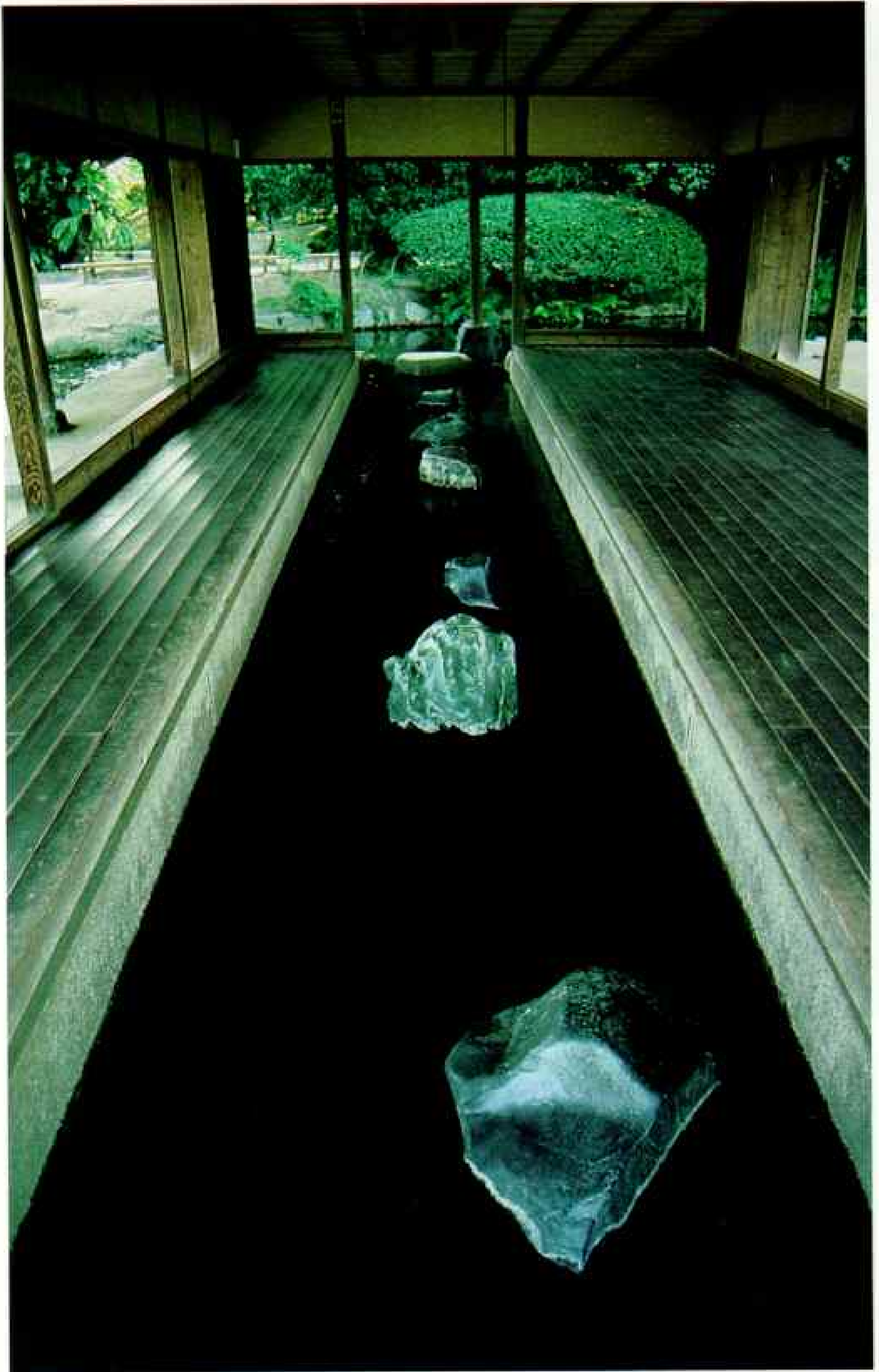
*In an enchanted world in shades of green, Kyoto's Saihoji garden—known as the Moss Temple—is carpeted by some 120 varieties of moss. Begun in the seventh century, Saihoji became a Zen meditation garden 650 years later, but grew moss only in recent centuries as its trees formed a dense canopy. Fall leaves recall the haiku, "The red maple leaves shine so bright! The wings of flying birds are scorched."*



*Permanently framed by a window of the Adachi Museum in western Honshu, this garden was designed to complement the paintings hanging nearby—"a kind of picture to be viewed and enjoyed," in the words of its creator, Nakane Kinsaku. A wall of trees blocks out a highway; the distant mountain is "borrowed scenery." To keep such gardens pristine, workers even remove stray pine needles (right).*









*feudal lords and courtesans of the 18th century*

*once composed poems seated by this stream in the covered pavilion at Korakuen. The harmonious placement of rocks in the flowing water provided inspiration as cups of sake were floated by; any luckless poet unable to compose a verse before a cup arrived was forced to drink its contents. At a rock center in Ibigawa (above), rocks collected from rivers, mountains, and fields are cleaned, sorted, and valued according to their shape, color, texture, and original location. A single stone has been known to fetch \$370,000.*

*(Continued from page 648)* fulfilled. The mossy banks, green and lush, sparkled from an early morning shower. Filtered sunlight dappled the pond's surface, and a soft breeze rustled leaves in the canopy of maple trees. The garden seemed enchanted.

As I climbed the path leading up the hillside, I noticed that the stepping-stones were steep, irregular, and slippery. Soon the moss of the valley gave way to hard-packed earth embankments and tangled tree roots. The rock arrangements seemed harshly angular and upsetting, as if the rugged stones had tumbled out of gashes in the slope. But the rocks had been set that way on purpose. Nearby was a stone-lined pit, the remains of an ancient sarcophagus. Its cover had been pulled back so that one could sit on the stone lid and meditate on life, death, and the emptiness of the tomb.

Saihoji appeared to be two very different gardens, a sort of yin-yang combination of opposites joined in a single space. I had not expected the strong physical and emotional sensations of the place and was all the more impressed at how a garden could be so powerfully affecting.

ONE OF THE MANY MINDS behind Saihoji was Muso Soseki, a Zen master who, although small of stature, was a towering intellectual figure of 14th-century Japan. Seven times the emperor honored Muso with the rare title of *kokushi*, or national teacher.

Throughout his life Muso steeped himself in Chinese and Japanese literature but worried that fellow monks might prefer poetry to meditation. His own solitude was constantly interrupted by disciples and government officials



*zigzagging over a swamp of delicate irises, this bridge at Korakuen was designed to be crossed slowly, the visitor pausing at each angle to enjoy a set view. Begun in 1687 for a feudal lord in Okayama, the 32-acre garden was modeled on its then famous namesake in Tokyo. The correct disposition of stepping-stones in such "stroll gardens" is a complex art, studied here by students at an agricultural high school in Chiba. A 17th-century treatise warns that "there are many taboos concerning the placing of stones. It is said that if even one of them is violated . . . the place could become an abode of demons."*



seeking advice—the shogun and emperor among them.

To quiet his mind, Muso fled to the countryside, first to one place, then another. At Zuisenji he carved out a cave where he could sit in silent meditation, staring at the crumbling gray sandstone walls. In a remote valley near Nagoya he built a temple where he could contemplate the moon's reflection in a pond. A full moon symbolized spiritual enlightenment, and its unsteady reflection was like mankind's incomplete awareness. But eventually Muso's quietude was broken again, when the shogun ordered him back to Kyoto to found the monastery at Tenryuji in 1339.

As work proceeded on the new temple, Muso also set about restoring Saihoji, then in ruins, as a retreat for himself. At Saihoji, Muso reshaped the pond and added several Chinese-style pavilions around its shore. Here, in the hills just outside the capital city, he could meditate, conduct Buddhist ceremonies, and occasionally entertain members of the military and aristocracy.

I can imagine him looking out over the pond as he composed this poem:

*A virtuous man when alone loves the quiet  
of the mountains.*

*A wise man in nature enjoys the purity  
of water.*

*One must not be suspicious of the fool who  
takes pleasure in mountains and streams,  
But rather measure how well he sharpens  
his spirit by them.*

Muso was perhaps the first who saw gardens as an essential part of a Zen monastery, where a monk could empty his mind of worldly distractions and come to know himself.

BY THE 16TH CENTURY Muso's ideas had encouraged another type of meditation environment, the *karesansui*, or dry-landscape garden, so called because it was made without streams or ponds. Such gardens symbolized a whole world in a few square yards.

Perhaps Japan's best loved dry-landscape garden is Ryoanji in the foothills northwest of Kyoto. A friend had told me to visit the Zen monastery as early in the morning as possible, to avoid the crowds. When an old woman opened the ticket booth, I approached to pay my admission. On her counter a red camellia blossom floated in a dark brown bowl, the only flower I would see at Ryoanji.

I removed my shoes and padded down the polished wooden corridor to the veranda, pleased to see that no one else was around. I sat at the center of the long porch and looked out upon the essence of a landscape: fifteen stones of varied size and shape, grouped in no apparent order, set in a bed of raked gravel (pages 646-7). There were no trees or shrubs, only a bit of moss growing at the base of some of the rocks. Beyond low walls roughly plastered with a splotchy gray-brown clay was a dense grove of maple, bamboo, and pine. This sparse garden required the visitor to bring experiences inside with him to fill out the landscape in his own imagination.

The freshly raked gravel seemed to ripple like the current of a silent stream. I was delighted by the interplay between the maple leaves fluttering outside and the stark stillness inside. I savored the solitude.

And then the tour buses arrived. Soon the veranda swarmed with high school students on a class trip, the first wave of the hundreds of people who would visit Ryoanji that day—and every day. The public-address system switched on. A recording, scratchy from overuse, urged everyone to have a deeply spiritual experience. Again, again, and again it played, and I left, both disappointed and exhilarated.

Fortunately I came back to live near the temple years later, so I learned to time my visits to avoid the tourists. Seeing the place regularly, I came to appreciate how labor intensive such a garden can be. Leaves blow in, weeds pop up, and the gravel must constantly be raked to maintain the crisp manicured lines.

For a Zen gardener, raking is itself a form of meditation. The patterns never change, the activity is purely mechanical. While silently raking, the monk must focus his physical energy on each stroke while clearing his mind of mundane concerns. Every monk has heard stories about others who gained spiritual enlightenment while doing mindless tasks, so he must be ever ready for that moment of insight.

To help themselves endure long hours of meditation, Zen monks often rely on the stimulation of tea, which, like their religion, originally came to Japan from China.

As the practice of Zen flourished in 13th-century Japan, a highly ritualized ceremony of making, serving, and drinking tea developed. By the 17th century the tea ceremony had come into the garden, in pavilions built especially for that purpose.







*C*rowns of rope protect a much loved 160-year-old pine tree at Kenrokuen garden from a possible heavy snowfall. Some 800 rice-straw ropes are tenderly tied to the tree's branches to support them. This task takes 12 people an entire day; the same kindness is shown to a thousand lesser trees. Special "snow jackets" lend a jaunty air to palm trees at Kyoto's Jonangu shrine.



*Wedded Rocks of the Ise-Shima National Park*

*are joined by ropes of rice straw, ceremonially replaced every year by Shinto priests. The rocks form a natural shrine to two gods, Izanagi and Izanami, believed to have created Japan. Shinto mythology holds that gods manifest themselves on earth in certain sacred places, such as a particular tree, mountain, or rock. Tributes to nature appear in unexpected places: tucked away on a rooftop, between tracks of a railroad, or even in the rest room of a public garden (below).*



Certainly the most venerated complex of tearooms, pavilions, and gardens is found at Katsura Rikyu, a 17th-century country estate built and planned by Prince Toshihito and his son, Prince Toshitada. Both were wealthy and both had strong ties with the military governors, so they could lavish their attention on Katsura to make it the perfect country estate.

Located southwest of Kyoto, the main house and the teahouses are separated by elaborate gardens, so that the events of the tea ceremony are sequestered from daily life.

Walking from the main house, I come upon a wide, straight path of white sand, which leads down to the edge of a pond. Then another path lures me into a densely planted area of azaleas and camellias. Frequent rains and morning mists keep the lush foliage perpetually damp.

The rocky path twists and turns as I approach a teahouse. The stepping-stones, rough and unaligned, form a seemingly random pattern known as *roji*, or dewy path, for their irregular placement. I must slow down to check my footing, and each time I lift my eyes, another unexpected view reveals itself. The path's design forces me to stop and notice certain scenes from just the right vantage point, and it encourages controlled, measured movement from the workaday world to the quiet of the tea ceremony.

THE GARDENS OF KATSURA were inspired by famous tea masters also noted for their skill as landscape designers, among them a prominent samurai named Kobori Enshu. Like many in his elite class, Enshu was a Renaissance man who excelled in the dual arts of *bun* and *bu*, the literary and the military. His portrait, painted by a contemporary, depicts a stern but lively man of serenity and confidence. A sword lies on the floor, ready by his left hand, an open book at his right elbow.

Enshu, one of the most influential figures in the history of Japanese gardens, had a subtle sensibility coupled with a respect for tradition and a flare for innovation. While serving the shogun, he was entrusted to build numerous castles, palaces, and temples. Enshu's Nijo Castle in Kyoto still stands, a masterpiece of his elegant style.

At a glance the Nijo Castle demonstrates the wealth and authority of the military rulers, the Tokugawa shoguns. Inside, vast wall murals and intricately carved panels, fashioned by the

best artists of the era, depict exotic birds and flowers. Outside, Enshu built grand gardens of enormous rocks and rare plants imported from the far reaches of the empire. Sitting in the audience hall, the shogun could look outdoors and bask in the physical evidence of his domain.

THE FEUDAL LORDS of Enshu's time saw their gardens as status symbols, a means of displaying their wealth and taste.

One of these lords, a shogun's son named Tokugawa Yorifusa, reproduced many of Kyoto's famous beauty spots in his garden, the Korakuen, at Edo, now modern Tokyo. As he strolled the pathways, Yorifusa could imagine himself back in the ancient capital. Later his son Mitsukuni added classical scenes from Chinese gardens, basing his reconstructions on paintings and written descriptions of a country he had never seen. Since the Japanese military government had forbidden travel to China, Mitsukuni had to substitute a walk in his garden for a trip to the continent.

The idea of reducing famous sites to garden size proved popular in the provinces too. In the 17th century the Kaga clan began re-creating famous vistas from Kyoto and its surroundings in Kanazawa, more than a hundred miles north of the old capital.

