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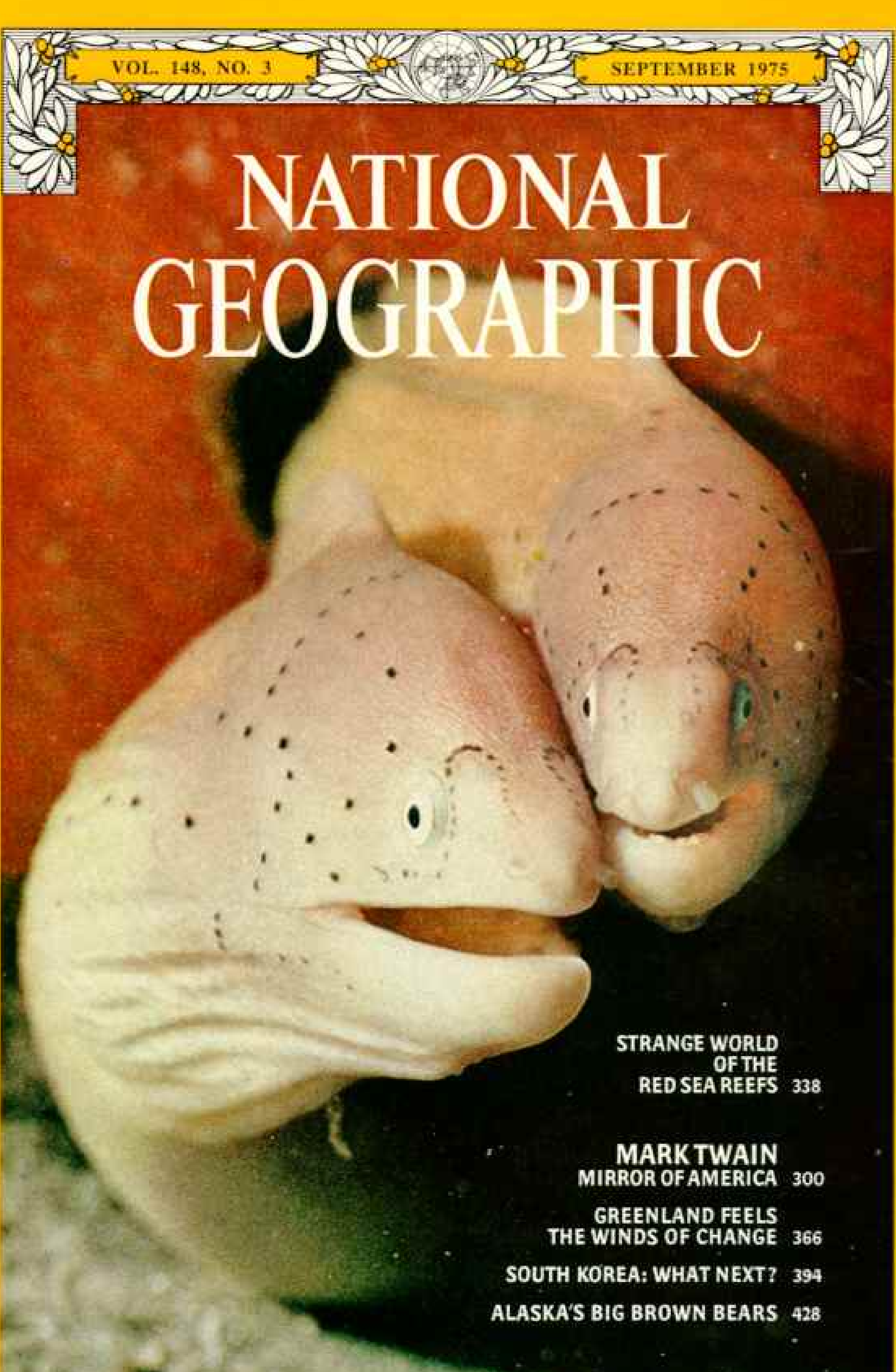

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OFFICIAL JOURNAL OF THE NATIONAL GEOGRAPHIC SOCIETY WASHINGTON, D.C.