Once set among stone castle walls that have since crumbled away, the family's Kenrokuen garden endures as one of Japan's favorite public parks. It is rich with literary associations familiar to every cultivated Japanese.

The timeworn stepping-stones that lead across a shallow pond, for instance, are arranged in a V-pattern, to suggest the image of geese in autumn migration. That, in turn, recalls a poem celebrating the famous Omi region near Kyoto:

*Before crossing countless peaks  
In their migratory path,  
The wild geese first alight nearby at Katada.*

To see the garden is to remember the poem and the famous site that inspired both.

LITERATURE HAS ALWAYS PLAYED an important part in the design of many Japanese gardens. Sometimes large rocks were placed along garden streams so that guests could lounge upon them and wait for cups of sake to float by on the current. This literary conceit, borrowed from China, recalled a





*lashes of living color, brilliant carp flit through pond waters at Takaragawa hot springs. A symbol of strength, longevity, and good fortune, the auspicious carp, or koi, has long been praised in Japan as the "king of river fish." To ensure that the waters run crystal clear in the streambed at Kenrokuen, "river washers" labor from morning till dusk, sweeping algae from the stones. The rewards are spiritual. "When I am arranging one stone after another," says garden architect Nakane, "I am always entangling the stone with my dream and pursuing an ideal world of beauty."*

fourth-century party staged by the calligrapher Wang Xizhi, who challenged friends to compose poems before the cup reached them.

Other gardens feature a zigzag bridge with eight planks crossing an iris swamp—a motif borrowed from a ninth-century poem by Ariwarano Narihira, a noble exiled from the Kyoto court. Scandalous love affairs and political infighting had forced this handsome courtier to head for remote provinces.

On departing the capital, Narihira was said to have crossed such an eight-fold bridge, stopping at each juncture to recall his loved ones and the life he was forced to leave behind.

Yanagisawa Yoshiyasu had in mind such famous poems when he designed the Rikugien, an 18th-century estate in Tokyo. Yoshiyasu was a notorious figure in his time, an attractive boy who became a powerful

government official by tending to the non-spiritual needs of the shogun. When the shogun died, Yoshiyasu lost power and retreated to the fantasy world of his garden.

There he created an artificial lake, with 88 views inspired by lines of classical poetry. As his guests strolled through the garden, they were expected to identify each view and quote the poetic allusions associated with it.

If the old lord could return to visit his garden, I suspect that he would be well pleased. He would find appreciative visitors still gathering to view the cherry blossoms and irises, and he would see college students quizzing one another about the famous verses. And in the pavilions he would meet groups of elderly women from various Tokyo poetry clubs staring out at the soft hills and sunlit ponds, trying to compose appropriate lines of their own. □



# The Efe

## Archers of the African Rain Forest

ARTICLE AND PHOTOGRAPHS BY  
ROBERT C. BAILEY

**D**INGONO STOOD MOTIONLESS, ready to loose an arrow toward the antelope that nervously stepped its way through the understory of Zaire's Ituri Forest. The hunter, only four feet eight inches tall, fired his shaft, and the *munsu* bolted with the metal point embedded in its spleen.

"*Aas aas ibude aas aas!*" Dingono yelled, urging the dogs to join the chase as he rushed after the wounded animal. I heard a loud "pop" ahead and knew that another hunter was signaling a hit by popping his bowstring against his monkey-skin wrist guard. Soon laughter reverberated through the forest, and I knew that the animal was dead.

I caught up with the hunters in a small natural clearing as they sat on *mongongo* leaves around the carcass. They were gesticulating wildly and emitting sounds like wounded animals as each gave his rendition of the hunt.

The antelope, a 49-pound black-fronted duiker, was pregnant. At once Pekele, the oldest hunter, began to butcher it and give each archer his share. Dingono received the largest portion, the hindquarters and prized liver, because he had lodged the first arrow. Because he owned the two dogs, Kosiani received the head, a shoulder, and a forelimb, while Dingono's brother Eembi was given the other shoulder and forelimb for firing the fatal arrow. The five others shared the rest equally.



As the hunters picked *mongongo* leaves to wrap around their meat, a low rumble announced an approaching rainstorm. Abruptly the storytelling ceased, and we set off briskly back to camp. Only the dogs lingered, to lap up drops of blood and sniff at the offal, while high in the upper canopy, startled hornbills called raucously, *raaak, craak, craak, craak*.

Dingono and his fellow hunters belong to





the short-statured African people widely known as Pygmies, who are distributed across the tropical rain forest regions of seven African countries: Burundi, Cameroon, the Central African Republic, Gabon, the People's Republic of the Congo, Rwanda, and Zaire. Living a seminomadic life-style, ten or so different populations defy an accurate census, but estimates range from 150,000 to 200,000.

*With nearly all her family's possessions on her back, an Efe woman, carrying more than half her own weight, wends her way toward her next camp in Zaire's Ituri Forest. Descendants of the ancient and legendary Africans known to outsiders as Pygmies, the seminomadic Efe carry on a tradition of hunting and gathering little affected by the modern world.*

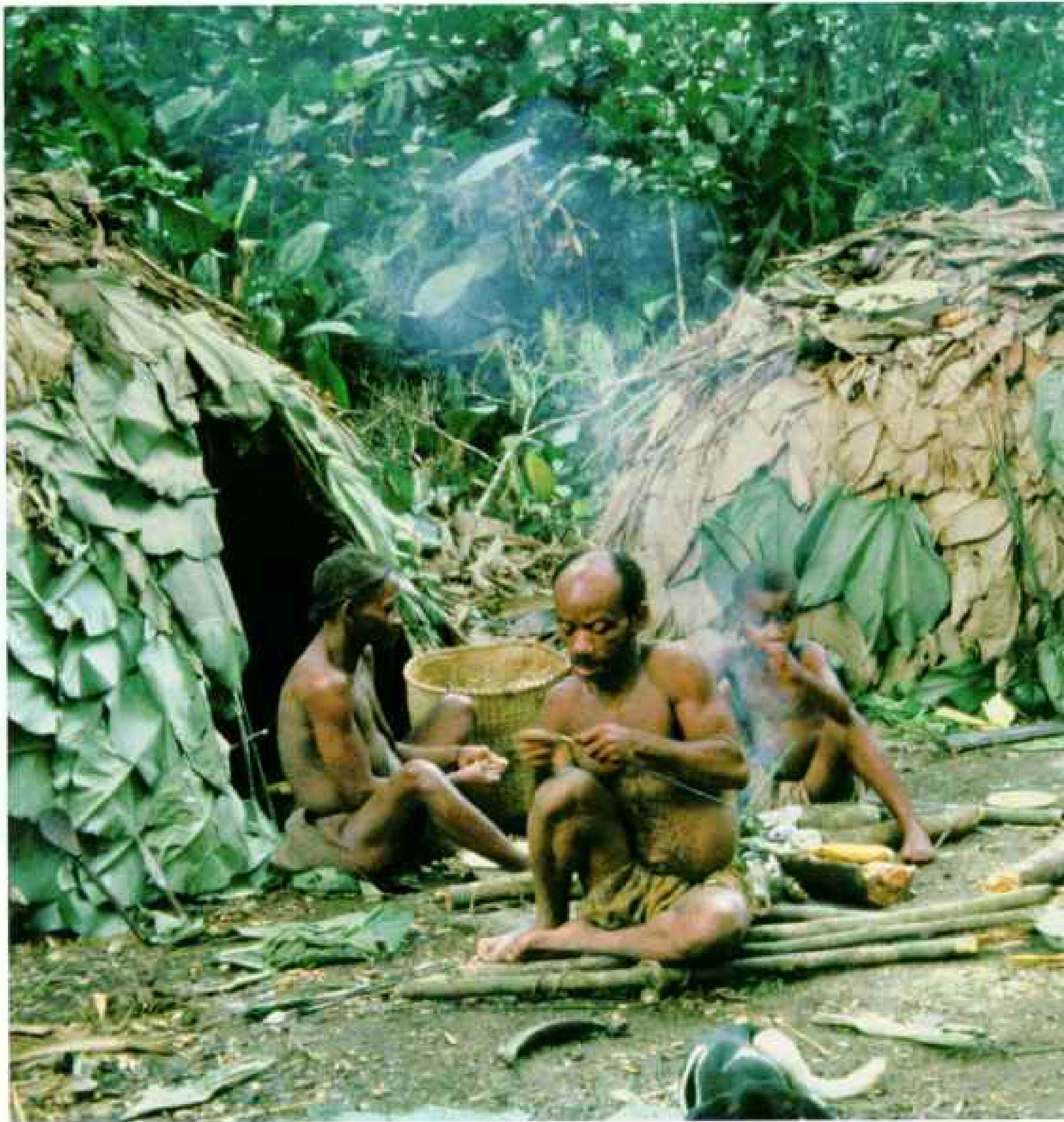


Some groups hunt by flushing prey into nets. Dingono's people, known as the Efe, are renowned as archers. Approximately 5,500 Efe inhabit the Ituri Forest, which lies on the northeastern lip of the Zaire (Congo) River basin (map; page 669).

I arrived in Efe country in early 1980 to begin what has come to be known as the Ituri Project, a long-term multidisciplinary study of the Efe and the taller Lese, a group of slash-and-burn agriculturists with whom the Efe have close economic and social ties. Since then the project has involved some 25 researchers from four countries.

**T**HE EFE are of particular interest to anthropologists like myself because their foraging ways may be similar to human existence prior to the introduction of agriculture some 10,000 years ago.

If our own genus, *Homo*, has existed for more than 1.5 million years, as paleoanthropologists now believe, then our ancestors must have subsisted by hunting and gathering for 99 percent of this time. It is clear that hunting and gathering has been the dominant way of life in the emergence of our species. Much of what makes us human is the product of the selection pressures that were acting during thousands of



generations. Because certain aspects of the ecological and social conditions faced by the Efe today may be similar to those encountered by our ancestors, the Efe can serve as a window on our past.

After visiting nearly all the Pygmy populations in central Africa, I determined that the Ituri Forest where the Efe live stood the least chance of undergoing dramatic change in the coming study years.

I began my search by walking northward on a neglected dirt road that had been chiseled through the dense forest under the Belgian colonial administration in the 1940s. In my

blue backpack I carried a few clothes, two paperbacks, and an old map.

High above me, branches of *kombokombo* trees met like pointed Gothic arches. Sprinkled among them were raffia palms, fig trees, thick stands of bamboo, and feral vines of sweet potato and cassava—signs of regrowth

*Preparing for the day's hunt, an Efe man repairs arrows while his wife, far left, and daughter-in-law prepare food. About every three weeks the clan moves to a new site, where the women erect sapling-and-leaf huts.*



Making a spectacle of himself, the author, a professor of anthropology from the University of California, Los Angeles, inserts a contact lens while his Efe neighbors look on in amazement. Because of their deep fear of foreigners, it took great perseverance for the six-foot-two Bailey to win the confidence of his Efe hosts, whose average height is four feet seven.

A RESEARCH PROJECT SUPPORTED IN PART BY YOUR SOCIETY

Bailey began his research and established the Ituri Project research station in early 1980 with support from the National Geographic Society. After seven months he was joined by fellow researchers,

including the woman he would marry, anthropologist Nadine Peacock. Over the years his studies of the Efe and nearby Lese have also been funded by the National Science Foundation, the Swan Fund, and the L.S.B. Leakey Foundation.

To protect the privacy of the people he studied, the author has used fictitious names throughout this article.



NADINE PEACOCK

following earlier slash-and-burn cultivation.

Every few miles the shaded forest was interrupted by large clearings containing five to twenty huts made with ocherous mud-daub walls and leaf roofs—the Lese villages.

Inevitably a child playing in the middle of the dirt track would spot me and run screaming in terror. The villagers, dropping what they were doing, beheld one of the most frightening sights they had seen since Congolese rebels invaded this area in 1965: a perspiring six-foot-two-inch white male with hairy face and thin bare legs, toting a sinister large blue bag.

Most turned and ran. The few men who remained averted their eyes, their hands and lips trembling, as we took seats in the *baraza*, the village meeting place. Soon I learned that the Lese and Efe firmly believe that white people eat black people and find children especially appetizing. Perhaps their view developed from the reputedly brutal treatment that Africans received under Arab and then Belgian rule. Their deeply rooted fear of me, strongest among women and children, gave me a sense of loneliness and isolation that was one of the most difficult aspects of my early fieldwork.

I had trudged 75 miles along the road when I first met Dingono and Eembi, in a Lese village. They were sitting in the *baraza* talking with Abamu, the village *capita*, or headman. They had come from their nearby forest camp to drink fermented sap from the raffia palm that Abamu had tapped the day before and to give Abamu the hindquarters of a blue duiker.

I learned that these two Efe men, who later became my close friends and trusted informants, were about to return to their families in the forest, and I asked if I could go with them to live in their camp. The look on their faces made it clear that they could think of nothing worse than to have a *muzungu* (foreigner) living with them for even a day. But their high sense of propriety demanded they say yes.

As we left the Lese village and crossed their gardens, the intensity of the noon sun made my hair hot to the touch and heat rippled up from the ground. We traversed extensive areas that the Lese had cleared for their gardens a few years before, and here the path became a tunnel burrowing through tangled shrubs and vines. Thorns embedded themselves in my shoulders, even when I crawled on my hands and knees. All the while Dingono and Eembi breezed along as if on a stroll across the strand.