THE WEATHER was exceptionally fine during that December weekend in 1908. Though there was snow on the gardens of Stormfield, Mark Twain's new home in Redding, Connecticut, log fires crackled on the open hearths inside and the skies were bright and clear—made to order for Alvin Langdon Coburn, a noted photographer of famous writers and artists of his time.

Coburn found a willing subject in the 73-year-old author. While strolling through the garden, they came upon the empty pedestal of a fountain.

"Why should not I be the statue?" asked Twain, and without further ado mounted the pedestal, a cigar in one hand and "a long staff resembling a ceremonial wand" in the other. He struck a pose, "an erect and dignified figure." This did not ruffle Coburn; after all, he had once made a portrait of George Bernard Shaw posing—in the nude—as Rodin's "Thinker."

Twain liked especially to be photographed in the gray and scarlet academic gown he had worn while receiving an honorary degree from Oxford University in 1907. As Katy Leary, a faithful family servant for 30 years, remembered: "He liked himself in them Oxford things," so much so that he wore the gown to the wedding of his daughter Clara.

During his memorable weekend, Coburn made 30 to 40 negatives, a few of them on the new Lumière Autochrome plates, the first dependable commercial process for color photographs. This issue reproduces what is believed to be one of those very rare Autochromes, recently discovered and never before published (page 301). We are grateful to the Mark Twain Memorial of Hartford, Connecticut, which granted us permission to reproduce the plate.

For many of us, Coburn's photograph was cause for nostalgia. We published our first Lumière Autochrome in the July 1914 issue, and in following years presented many more. Looking over the work of the editors of that earlier time, I was impressed by their willingness to break new ground, to take advantage of new processes, to strive for excellence.

I hope they would look benignly upon some of our efforts today. This month the Society is bringing out a new magazine, National Geographic WORLD, after retiring our 56-year-old School Bulletin with honors. Next month, the award-winning National Geographic television specials return to the air on the nation's educational television channels. The first program, "The Incredible Machine," will, I predict, stun you with its extraordinary photography of the human body in all its wonder. Twain once remarked: "I believe that our Heavenly Father invented man because he was disappointed in the monkey." This film reminds us what an astounding piece of work man really is, despite his many faults and struggles.

More and more, it seems to me, our role as an educational institution means that we should endeavor to present alternatives for the family besieged by a culture awash in material of trivial content. Mark Twain, I like to think, would have understood. Our efforts are to mirror, as he did, the essence of our world and our times.

Gilbert M. Grosvenor

NATIONAL GEOGRAPHIC

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September 1975

Mark Twain: Mirror of America 300

River pilot, gold miner, frontier reporter, humorist, cynic—he captured the spirit of an ebullient, expanding nation. Noel Grove and James L. Stanfield roam the land of Huck Finn's creator.

The Strangest Sea 338

Rainbow World Beneath the Red Sea 344

Zoologist Eugenie Clark and photographer David Doubilet dive into a unique and spectacular marine kingdom. Including a 22-page color portfolio.

Greenland Feels the Winds of Change 366

Uncertainty clouds the future of a people seeking a place in the 20th century. John J. Putman and George F. Mobley assess their chances.

South Korea: What Next? 394

Hard work, resilience, and vast U. S. aid have brought impressive economic advances to a country living under peril from without and within. Peter T. White and Korean-born H. Edward Kim report.

Among Alaska's Brown Bears 428

A four-year study of these huge land carnivores throws new light on their social life. By Allan L. Egbert and Michael H. Luque.

COVER: *Cheek to cheek, a pair of moray eels two feet long peer from a sunken buoy in the Red Sea. Photograph by David Doubilet.*

MARK TWAIN
Mirror of America

By NOEL GROVE

Photographs by

JAMES L. STANFIELD

BOTH NATIONAL GEOGRAPHIC STAFF

FOR FIVE NIGHTS in a row, the same dream. It begins when I see tree branches stirring, as though slipping by. *"We're adrift!"* I bolt upright, sensing the slate-gray river gliding alongside, carrying our raft crazily downstream in the midnight gloom. The mind races with it: *"Our tie-up came loose—we're out of control . . . we'll hit a barge, a dike, overturn on a snag. . . ."*

Then I awaken. The river vanishes, dissolved into the pavement outside my suburban Washington home. The raft, a ragtag lot of logs and driftwood, remains tied up where I left it—on a riverbank hundreds of miles away, below Ste. Genevieve, Missouri.