In the mature forest immense tree trunks

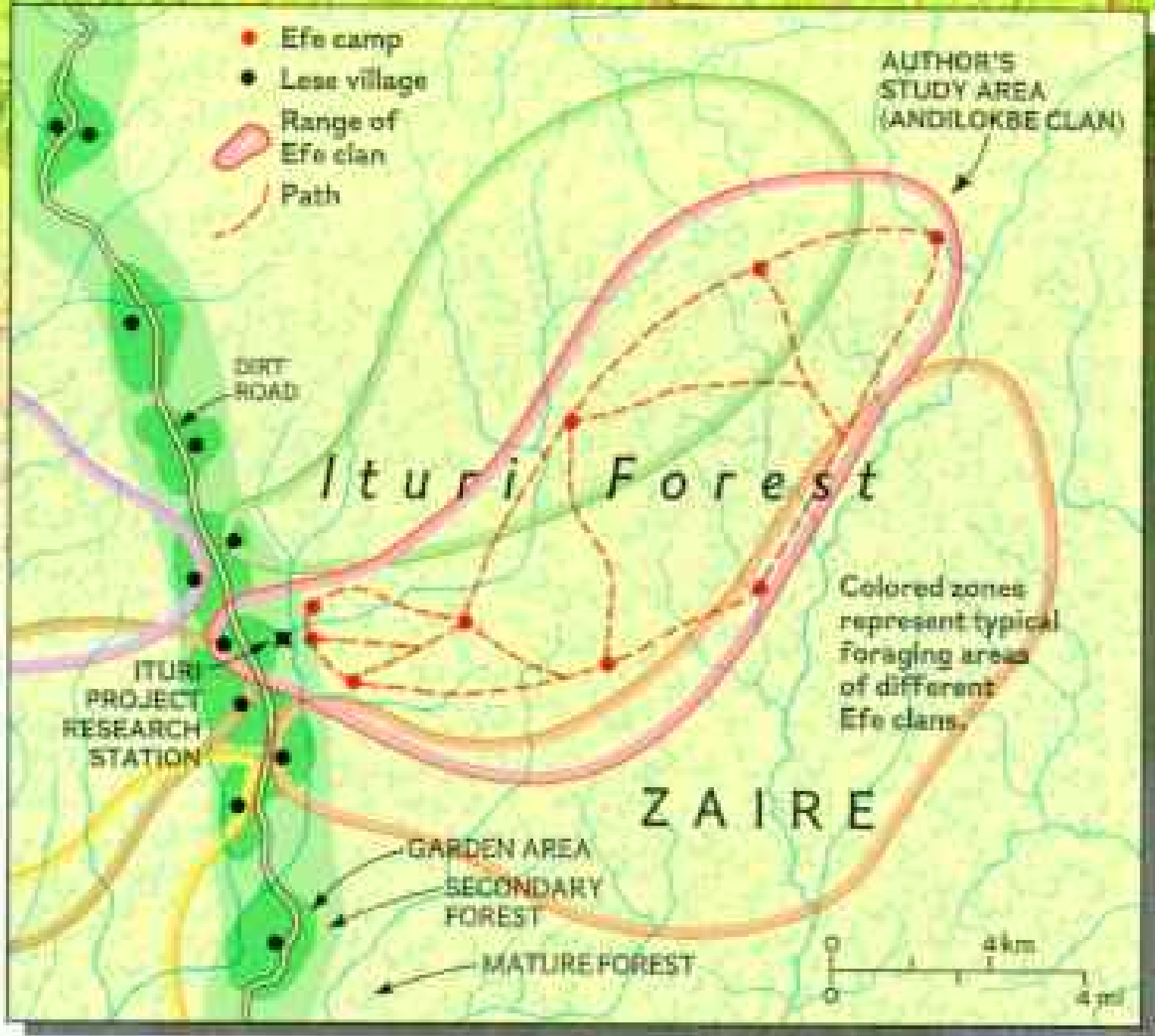




# Pygmies of Central Africa

A heterogeneous people, more remarkable for their way of life than for their size, Africa's so-called Pygmies prefer to be known by their ethnic names. The term Pygmy, considered derisive by the people it purports to describe, derives from the Greek word *pygme*—a unit of length defining the distance from the elbow to the knuckles—used by Greek writers including Homer to name a people shrouded in myth more than two millennia ago.

One of the world's largest populations of hunter-gatherers, some 150,000 to 200,000 of these people remain scattered across seven African countries. Approximately ten distinct groups follow their own traditions, speaking the Bantu or Sudanic dialects of their taller



agriculturist neighbors, with whom they all share close relationships. In Zaire's Ituri Forest the Efe have centered their seminomadic existence around the semipermanent villages of the Sudanic-speaking Lese people. During the honey and

prime hunting seasons, the Efe leave their gardenside camps and move from site to site in the tall forest. Always they remain close enough to the Lese's gardens to return to trade their forest products or labor for produce, iron, and cloth.



held crowns 180 feet in the air, shading out most underbrush. Walking became easier, but still there were swamps, tree falls, and rotting logs to climb over. I sweated profusely, but the Efe, easily ducking under branches and fallen logs, showed not the slightest glow of moisture on their coppery skin. I recalled the principle that smaller organisms can dissipate proportionately much more body heat than larger ones. In the tropical rain forest at least, bigger definitely was not better.

As we approached the camp, my clothes were drenched with perspiration, my running shoes and ankles caked with mud, my shins and forehead streaked crimson from nasty scratches. But the Efe, instead of fleeing into the forest, simply stared, stunned by the sight of the awkward hulk that staggered into their home. Most had never seen a white person, except the occasional missionary encased in a Land-Rover driving by on the road.

Atosa, the wife of Dingono, broke the silence. "Roberi [it seems my name had reached them days before], put your shirt on and sit down quickly," she said in Swahili. "Your body is so ugly." Such was my introduction to the Andilokbe clan—the Efe who were to be my extended family for the next two years.

**T**HE EFE had placed their wet-season camp at the top of a gentle rise, so the site could drain in a heavy rain. They had cleared an oval area about 50 feet at its widest, leaving only a huge *ato* and other hardwoods towering overhead.

Around the periphery stood nine huts, each with a small doorway facing in toward the center. The Efe had built them by driving saplings into the soft ground, bending them, and weaving in branches to form a domed latticework, then shingling it with mongongo leaves.

From the outside the huts appeared as leafy igloos. The entrance to each was little more than a crawlway and allowed only a meager bit of light to filter in. At night a fire glowed in the center of the hut. Dingono, Atosa, and their two-year-old daughter, Zatu, slept on one side of the fire. On the other slept their son, Arungele, 7, and Abusa, Dingono's 63-year-old uncle, whose wife had recently died of dysentery. In the future Atosa would build the family hut larger, making room in the back for me to sleep.

Much of my field research focused on the men's principal forest activity, hunting. The Ituri contains Africa's richest abundance of forest mammals. (Continued on page 678)



*Fashioned from the rib of a banana leaf, a six-foot-long pipe cools smoke from a mixture of tobacco and marijuana, or bangi. Though illegal in Zaire, bangi is obtained from the Lese in exchange for meat or honey. Unlike other Ituri Forest foragers who hunt with nets, the Efe kill most game with bows and arrows. Each hunter takes great pride in his monkey-skin wrist guard.*



JOSÉ AZEL, CONTACT PRESS IMAGES



For the bite that kills, a wooden arrow is notched to hold poison (below), which will be applied before a monkey hunt. For larger game, like a 40-pound duiker (right), a hunter fletches a metal-tipped arrow (left). Though the Efe often hunt alone, they usually hunt in groups because the chance of returning with game is better. Meat is divided (bottom) according to convention, with the largest portion going to the archer who first wounded the animal.









*Ultimate honor for the hunter who inflicts the first wound, a slain elephant becomes the talk of the forest as the Efe butcher the giant beast.*



KEVIN DUFFY

*A rare event, even before the government made it illegal, such hunts require great stealth and courage on the part of the hunters.*

*Archers of the African Rain Forest*

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A supermarket of meat shared by everyone for miles around, an elephant kill attracts neighboring clans of Efe and Lese villagers. Efe women—who traditionally do most of the heavy work—gather firewood (left). Along with the Lese, Efe men butcher the carcass (bottom), and large strips of meat are carried to the drying rack (below left). There, one and a half tons of meat must be smoked before it spoils. Nearly all parts of the animal are eaten, from the prized trunk to the nutritious marrow hacked from the bones (below).

For countless generations the Efe have considered the elephant a gift of the for-

est, a bounty of food taken in exchange for the risk of the hunt. Much richer in fat than most of their game, elephant meat is the most desired of all game. Today, however, with the elephant edging ever closer to extinction, tradition may have to bow to reality if the animal is to survive.

Were it only the Efe killing elephants for their meat, says the author, elephant populations would probably be little affected. The illegal ivory trade, he asserts, has been the elephant's nemesis. Because they are skilled trackers, the Efe are often hired by gun-toting ivory poachers to stalk the animals.



KEVIN DUFFY





OPITH BY JOSÉ AZEL

*An island in a sea of green, the Lese gardens (above) provide the Efe with much of their food. Exchanging work for produce, an Efe woman (top, at left) toils in the garden of her taller neighbor.*

(Continued from page 670) The Efe pursue more than 45 different animals for meat, which supplies half their protein. Meat also is prized by Lese villagers, and the Efe trade it for garden produce and goods such as pots, pans, knives, and ax blades. Further, hunting enhances the identity of Efe men as they seek the respect of villagers and the attention of Efe women.

**O**F SPECIAL IMPORTANCE to anthropologists, hunting has been considered by many to be the primary factor guiding the evolution of traits characteristic of humans, including bipedalism, language, intelligence, aggression, sharing, toolmaking, the nuclear family, and differential sex roles. Yet many of these theories have been based on scant quantitative information about contemporary hunting-and-gathering peoples like the Efe.

The Efe most often hunt in groups, and their most common prey are duikers. Six species of these forest antelopes, one no larger than a jackrabbit, dwell in the Ituri, eating fruits that fall from trees. The duiker group hunt, or *mota*, has an almost ritual significance for Efe men. They also hunt forest elephants and other large prey, but a more common quarry is the monkey. Because monkey hunting requires great stealth, it is done by a solitary hunter.

The Efe hunters, having observed my cumbersome passage through the forest, initially resisted my company during monkey hunts. I persuaded them that my earlier studies of Amazon monkeys taught me enough not to alarm the prey. We worked out a whistle system that brought success on the first outing, and afterward all the hunters accepted me.

For hunting the Ituri's dozen monkey species, an Efe uses arrows dipped in a poisonous concoction made from vine bark and roots, which attacks the nervous system.

The solitary archer hears and anticipates the movements of monkeys foraging through the canopy. Motionless, he waits until his prey approaches, then shoots until an arrow connects or the monkeys flee. By my count only one of every 18 arrows finds its target. When it does, the monkey may still scamper a hundred yards or more through the canopy before the lethal poison takes effect. Thus many kills are lost.

One day I followed Eembi while he searched for caterpillars, and we came upon a dead



red colobus monkey. Eembi immediately wrapped the carcass in mongongo leaves to carry it back to camp. What luck, I thought. A 20-pound package of meat for nothing. It was like winning the lottery. I asked Eembi, "How did the monkey die?"

Without looking my way he answered, "How should I know. Probably got sick or a leopard killed it."

I asked, "How do leopards kill red colobus monkeys when the monkeys rarely come near the ground?"

"Happens all the time." Eembi signaled the end of the conversation by marching off toward camp.

Sitting around the fire that evening, I learned that Kosiani had shot a red colobus the previous day but had never found it. No one suggested that Eembi had found Kosiani's monkey; they merely congratulated him on his good fortune. But they noticed approvingly that when Eembi butchered the monkey that night, he sent his son across the camp to give Kosiani's wife the head and shoulders.

**D**URING TWO YEARS I recorded the results of 166 hunts of all types. The most successful, I found, were for monkeys, yielding on average 11 ounces of meat per hunting hour. The group hunts produced about 20 percent less.

With the advantage clearly for solitary monkey hunting, why did the Efe prefer to hunt in groups? Why should these intelligent devotees of red meat not pursue the most efficient means available?

The answer, I learned, is that while hunting for monkeys is more efficient, only one out of every three hunts results in a man bringing home meat. On a group hunt, however, a man brings home at least some meat two times out of three. Obviously the Efe are not as concerned with getting as much meat as possible as they are with reducing the risk of getting no meat at all.

Based on studies of Efe hunting, we can hypothesize that during most of human evolution our ancestors, living as hunters and gatherers, pursued similar conservative strategies that sacrificed efficiency in favor of reducing the risk of going hungry.

One December morning I walked with Dingono to the Lese village. Abamu had sent word asking Dingono to help chop down trees for a new garden. As we walked, I asked

Dingono why he was going to help Abamu.

"Abamu is my *muto*—my villager," he explained. "We always help each other. I bring him meat and honey and help him clear his garden. He gives me garden food and helps me buy clothes and other things. My father and his father helped each other in the same way." Most of Dingono's male relatives have similar relationships with other Lese men.

Dingono made it clear that he and Abamu have mutual respect. And indeed Abamu calls Dingono his brother and refers to him as "my Efe." As a small boy Dingono frequently went to the village with his mother and played with Abamu while their two mothers worked side by side in the gardens.

Years ago Abamu married a Lese, Suzanna, and later she gave birth to a beautiful boy. But, like so many Lese and Efe children, who are hard hit by dysentery, malaria, and other parasitic diseases, the baby died before his first birthday. Since then Suzanna has had miscarriages and has produced no children. Four years ago Abamu took an Efe girl named Mapiembi for a second wife. Because she is an Efe, Abamu paid no bride-price to Mapiembi's family, although he had to Suzanna's Lese family.

I asked Dingono what he thought of Lese men marrying Efe women. "Very bad," he responded, growing angry. "They take our women and give nothing in return. It makes it hard for our men to find a wife."

Unlike the Lese, the Efe try to practice sister exchange. When a couple wishes to marry, the prospective husband is supposed to give a female relative to the bride's family in return. In this way females from one clan marry men in another. Because Lese women feel superior and refuse to marry Efe men, the Lese men cannot exchange a sister, creating a shortage of women available for Efe men.

I realized by Dingono's mounting anger that even if he and Abamu were very close, there was still tension. And in truth their relationship is less than egalitarian. Although the Lese have respect for Efe prowess in the forest, this very prowess works against the Efe in Lese eyes. When pressed, a Lese will admit that he considers the Efe to be more animal-like than other people.

Such unjustified and unattractive prejudice vanishes, however, when the Efe arrive in the Lese village carrying meat and, especially, honey.



**H**ONEY IS THE ELIXIR of the forest to both peoples, and the Efe are never happier than during a good honey season. Luckily my first year was one of the best in memory.

In early June the large *rofo* trees had begun to flower. From the top of a *kagba*, or rock outcrop, we could see the white *rofo* flowers shrouding the forest like a fresh snowfall. Inside the forest the air was abuzz with bees shuttling between flower and hive. The pace of life in the forest had cranked up a notch, and the Efe were soon to be part of it.

Early one July morning Kosiani pierced the predawn silence with the harsh whistle of his honey flute. Dingono tapped me as he picked up his own flute. "Honey, Roberi, honey."

Within minutes six Efe men and I were feeling our way through the dark forest. Kosiani walked silently just in front of me, listening, scanning the canopy overhead. He stopped, tilted his head to listen, and

studied the branches of a towering fig tree.

"Hive, Roberi!" Kosiani blew so violently on his honey flute that his coppery face turned a brilliant rose, telling his brothers he had found the first *rofo*-honey hive of the season.

He pointed skyward. Squatting, I sighted along his outstretched arm some 120 feet to a dark hole no larger than a silver dollar. Every few seconds a tiny particle emerged—a bee just beginning its day of gathering nectar.

Kosiani snapped the saplings around the base of the tree to mark his ownership of the hive. As we continued on, other honey flutes reported finds. In 90 minutes the men marked 14 hives.

Gathering beneath a honey tree spotted by Dingono, the men were ecstatic. Only Abusa, the oldest, had ever seen so many active hives, and that was more than 50 years ago. Now the men were eager for the season's first honey.

Abusa had brought embers wrapped in leaves, and now he made a fire at the base of



*Needing all their strength and agility, Efe men can reach hives hidden in the towering canopy of the Ituri Forest. Using a smaller tree to reach the hive in the taller tree behind him, Apumbai (left) carries a basketful of leaves and smoldering coals to subdue the bees. When a basket of honey is lowered, his friends consume much of the delicacy on the spot but reserve some for their families.*



the tree. Dingono and Eembi stripped finger-thick vines from a nearby ato tree and twisted them into a cord a hundred feet long.

Kosiani and Temu set to making two crude baskets of mongongo stems and leaves. In one they placed damp leaves, then live coals to produce billows of pungent smoke. As they prepared the baskets, the men's eyes seldom wandered from the entrance to the hive. The busy colony was inside a thick limb of a giant mahogany-like *anjuafa*. The tree was bare of branches up to a height of 60 feet. How could the Efe climb to the hive?

The job of being first fell to Apumbai, in



part because he was young and strong but more because he was an in-law. Recently he had married Abusa's youngest daughter, Ediobo, yet still had not given a female relative in exchange. This gave Abusa and the other men license to order him about.

Apumbai shinnied ten feet up the trunk of a small adjacent tree and climbed its branches to its crown. Then, swaying back and forth, he swung far enough to catch the branch of a larger tree. He tied the crown of the small tree to the branch of the larger one, forming a bridge.

Apumbai easily climbed the second tree until he was close to the hive branch. Looping it with the long vine cord, he pulled his tree

closer, then made a bridge of vines. Soon he was perched on the hive branch.

Kosiani and Temu then scrambled up carrying a vine body harness and the baskets, one with the fire, the other with a small ax. Soon they too were perched on the branch. Apumbai lowered the smoking basket to just below the hive, enveloping it in smoke and putting the bees into a temporary torpor.

Now Apumbai fastened the harness around the branch and then around himself and swung down so the hive entrance stared him in the face. Suspended upside down, he began to chop. The wood was hard and his ax dull, but chips flew.

As the younger men worked aloft, the three older Efe recounted stories of hives and trees they had exploited in the past. I suddenly realized that the Efe knew their forest as well as any urban dweller knows his local streets and alleyways. I am convinced that I could blindfold any Efe man, walk with him for hours in the forest, and upon removing the blindfold, he would know exactly where he was and recognize every large tree around him.

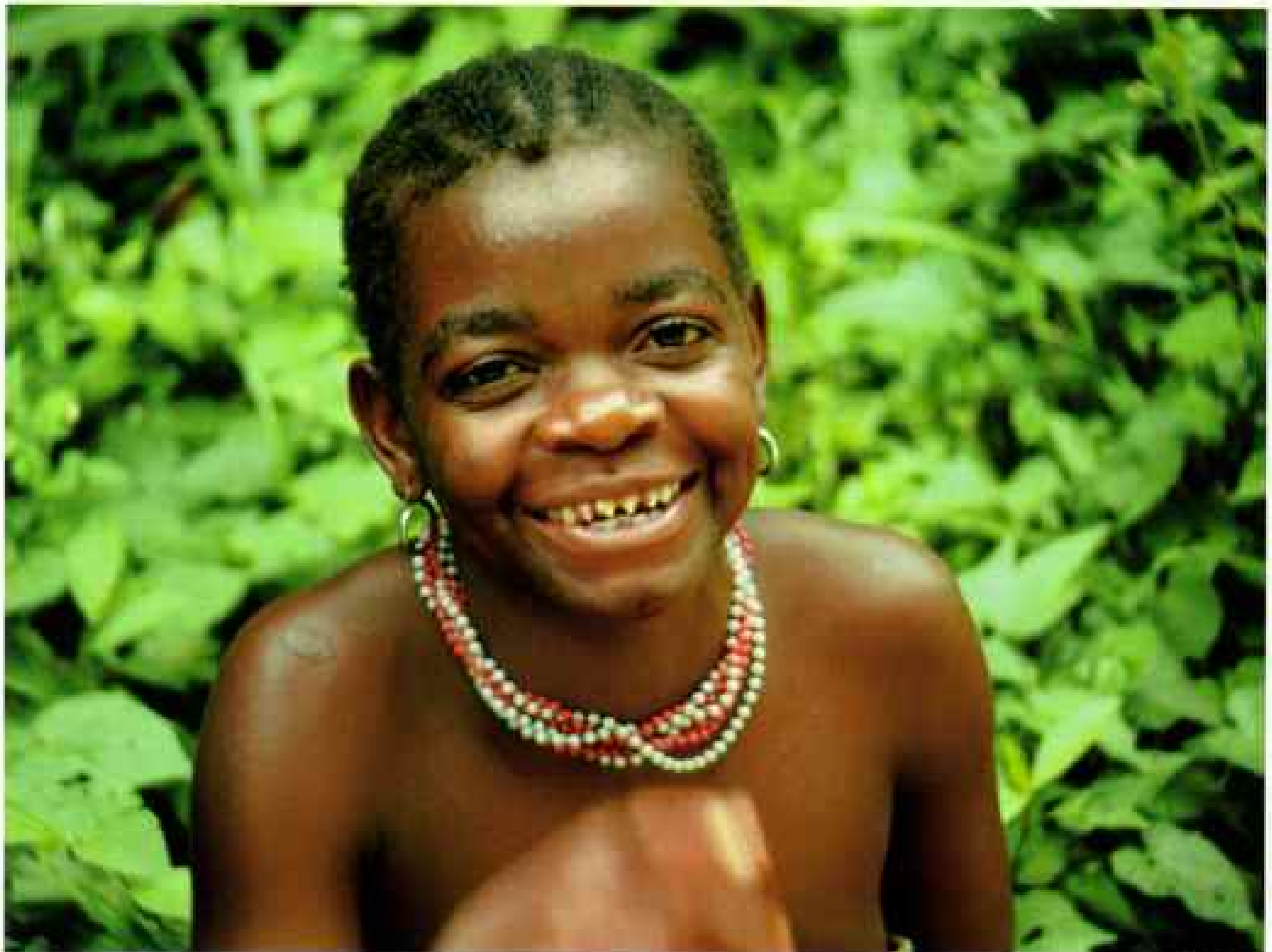
**A**PUMBAI'S AX had cut a diamond-shaped hole into the heart of the hive. Obscured now by the smoke and thousands of agitated bees, he thrust his hand into the hive and brought out a piece of white honeycomb dripping crystalline honey.

The Efe's hunger reached a fever pitch. "Throw it down here," begged the men below, holding up mongongo leaf plates. "No, give it to me," demanded Kosiani and Temu, dancing on the *anjuafa* branch.

Apumbai calmly placed the shining honey into the empty basket next to him. He reached into the hive again and brought out a piece of darker comb that he dropped to us below. It came sailing down, spinning, spitting clear honey that glistened in the sun. As each man tried to align his plate to catch it, I for once considered my height an advantage.

Splat! The honey hit my plate. As I lowered it to see what I had caught, the three men fell upon me. Old Abusa was the quickest: With lightning speed he grabbed the honeycomb and stuffed the entire thing into his mouth—honey, beeswax, larvae, pollen, and all. Chewing frantically as if someone might pry open his mouth and steal his prize, he looked up at me mischievously and said as best he could, "It's great, it's absolutely great."

For a stylish smile, an Efe teenager (bottom) endured the agony of having her front teeth chipped to points (below). Later she added to her allure by submitting to the age-old ritual of body scarring in the Lese village (right). Following their sexually active teen years, Efe women often marry around age 20 and soon have their first child. Orange hair on children around the time of weaning (opposite) indicates undernourishment, which the Efe and Lese suffer periodically.



STEVEN WIRTH



*Sisters in puberty, a Lese girl in a chair and the Efe friend in the dark turban were carried during a coming-out ceremony after they had been ritually sequestered in a hut for three months. The joint ceremony, which includes dancing and feasting, confirms the bond between the two peoples, whose relationship the author found highly interdependent. To enhance their beauty, Efe women paint their faces with vegetable dyes (right) and oil their bodies.*



JOSÉ ATIEL





Apumbai continued removing honeycomb—some with honey, some white with bee larvae. Combs laden with honey he put into the basket; the rest he either handed to Kosiani and Temu or let drop to us. The Efe gorged; their stomachs, usually flat and muscular, grew round and bulging, and they emitted a chorus of burps. Within 30 minutes each ate a pound and a half of honey and larvae.

When he had emptied the hive, Apumbai lowered the basket. I weighed 31 pounds of quality rofo.

My observations over a year revealed that the men spent 11 percent of their waking hours

foraging for honey. In addition to its value in trade with the Lese, honey accounted directly for 14 percent of the total calories brought into camp. I remember many times when they ate all the honey in a hive and walked into camp with bloated stomachs to say to their wives, “Oh dear, we worked so hard, and there was hardly anything in the hive.” On such nights the wives put little effort into cooking dinner.

**P**ART OF THE EFE’S success in exploiting the forest stems from their mobile life-style. If they could not move from one place to another unencumbered by possessions, they would soon deplete the resources within easy walking distance of their settlement and have to turn to sedentary agriculture or starve.

One evening after supper Eembi took a deep drag of harsh leaf tobacco, as if to fortify himself, then moved to the center of the camp. He spoke firmly: “My villager has given me a large pot to fill with rofo honey, but I cannot do it if we stay here. We are not finding good hives. We must move closer to the river, where there is sure to be honey and where the villagers have not killed all of our animals with their traps.”

The men gave no argument. The women, however, protested, wanting to stay close to the Lese village where they could get essential garden food in return for their labor. But the argument for honey won, and next morning brought the familiar hubbub of decamping.

Atosa packed her basket with nearly everything she and Dingono owned: two blackened aluminum pots, a blue plastic cup, a small aluminum dish with a hole in it, two threadbare shirts, a small piece of cloth, an old machete without a handle, a thumb piano, a cracked clay pipe, and a rusted can containing two needles, a few strands of thread, a safety pin, and a few beads wrapped in an old magazine picture of Zaire President Mobutu Sese Seko. She tied two squawking chickens to the side of the basket, and in her left hand she carried an emaciated puppy that slept even when she waved to hurry her daughter, Zatu.

Straining under her load, Atosa handed me a leaf package of roasted termites she had pounded into a paste. “Carry this, and we will eat it on the trail.”

En route Dingono followed his wife and daughter. From his neck hung his bark quiver containing his full arsenal of 6 metal-tipped

arrows and 17 poison arrows. In his right hand he clutched his spear and bow. Like most of the men, he carried nothing else.

I calculated that each woman carried about 40 pounds—about half her own weight—on the four-hour trek. “Why do the women carry heavy loads and the men almost nothing?” I asked Dingono.

“Women are stronger,” he answered matter-of-factly. “I could never carry all that weight. Besides, men have to be free to use their weapons. What if an elephant charges?”

I smiled, thinking surely Dingono was

joking. I knew that any animal, even a forest elephant, was terrified of the Efe, not to speak of a whole group of them. But Dingono's response indicated he was serious, and I realized that the Efe have a healthy respect for the animals with which they share the forest.

**P**YGMIES have always been considered the original inhabitants of the African rain forest, hunting and gathering for hundreds or even thousands of generations before agriculturists like the Lese arrived. But our studies lead us to question whether any people were able to live in the rain forest prior to the introduction of agriculture.

To be sure, today's Efe are well adapted to the forest. Nevertheless, two-thirds of their calories come from Lese gardens. It is unlikely that the Efe could long survive without trading forest resources and labor for garden foods. The forest, as lush as it appears, does not have the density and abundance of edible resources to sustain human foragers for long periods.

Prior to the introduction of agriculture into the rain forest, the Efe's ancestors probably exploited more productive areas around the edge of the basin, where tongues of forest jutted out into savanna. The horticulturists' method of shifting their gardens created a patchwork of secondary and mature forest that is more productive than the original rain forest that early hunter-gatherers would have encountered.

In keeping their way of life more or less intact even as forces of modernization advance, the Efe show a remarkable, even puzzling resilience. But whether they can control their own destiny is sadly in doubt. Since the Efe's subsistence and social structure are dependent upon the ability to forage and hunt freely over large areas of forest, their fate is inextricably tied to the future of the forest itself.

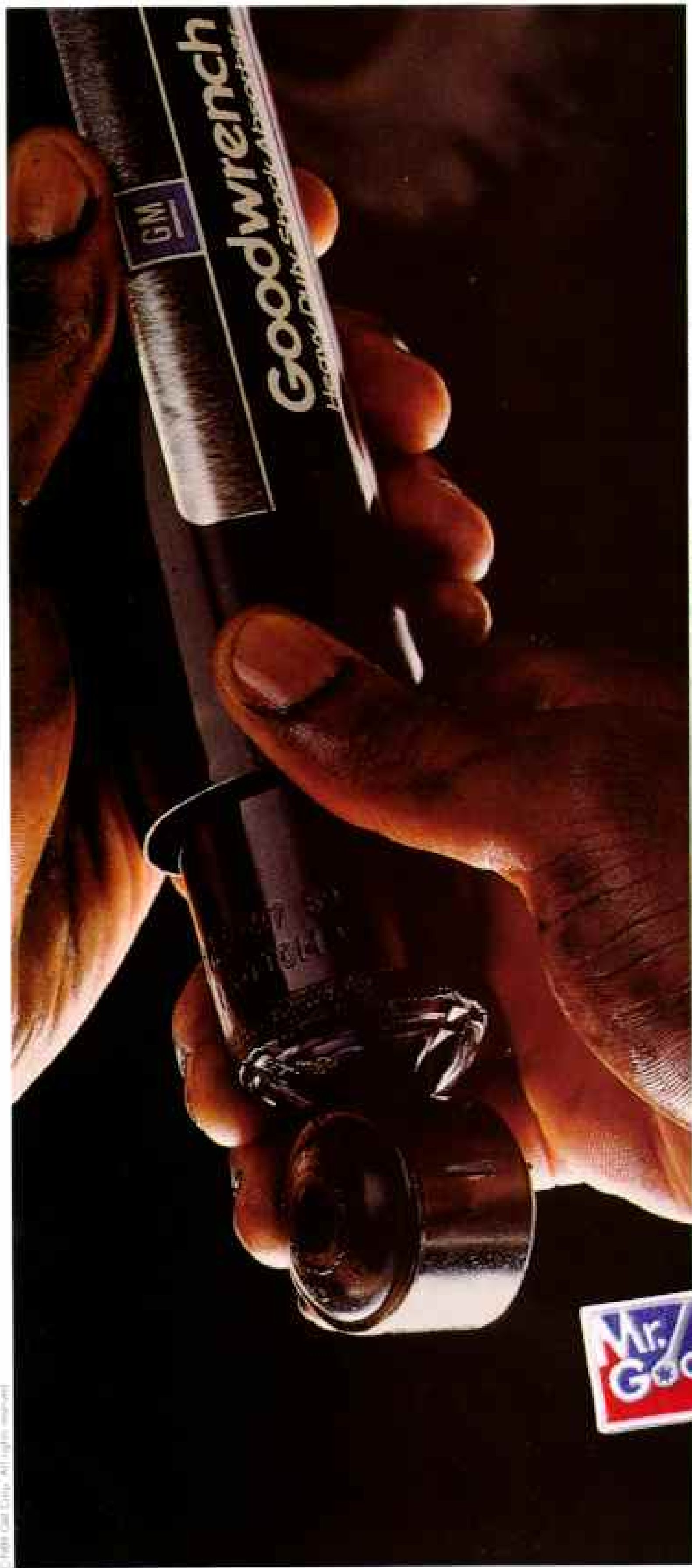
Pressure on the forest comes in many forms, but the most devastating is the ever growing number of Africans seeking free land on which to cultivate crops. The area available to the Efe and other African foragers shrinks daily. Some already live as impoverished horticulturists or work as poorly paid laborers on coffee plantations.

Unless areas of forest are set aside, it seems inevitable that the way of life currently practiced by the Efe will cease to exist. Then one of the world's unique cultures, a culture from which we can learn so much about ourselves, will be lost forever. □



MAIWE PERCOCK

*In dappled light, the Efe become one with the forest they venerate. Though the Efe themselves will undoubtedly survive, their culture may be the dying ember of a way of life once shared by our ancestors. A reminder of how deeply our roots are embedded in the environment, the survival of Efe ways depends on the survival of the forest itself.*



## Handling is always included.

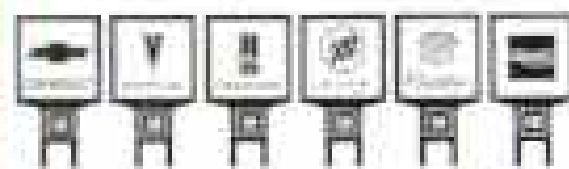
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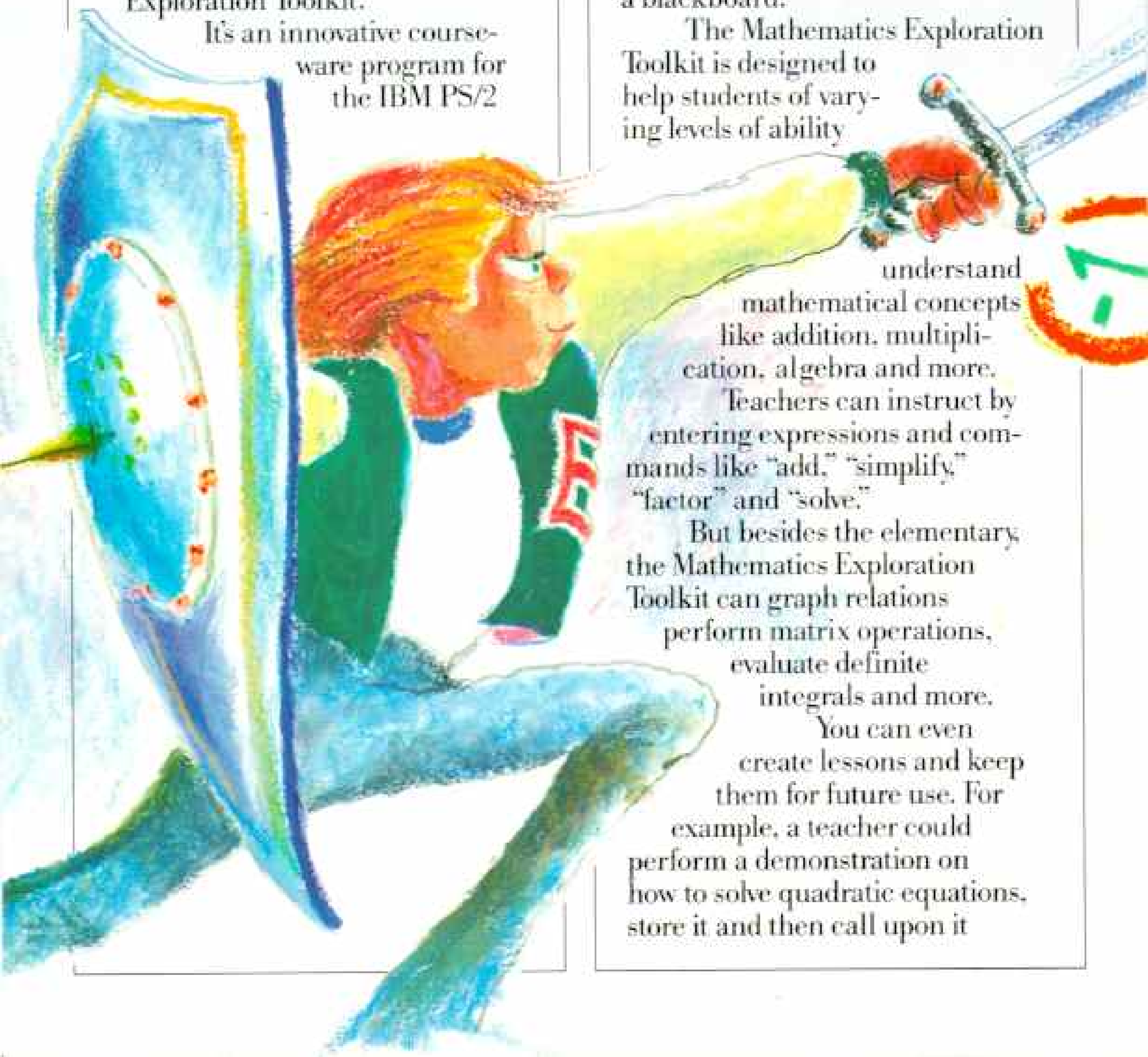
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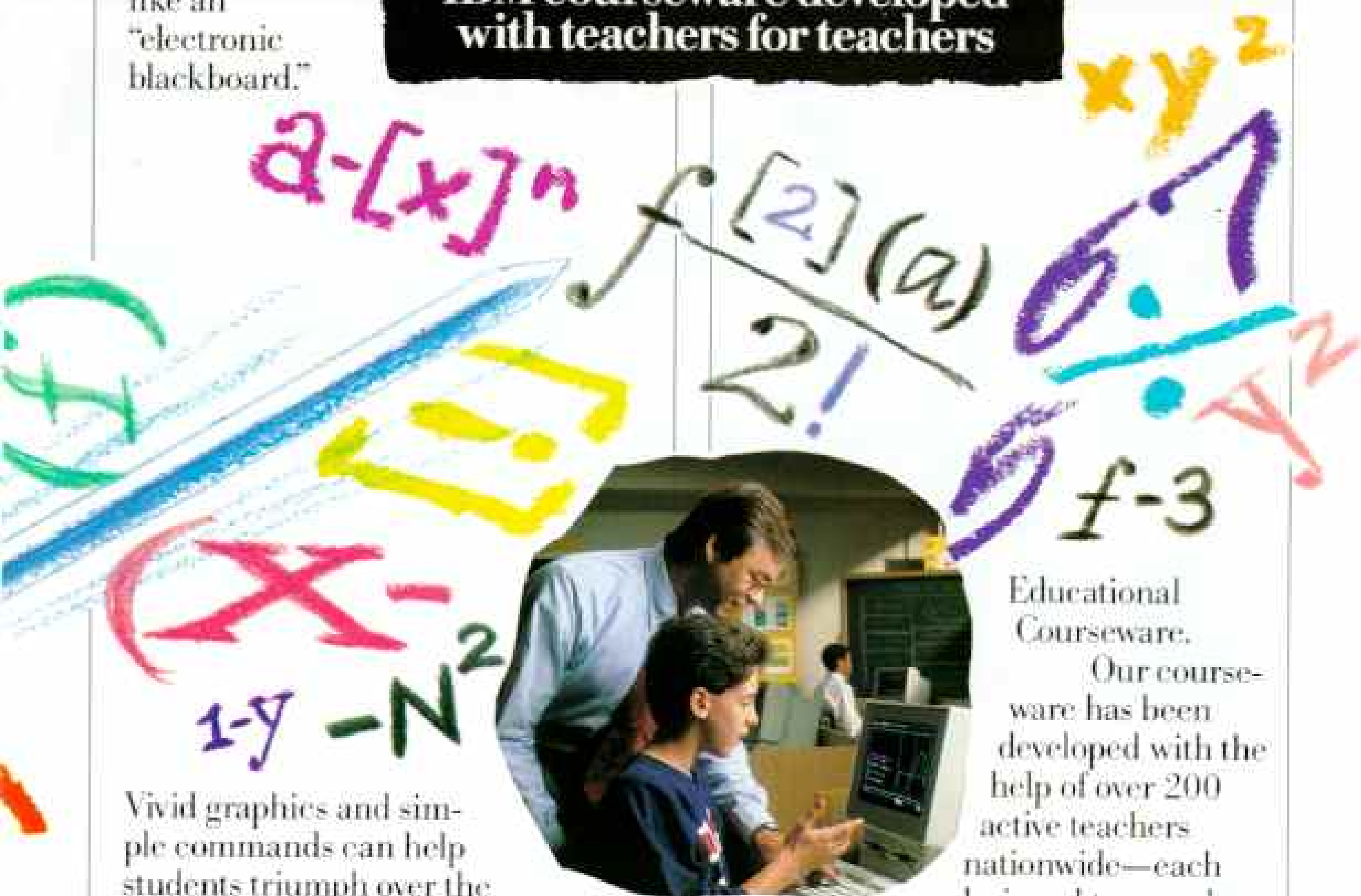


when needed.

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# Environmental Promises

THE NATIONAL GEOGRAPHIC SOCIETY



PHOTOGRAPH BY ALAIN NOGUEZ, SYGMA

**T**HE NEWS from Paris was exciting: The international effort to address environmental issues had emerged as *the* topic of the July summit. It was a "clear success," said President George Bush, "a watershed on the environment."

The leaders of Italy, West Germany, the United States, France, Great Britain, Canada, and Japan had called for "decisive action to understand and protect the earth's ecological balance." Even more surprising, they agreed on the major problems to be solved:

**GREENHOUSE GASES.** They ordered a working group to begin studies toward an agreement to reduce emissions of carbon dioxide and other gases linked to global warming.

**OZONE DEPLETION.** They called for complete abandonment by the year 2000 of chlorofluorocarbons (CFCs), which break down the stratosphere's protective ozone layer.

**DEFORESTATION.** They endorsed the concept of writing off debts of developing countries in return for preservation of vanishing tropical forests.

The environment, as these leaders are aware, has become a powerful issue among voters. In the aftermath of Chernobyl and other disasters, a surge of concern has swept across Europe. As one American

*Making the world a bit "greener," President Bush and the leaders of six other democracies called for protection of the environment at the Paris summit in July.*

official put it: "There is something of a race on by summit leaders to see who can be greenest."

Here in the U. S. there are signs of a similar new momentum. New York City has implemented an ambitious curbside recycling program, and hundreds of other towns are doing likewise. A courageous plan was set forth

for desmogging Los Angeles—including restrictions on gasoline-powered lawn mowers and starter fluid in barbecue grills. And the U. S. Congress held hearings to see how the government can protect communities against runaway development.

We hope to encourage this trend during National Geography Awareness Week, November 12-18. With generous support from Citicorp/Citibank, we have distributed to teachers and policymakers 100,000 kits with lesson plans, posters, and activity ideas on environmental themes.

As George Bush stated at the Society's centennial celebration last year, "The only path to a cleaner, safer planet is global cooperation on the environment." I'm thrilled to see other world leaders taking the same view.

*Silbert A. Browner*

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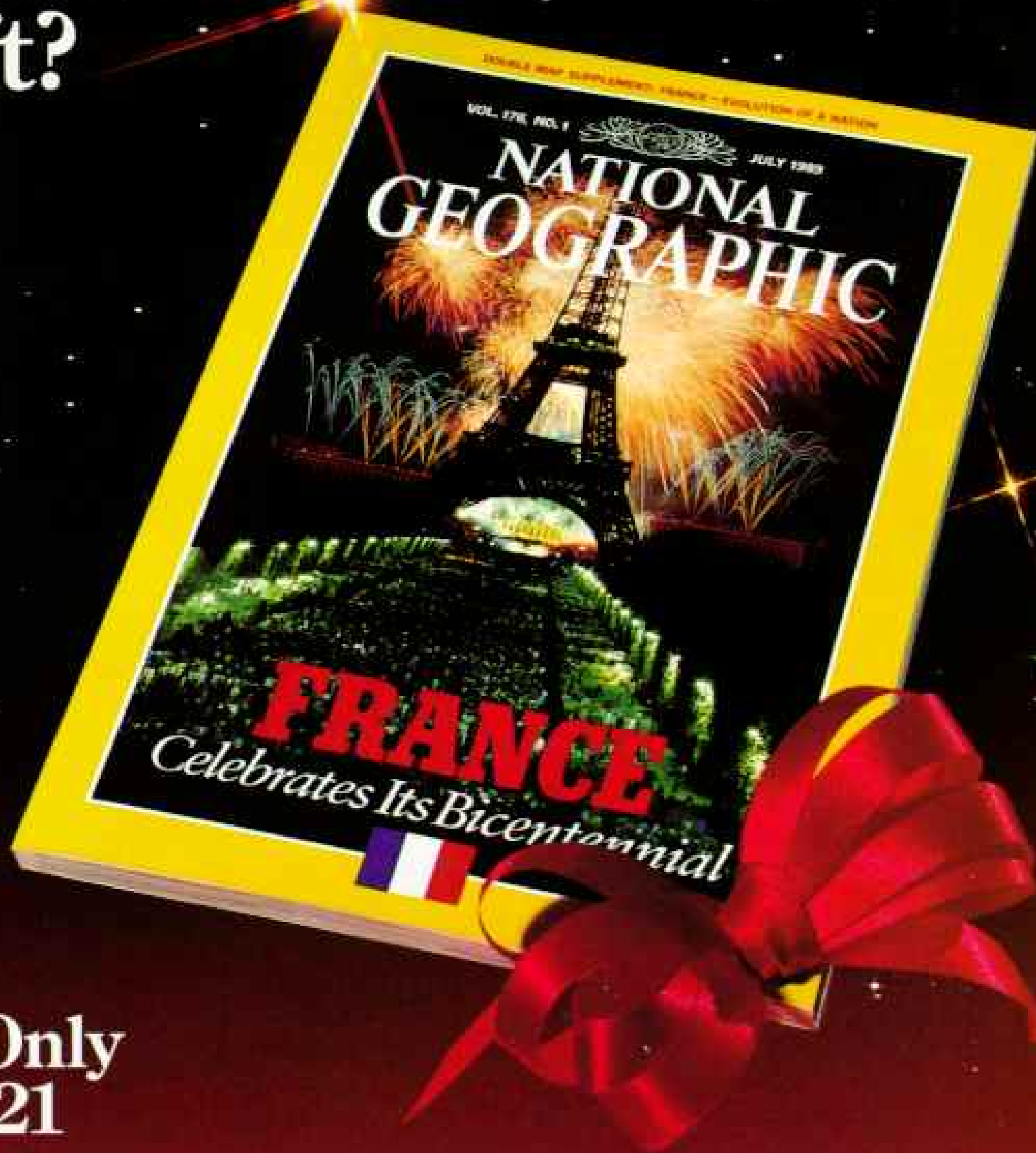
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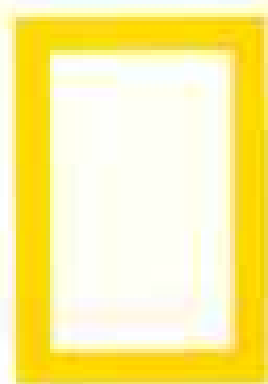
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# Members Forum

## France Issue

An entire issue commemorating the bicentennial of the French Revolution caught me by surprise. My skepticism dwindled, for few countries are as diverse as France, with a past that has changed thoughts and a cultural depth by which standards are set. Not enough people have insight into France; a reeducation on the country was a noble idea and should be commended.

TED PALLIS  
*Dover, New Jersey*

Throw out the Editors! Storm the printing presses! The dedication of one entire issue to the French Revolution revealed your Francophilia.

CORNELL S. STAHLMAN  
*Framingham, Massachusetts*

On page 3 you suggest that the French with enthusiasm join the Foreign Legion. By definition, the Foreign Legion is only for foreigners and excludes those of French citizenship.

RICHARD NETHERWOOD  
*Alameda, California*

*Of 6,000 to 7,000 applicants a year, about 1,200 are accepted into the Legion. Nearly half are French nationals. Officers come from the regular French Army, and any enlistee who serves for five years can apply for French citizenship.*

I am dismayed by the overly sympathetic treatment of France. Any debt we owe the French for assistance during the American Revolution has been repaid when twice in this century Americans fought and died so that France might remain a free nation. Yet after World War II, Americans were ridiculed and swindled on the streets of Paris, de Gaulle effectively withdrew from NATO and encouraged the separatist movement in Quebec, the French government harbored Khomeini, and two U. S. airmen are dead because the French did not permit them to cross French airspace going to and from Libya.

JOHN PAUL PARKS  
*Lakeland, Florida*

My father was stationed with the Army in Orléans in the early 1960s. We lived among the French and traveled throughout the country. We found the French to be warm and loving. Their deep sense of patriotism and respect for their history leaves an indelible impression.

ELLEN GAGLIARDI  
*Cranston, Rhode Island*

Pages 84-5 perpetuate two myths. Paris continues to be portrayed as a wild city, and nudity is shown as unusual.

We as Americans still haven't come to grips with nudity. In northern Europe nudity is normal. One finds topless women on their balconies, in their backyards, and at public swimming pools. In many city parks there is nude sunbathing, and it is not unusual to find people of both sexes and all ages completely nude.

DAVID KAHAN  
*Augsburg, West Germany*

I take exception to the implication that all is well in France's overseas colonies. I spent months on a 37-foot sloop in French Polynesia and met many Polynesians, especially outside Tahiti, who are quite upset with their European overlords. Like other colonials, the French use their colonies for the good of the motherland. They test nuclear weapons aboveground. As a young man from the Tuamotu atolls said to me, "If it's so safe, why don't they use the Mediterranean?"

RONALD J. BLOOMFIELD  
*Reynoldsburg, Ohio*

## The Great Revolution

It is remarkable to see how much the mainstream conception of the Revolution has changed since I spent a junior year abroad in Paris studying the French Revolution with Sorbonne historian Albert Soboul. Then, in the wake of '68—the revolution that almost happened—I believe the Marxist interpretation achieved its high-water mark: Robespierre was excused on Leninist grounds; Corday was a crazed reactionary. Indeed, individual actors and human conscience itself counted for nothing against the structures of society and what Professor Soboul called the *mouvement profond de l'histoire*. Merle Severy accomplished something difficult to do at 200 years' distance: He humanized the abstract.

JAMES C. KATZ  
*New York, New York*

You made reference to the books of complaint submitted by French communities. None is more timely among the hundreds that survive than that of the city of Nemours. "One day people will find it hard to believe that wealth was enough to purchase nobility, and that nobility was enough not to pay taxes, so that there was only one way to escape taxation, and that was to make a fortune." *Plus ça change.*

EMANUEL FINKEL  
*Brooklyn, New York*

## Two Revolutions

The story on the "Two Revolutions" was particularly illuminating. As a descendant of Lord North, I have researched his service to the

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# MERCURY TOPAZ

English throne, and his title was actually First Lord of the Treasury and Chancellor of the Exchequer. He never allowed himself to be called Prime Minister, for he maintained there was no such thing in the British Constitution.

CAROLYN STREET LAFOND  
*Olympia, Washington*

While the Continental Congress was meeting here in York, some delegates were planning to replace General Washington as commander in chief of the Continental Army. Lafayette heard of this and gave a toast to the general, thus ending any attempts to replace him. Since rebuilding our colonial courthouse, we fly both the 13-star U. S. flag and a French tricolor, at least some sign of our gratitude.

MARK E. MILLER  
*York, Pennsylvania*

I was glad to see mention of the part Tom Paine played in the French Revolution. After all the aid he gave our Revolution (*Crisis* and *Common Sense*), you would think he would have a statue somewhere in Washington, D. C. The only one I know of is in Morristown, New Jersey, of Paine writing with a quill pen on the head of a drum. Let's give Paine the recognition he deserves.

FRANK G. MILLER  
*Locust Grove, Virginia*

### France Map

On the supplement map of France I find the history of the Baie de la Seine region of Normandy curiously incomplete. Only two of the five Allied invasion beaches of June 6, 1944, Omaha and Utah, are shown. Gold, Sword, and Juno—two British and one Canadian—are inexplicably missing. Ten Allied divisions, including airborne, took part in the initial assault: five American, four British, and one Canadian. Casualties for the first 24 hours were approximately 6,600 Americans and 4,000 British and Canadians. This was truly an Allied effort.

ALAN T. DUGUID  
*Calgary, Alberta*

As a Proust scholar, I am pleased to see the portrait on the map and the astute suggestion on page 172 that Proust is "perhaps France's greatest modern novelist." Having now gone through all of the Proust manuscripts at the Bibliothèque Nationale (I began in 1965 and finished in 1988), I would suggest that what Homer and Hesiod did for Greek, Horace and Virgil for Latin, and Dante for Italian, Proust has done for French in continuing the belles lettres/liberal arts tradition. He built a cathedral-novel, a Chartres in prose.

J. THEODORE JOHNSON, JR.  
*University of Kansas  
Lawrence, Kansas*

### The Gothic Revolution

Before 1140, the Abbé Suger, the most powerful religious leader of France, first conceived and followed Gothic principles in rebuilding Saint-Denis. The first Gothic cathedral was being constructed at Sens as early as 1140. The Gothic cathedral at Noyon was begun about 1160, as was the one at Laon. The invention of the flying buttress made possible the much greater cathedral of Notre Dame at Paris. Nevertheless, the Abbé Suger led the way.

ROY NELSON VAN NOTE  
*Tucson, Arizona*

### Fine Feathered Nest

I read with a certain disquiet about France's health-care system. Canada too is essentially a social welfare state. In simplistic terms, the concept of universal health care has grown out of a cultural sense of social responsibility—that no one despite financial circumstances should be denied basic needs. Our system is not perfect, but I could never envision it being abandoned, particularly in the area of pre- and postnatal care. Ms. Newman writes with a sense of awe and cynicism that such programs should exist at all, let alone be viable. The perception of "the free ride" seems to be prevalent among Americans. I hope that Americans will come to understand the socialist ideals embedded in our culture and reflected in our politics as they are in France.

ADRIENNE HEESEN  
*Collingwood, Ontario*

### Tour de France

We are amazed at the skills displayed in the Tour de France, especially when it came to changing a tire "on the run." Unfortunately, the writer left to our imagination just how. The front tire would be a snap. The rider would pop a wheelie while the mechanic replaced the wheel. But the back wheel has us stumped. What about the chain? My friends and I have been working on this problem for a week. Thus far we have only removed the tire on the run, wrecking one bike and knocking out the front teeth of our rider. Please, before anything too serious happens, how does one change a rear tire on the run?

DAVID BAROL  
*Jenkintown, Pennsylvania*

*One doesn't. Yes, the mechanic makes many repairs on the run, but he changes wheels while the bike rider is at a standstill.*

.....  
*Letters should be addressed to Members Forum, National Geographic Magazine, Box 37448, Washington, D. C. 20013, and should include sender's address and telephone number. Not all letters can be used. Those that are will often be edited and excerpted.*

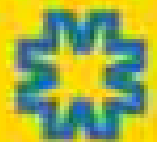




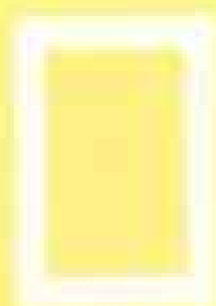
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DANIEL R. SMITH

## Red-tinged Auroras To Be Remembered

In the far north the aurora borealis, or northern dawn, illuminates night skies with ever changing green-and-white light shows. But last winter's magnificent displays also bore tinges of red, a tint that rarely appears, and could be seen as far south as Florida.

The aurora borealis and its southern counterpart, the aurora australis, occur when sunspots or solar flares send

electrically charged particles cascading into space. When they encounter the magnetic "envelope" around our planet, they are funneled to the areas around the poles. There the particles collide with atoms and molecules in the earth's upper atmosphere, emitting light. Although this happens at all times of the year, auroras are best seen during winter's long, dark polar nights.

Last winter's unusually intense displays and rare coloring were caused by the approach of a "solar maximum," a phenomenon that occurs about every

11 years. On such occasions, sunspots, gaseous eruptions, and emissions of electrically charged particles reach a peak. The 1988-89 auroras were the most spectacular since 1957-58, says David Fritts of the Geophysical Institute of the University of Alaska, who was skiing on the Carwell Glacier in the Alaska Range and photographed the nightly displays (above).

Auroras this coming winter and the following winter as well—the years of the solar maximum—should be especially frequent and dramatic.

## Florida Law Dictates Respect for the Past

The agonizing question of how to deal with prehistoric Native American burial sites (NATIONAL GEOGRAPHIC, March 1989) has resurfaced, in Florida. But this time a new state law provided guidelines.

Workers building a house on Manasota Key, on the southwestern coast, uncovered human bones late last year. Authorities determined that they were prehistoric and that no criminal investigation was needed. But the state temporarily halted construction under a new law designed to insure that remains are treated respectfully.

Meanwhile, Wilburn A. (Sonny)



WITA EDWARDS/SON

Cockrell, a Florida State University archaeologist, organized a team that began a systematic excavation. The site, which dates from A.D. 120 to 320, yielded about a hundred burials; 66 skeletons were recovered intact. Cockrell (left) thinks the site was both a seasonal camp, where mainland Indians came to gather food, and a cemetery. "Ancient cemeteries from this time period, as opposed to isolated burial mounds, were previously unknown to the area," he says.

Members of two Florida Indian tribes visited the site to make sure that the bones were treated properly. Under the law a committee that includes two Indians will advise the state archaeologist on what to do with the remains after they have been analyzed.



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# We'd like to uncover a hidden natural resource.

Did you know that the empty plastic soft drink bottles you throw away every day can be transformed into carpet yarn or automotive parts or fiberfill for ski parkas?

That used glass bottles and aluminum cans can be transformed into new ones?

And that yesterday's newspaper can be transformed into tomorrow's?

It all happens because of recycling. The simple trash we throw away is a "natural resource" that, with recycling, can be used to produce a multitude of new products.

Unfortunately, America recycles only 10% of its garbage, incinerates 10% and deposits a whopping 80% in landfills. As a result, it is having to cope with a monumental solid waste problem.

## **Our landfills are going—going—gone.**

Americans throw away about 160 million tons of garbage a year. Of that total, plastics make up less than 8%, paper about 36%, and glass and metal about 20%, all by weight. Plastics are naturally lighter, but still, when compressed account for only about 20% by volume.

As a result, in the past 10 years our country's landfills have decreased from about 18,500 to 6,000. In five years 2,000 more will close.

In their haste to find solutions, some local legislatures have proposed to ban plastics.

Unfortunately, a ban on plastics would do much harm and no good. We would lose all of the safety, health and convenience features of plastics such as tamper-resistant closures and shatter-proof bottles.

Moreover, packaging would still be needed. A 1987 study shows what would happen if plastics were banned—the energy needed to produce the alternative packaging, its weight, its cost, and the volume of waste collected would all rise dramatically.

## **What to do?**

At Amoco Chemical, we believe part of the answer to America's waste problem lies in recycling everything from glass to metals to paper to plastic.

Today, recycling is on the rise. There are now more than 1,000 curbside separation recycling programs across the country. Many are beginning to incorporate plastics.

Right now, almost 200 companies are recycling millions of used plastic containers into paint brush bristles, traffic signs, toys, floor tiles, waste-baskets and "plastic lumber" for decks and park benches.

Plastics are among the easiest materials to recycle. More than 150 million pounds or 20% of all plastic soft drink bottles were recycled in 1987.

## **How Amoco Chemical is helping.**

Amoco Chemical is sponsoring a recycling program in New York State demonstrating that used, polystyrene foam food service containers from schools and restaurants can be recycled into insulation board for commercial construction, cafeteria trays and home and office products.

We're participating in a consortium with other major plastics manufacturers which will support construction of regional polystyrene recycling plants.

We're encouraging the start-up of new recycling efforts, helping to find better ways to collect and sort recyclables, and supporting efforts to create new markets for products made from recycled products.

At Amoco Chemical, we believe recycling can add years of life to our landfills while it transforms things that would ordinarily be thrown away into useful new products. We've only begun to uncover its benefits.

*For a free copy of "Recycling: Do It Today For Tomorrow," write Amoco Chemical, 200 East Randolph Drive, Chicago, IL 60601.*

## **Recycling. Do It Today For Tomorrow.**



Amoco Chemical

## Mexico Celebrates Recovery of Stolen Art

When thieves stole 124 pre-Columbian artifacts from Mexico City's National Museum of Anthropology on Christmas Eve, 1985, Mexicans took the news as a blow to the very soul of the nation. Spanning a broad range of history before the arrival of the Spaniards, the treasures included a Mixtec gold ring



(above), a Zapotec "hat god" jade mask, an obsidian Aztec monkey vessel, and a pendant of gold and turquoise from Onaxca (right).

"They robbed a piece of our history. How can we put a price on it?" asked one museum curator at the time.

Thus, when almost all the stolen objects were found undamaged in June of this year, the emotional sigh of relief reached as high as President Carlos Salinas de Gortari, who went to the museum to see the artifacts when they were put on special display.

All but a few of the stolen items were recovered. Most were in a canvas bag in the Mexico City home of a man officials called the mastermind of the theft. Narcotics agents found the objects when they searched the home as the result of a drug investigation.

"We have recovered part of our hurt pride, a part of our consciousness," said President Salinas. Added Roberto Garcia Moll, head of the National Institute of Anthropology and History: "The extraordinary riches of our collections are indispensable in explaining what and who we are."

## The World's Tallest Building-to-Be

Records are made to be broken, so it is no surprise that a Chicago firm plans to build a new structure in that city that would replace the Sears Tower as the world's tallest building.

Miglin-Beitler, Inc., hopes to erect a 125-story office building that will soar to 1,950 feet at the top of its spire. Sears Tower, now the world's tallest building, rises to 1,522 feet at the top of its antenna. The architect of the proposed building is Cesar Pelli (Geographica, February 1989).



OBJECTS PHOTOGRAPHED AT THE NATIONAL MUSEUM OF ANTHROPOLOGY IN MEXICO CITY BY STEVE JAMROEN

The development firm's biggest obstacles are obtaining financing and locating tenants. Miglin-Beitler hopes to break ground next year and complete construction by 1993.

## New-wave Submersibles Race for Design Honors

No, it wasn't much of a spectator sport—all the action took place underwater. But the First Annual International Submarine Races, held at Riviera Beach, Florida, in June, were considered a success even though winds and choppy seas reduced the time competitors spent in the ocean. The races stimulated university and industry teams to design innovative underwater vehicles.

It wasn't easy: The two-person subs

had to be human-powered, with no motors allowed. "That adds a lot of interesting things to what someone can do underwater," explained a spokesperson for the organizers, the H. A. Perry Foundation and Florida Atlantic University. "They have to pedal, row, flap, kick, or something."

Nine of 17 entries, all of which had one person providing power while a partner steered, completed time trials. The fastest time—one minute 16.6 seconds for 100 meters—was posted by a vessel called *Subversion*, designed and entered by students from California Polytechnic State University. The winner, based on innovation, cost-effectiveness, and speed, was the U.S. Naval Academy's *sgum* (below).

The submarine races will be featured on cable television's National Geographic EXPLORER on October 22.



BOBET LITTLE/ALLEN



# The 1957 Chevrolet Bel Air

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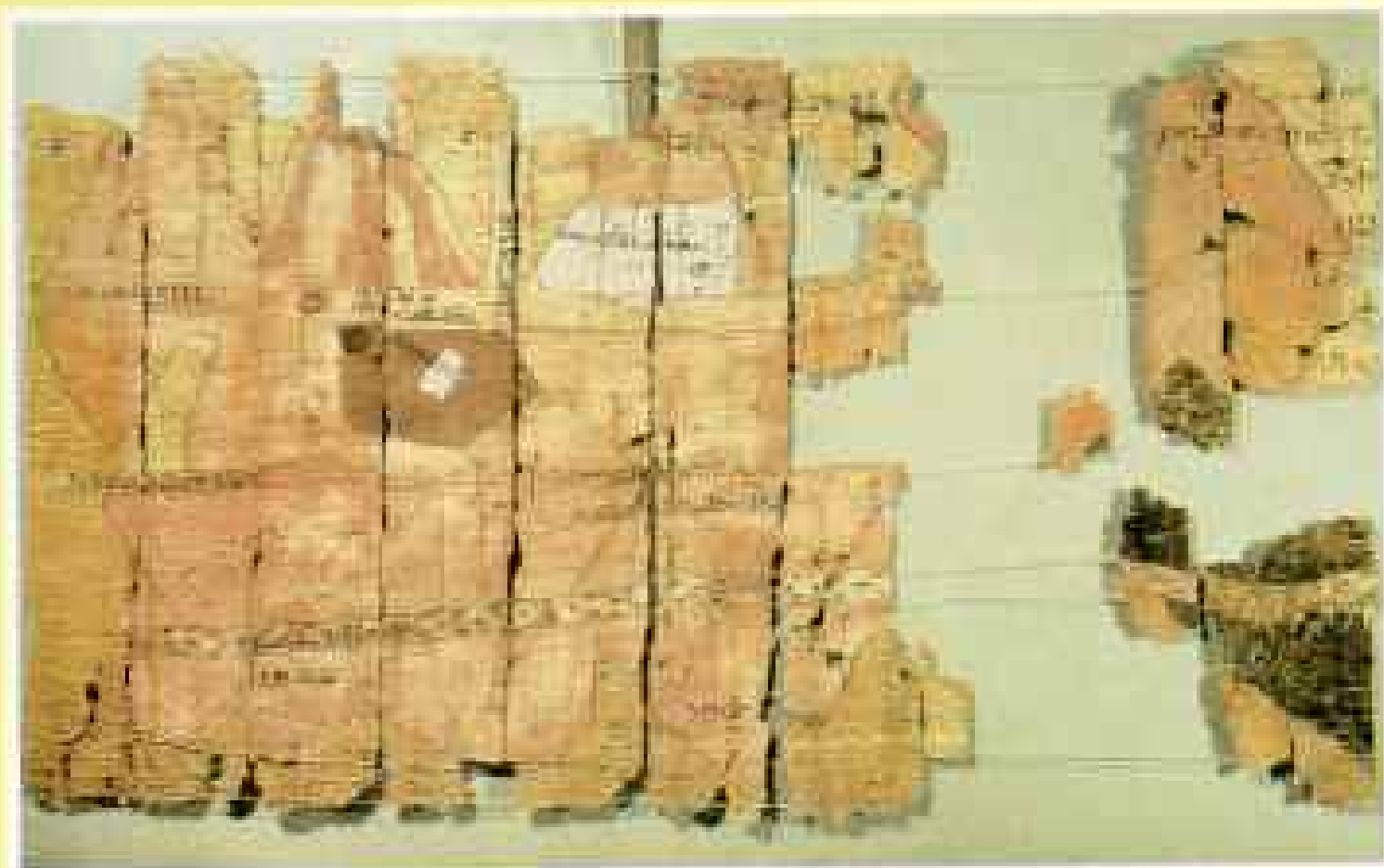
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GIACOMO LOVERA

## Oldest Geologic Map, Fit for a Pharaoh

**H**e was Amennakhte, a scribe during the reign of the great Egyptian pharaoh Ramses IV. Scrolls portray Amennakhte as curious, broad-minded, and energetic. Two University of Toledo, Ohio, geologists think that in the year 1150 B.C. he created a geologic map that, says one, "fits so beautifully with reality, it's shocking." It is the oldest known surviving geologic map.

The map, a papyrus scroll 16 inches wide and at least six feet long (some interior segments and one end are missing), was found in the early 1820s in the ruins of Deir el-Medina near Egypt's Valley of the Kings. It has been in the Egyptian Museum in Turin, Italy, and has been long known to Egyptologists.

No trained geologist had ever compared the map with the real world until

James A. Harrell and V. Max Brown took a copy of the map when they went to the Eastern Desert of Egypt to study geologic features. They discovered that many different kinds of rock formations found in Wadi Hammamat today correspond to features shown on the ancient map, in location, in shape, even in color.

Ramses IV's expeditions repeatedly visited the area's quarries to obtain stone for sculptures in temples and, according to the text on the map, the pharaoh's tomb.

Whoever created the map was ahead of his time: The next oldest known geologic maps date from the 1740s.

## Cleaning Up the Coastlines

**F**or statistics fanatics, the Florida coast cleanup is a delight. For birds and other animals that depend on clean water, it is a matter of life and death.

Sponsored by the Center for Marine Conservation, a Washington, D.C.-based group, the April 8 cleanup effort was the second in seven months. It enlisted 12,041 volunteers who picked up 307 tons of litter from 966 miles of Florida ocean, gulf, and river shorelines.

An especially large amount of trash came from the Florida Keys—the result, organizers say, of refuse from tourists and garbage dumped from cruise ships and merchant vessels in the Gulf of Mexico and the Caribbean. More than 60 percent of the debris consisted of plastics, including 234 miles of monofilament fishing line, in which turtles, fish, and birds can all too easily become entangled. The volunteers also found the remains of 12 sea turtles, three porpoises, and more than a hundred birds.

Governor Bob Martinez has backed efforts to keep Florida's shorelines clean. "Treat our resources exactly as

they are—precious and irreplaceable," he said in an executive order.

The Florida cleanup is one of many such statewide efforts. Volunteers throughout the nation will be out cleaning beaches on September 23.

## The Outlook Brightens for India's Monkeys

**H**ere's evidence that an alarming decline in an animal species can be arrested and reversed: Charles H. Southwick of the University of Colorado and M. Farooq Siddiqi of Aligarh Muslim University have been studying India's rhesus monkeys since 1959, when the population was thought to be in the five-to-ten-million range. Thousands were exported each year for biomedical and pharmaceutical purposes. Deforestation was destroying monkey habitat, and many Indians viewed the animals as pests that consumed their crops.



CHARLES H. SOUTHWICK

Southwick and Siddiqi found that the monkeys actually numbered only about two million, with a serious shortage of young animals. Year by year the total population declined, reaching a low of about 180,000 in the late 1970s.

But then monkey exports were banned, conservation-education programs were begun, and economic conditions improved so that local residents no longer had to destroy forests to provide land to grow crops. The monkey population began to rise; there now are an estimated 410,000 to 460,000—"a remarkable recovery" says Southwick, a member of the National Geographic Society's Committee for Research and Exploration. "Ten years ago I would have projected a continued decline. I was wrong, and I hope this new trend can be sustained."



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IF THERE IS NO MONUMENT in Japan to Commodore Matthew Calbraith Perry, there should be. In 1853-54—using a show of force but without firing a shot—he pressured the reluctant Japanese into trading with the United States.

Ten years later American ships shelled Shimonoseki, Japan, for refusing to honor the agreement. Since then, to “protect our interests,” the U. S. has fired many a shot and sent troops into every major nation in Asia, including the largest, the Soviet Union. In 1918 American troops landed in Vladivostok—without opposition—and stayed until 1920, assigned to protect Czech and Slovak forces fighting the Bolsheviks in Siberia. Since then we have fought two wars—in Korea and Vietnam—in efforts to contain communism.

Ironically, the force in Asia that presents the greatest challenge in history to U. S. industrial leadership and prosperity is the capitalism we helped unleash in Japan and Taiwan after World War II, and in Korea after the war there. All three nations now enjoy a trade advantage with the United States. In 1987 the trade deficit with Far Eastern nations exceeded a hundred billion dollars. Japan—one twenty-fourth the size of the U. S. in area and with a population half that of ours—recently passed us in in per capita gross national product.

One Asian nation that poses no economic threat is Vietnam, where we lost in our effort to stop communism with force. In this issue we bring you a “tale of three cities”—a look at Hanoi, Hue, and Saigon. All are different but share with the rest of their nation a poverty that makes it one of the poorest countries on the Pacific rim. Though it's been 16 years since American forces left Vietnam, we still send neither aid nor trade.

This month we also present a new Asia-Pacific political map, backed by an economic map of this populous and powerful area known as the western Pacific rim. Without a shot being fired, nations of this area have entered our ports with a vengeance. Surely Commodore Perry could never have suspected that 135 years after he opened Japan to trade, we would be “closing our ports” to trade with Japan through import quotas.

*Wilbur E. Garrett*  
EDITOR





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**Lesser Long-nosed Bat** Genus: *Leptonycteris* Species: *curasoae*  
Adult size: Length, 70-90mm Adult weight: 15-30g  
Habitat: Mainly desert scrub in the southwestern U.S.A., Mexico, Central America and northern South America Surviving number: Unknown Photographed by Merlin B. Tuttle



# Wildlife as Canon sees it

Gracing the night sky, a lesser long-nosed bat approaches the showy flower of an organ pipe cactus to feed on nectar. Like a bee, the bat carries pollen from one flower to another, cross-fertilizing a variety of desert plants like the organ pipe cactus, giant saguaro and agaves. These plants in particular rely heavily on the bat for pollination and the bat in turn relies on the plants' nectar and pollen for food. Both benefit from their mutual relationship. With bat numbers declining due to disturbance of their roosting sites, the plants are also threatened and, in effect, an

entire desert ecosystem.

To save endangered species, it is vital to protect their habitats. Understanding the fragile balance of our world's ecosystem holds the promise for the future. Expressive color images, with their unique ability to reach people, can help promote a greater understanding of the lesser long-nosed bat and its essential role in the preservation of its natural environment.

And understanding is perhaps the single most important factor in saving the lesser long-nosed bat and all of wildlife.



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| 1989 ROLLS ROYCE CORNICHE             | 3 YEARS/UNLIMITED  | 3 YEARS/UNLIMITED           | NONE  | 3 YEARS/UNLIMITED            | 3 YEARS/UNLIMITED                  |
| 1989 MERCEDES BENZ 300 SEL            | 4 YEARS/50,000 MILES   | 4 YEARS/50,000 MILES        | NONE  | 4 YEARS/50,000 MILES         | 4 YEARS/50,000 MILES               |
| 1989 CADILLAC SEDAN DEVILLE           | 4 YEARS/50,000 MILES   | 4 YEARS/50,000 MILES        | \$100 AFTER 1 YR./12,000 MILES                    | 4 YEARS/50,000 MILES         | 6 YEARS/100,000 MILES              |
| 1989 LINCOLN CONTINENTAL              | 1 YEAR/12,000 MILES  | 6 YEARS/60,000 MILES        | \$100 AFTER 1 YR./12,000 MILES                    | 6 YEARS/60,000 MILES         | 6 YEARS/100,000 MILES              |

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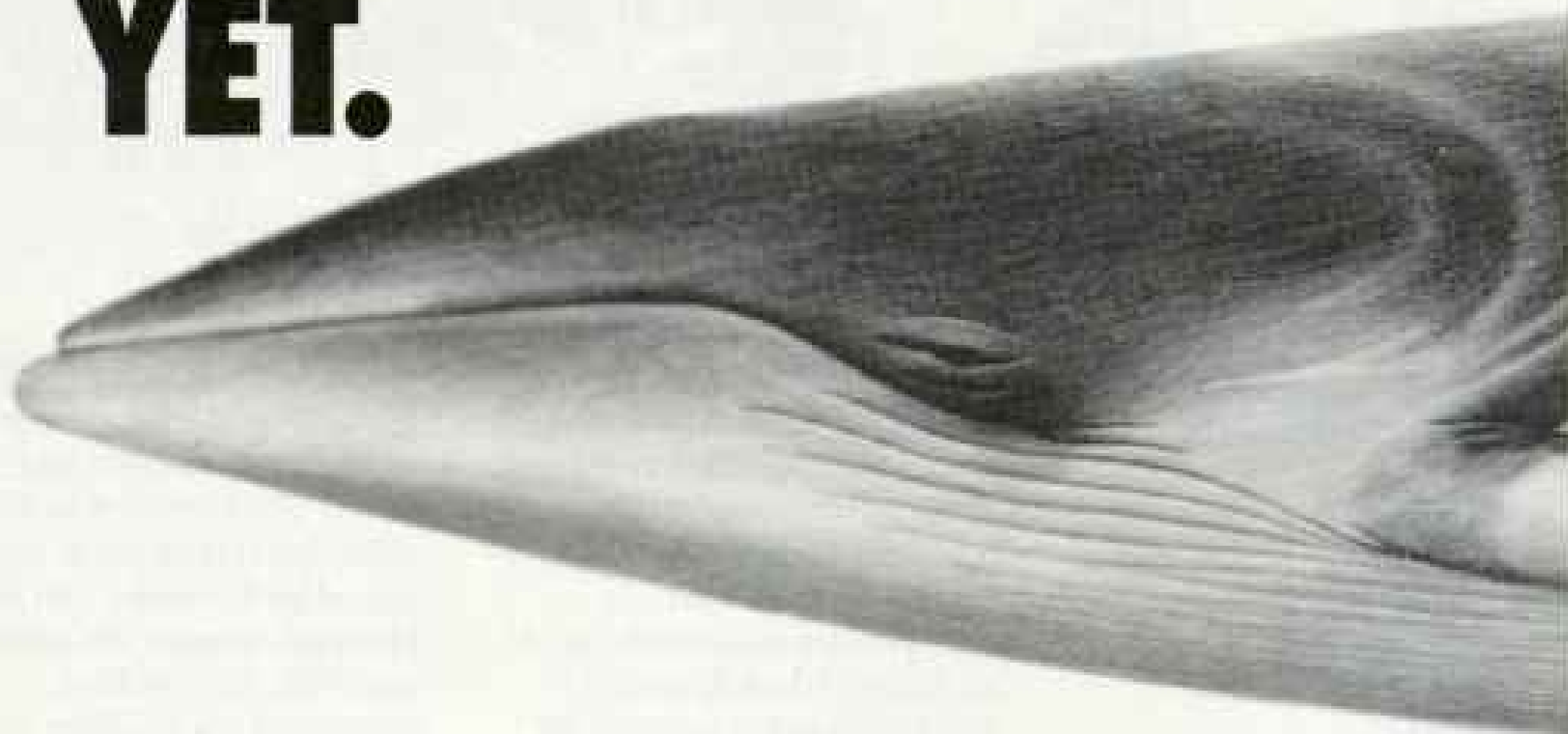


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Minke Whale by Larry Foster



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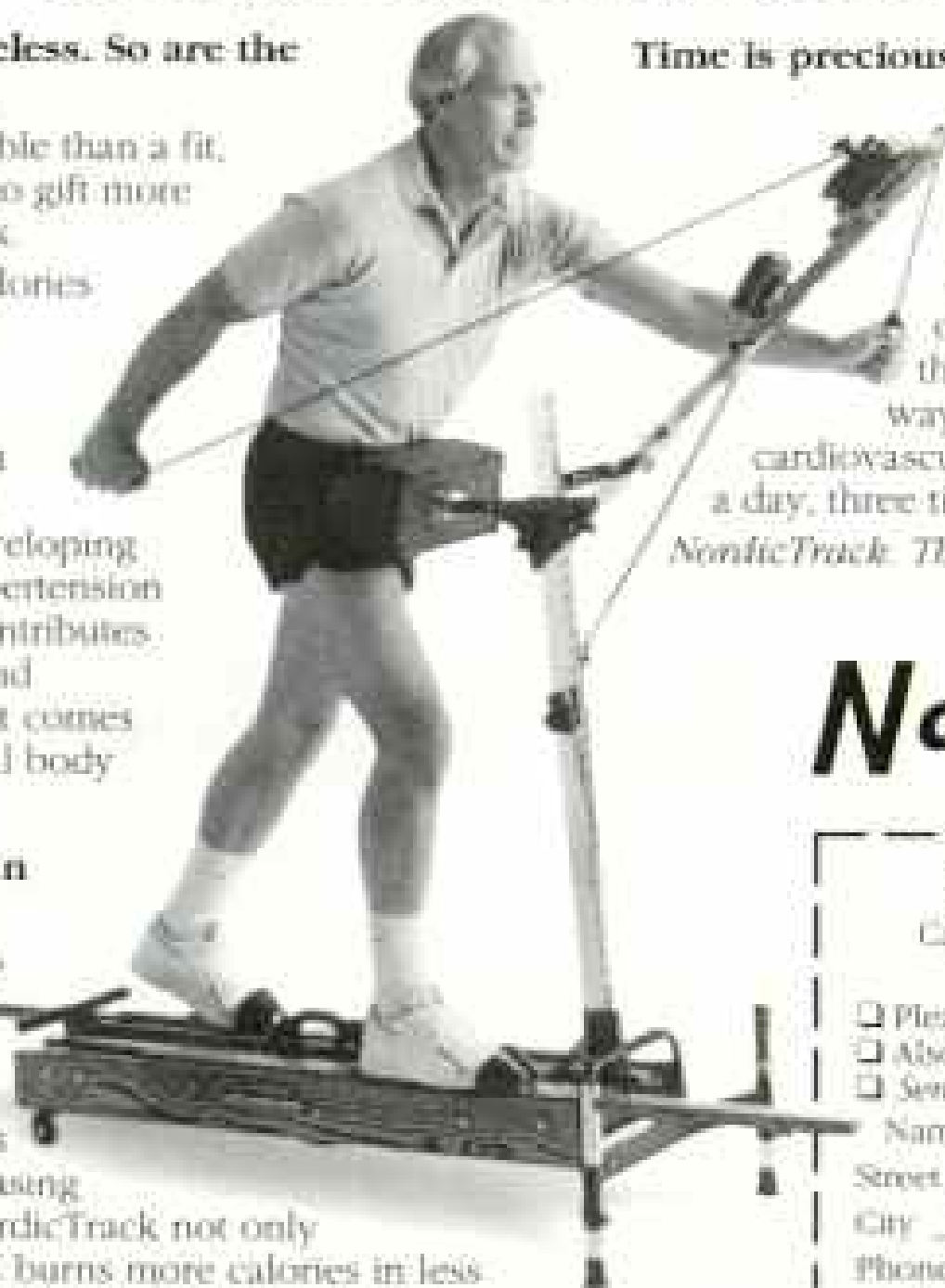
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PAUL BREEDER

## Glass, from ancient treasure to modern trophy

**J**ewel-colored bottles brought up from an Aegean shipwreck, an engraved globe awarded to an eminent scientist—glass, this most fragile substance, spans the centuries in service of humankind.

The history of glass is literally built on sand. No one knows who discovered that super-heated sand (silica) turns into molten glass or that adding substances (soda, lime) to this hot mixture improves and strengthens the final product. In fact the process of glassmaking may have been discovered by accident. Still, it was discovered early on; glass beads found in Egypt date from 2500 B.C. The ancient Egyptians crafted glass bottles and jars to hold their unguents and perfumes. These containers were so costly that only nobles could afford them.

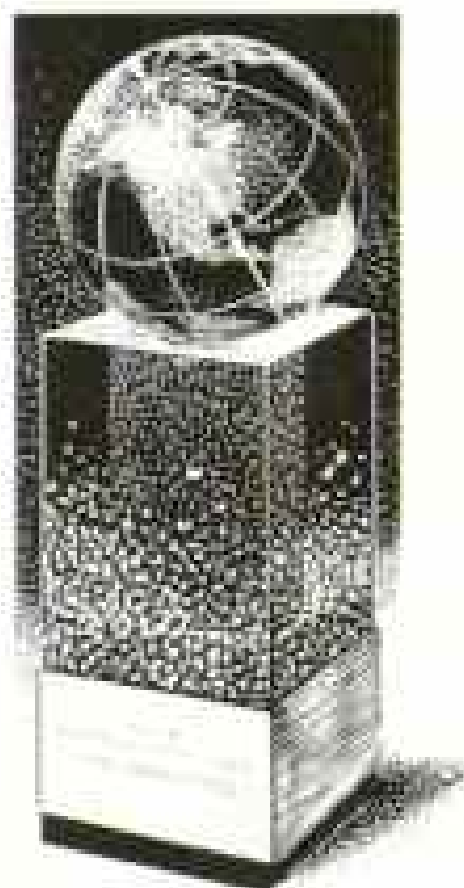
Islamic glassmakers were

among the most skilled of the ancient world. They developed the difficult manufacture of transparent glassware. In 1977 marine archaeologist Dr. George Bass excavated a sunken cache of such glass in a 1,000-year-old shipwreck off the coast of Turkey (see *NATIONAL GEOGRAPHIC*, June 1978). His finds included glazed pottery plates and colorful bottle shards, as well as perfectly intact clear glass tumblers, bottles, and bowls. After three summers of excavation, Dr. Bass and his colleagues—with funding from the National Science Foundation, National Geographic Society, and Corning Glass Works Foundation—found more than 200 different forms of ancient glassware.

In 1988 the National Geographic Society celebrated its centennial year

by making special awards to 15 leaders in various scientific fields. The award included an engraved crystal globe designed by Steuben artist James Houston. Among the awardees stood Dr. George Bass, founder of the Institute of Nautical Archaeology at Texas A&M University. He was honored for transferring "the techniques of classical land archaeology to the seabed [and] excavating—and on occasion even restoring—ancient shipwrecks to deepen our knowledge of early civilizations." Through his hands

have passed some of the most remarkable glass of the ages—from ancient treasure to modern trophy.



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# On Assignment

**A** SPIRITED but amiable exchange developed when Gen. Vo Nguyen Giap (right, at center) met with PETER T. WHITE, at left, and TRAN VAN DINH. In a lengthy interview, Giap praised the ingenuity of the Vietnamese people during his successive campaigns against France and the U. S.

For White, a veteran of 36 magazine assignments, it was his eighth trip to Vietnam—but his first to Hanoi. For Dinh, who served in South Vietnam's diplomatic corps from 1954-64, his assignment for this issue was a return to his native land. He recalled an early introduction to



DAVID ALAN HARVEY



KENNETH GARRETT

the magazine in 1946 when, as a Vietnam Liberation Army officer, he advised the Pathet Lao in its fight against the colonial French. While helping civilian evacuees cross into Thailand, Dinh spotted a suspicious-looking trunk. It held dozens of yellow-bordered magazines.

"If I knew how to read the

articles," Dinh remembers a Laotian officer saying, "my education would be greatly enhanced." The trunk was returned to its owner, who later sold the GEOGRAPHICS for ten dollars each.

Photographing for the GEOGRAPHIC, DAVID ALAN HARVEY (left) works hard at building a rapport. "I pick a restaurant and go back every day and eat with the people," says Harvey, here getting acquainted in Hanoi. "At first I'm a curiosity, but then I begin to blend in. That's when I get my pictures."

"THE BABIES were terrified of me," says ROBERT C. BAILEY of his first encounters with Zaire's Efe Pygmies, who fear that most foreigners are cannibals. "When they misbehaved, their mothers would carry them toward me, saying, 'He's going to eat you.'" The arrival of Nadine Peacock (right), a fellow researcher and his future wife, made Bailey—as part of a couple—seem more

human. The two lived with the Efe for extended periods, while pursuing doctorates at Harvard and teaching anthropology at UCLA. They studied some 1,200 individuals—she the women, he the men. Moving with the Efe from camp to camp, the pair endured all the rigors of jungle life, including bouts of malaria and other tropical maladies.



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A large, speckled egg, likely a quail egg, is the central focus of the image. It is light-colored with numerous dark spots and is resting on a bed of dry straw. The lighting is dramatic, highlighting the texture of the egg and the surrounding straw.

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