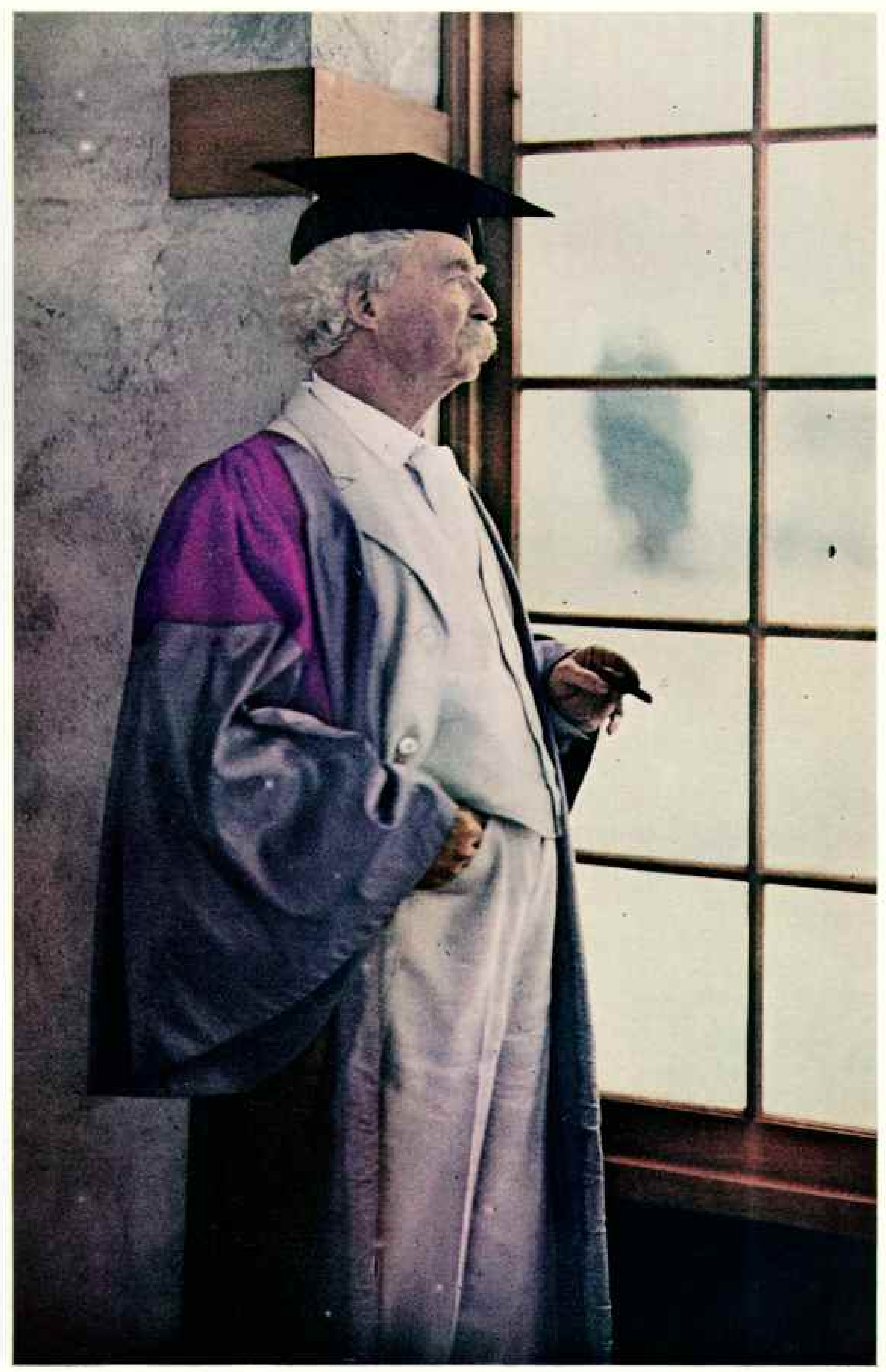
Always, oddly enough, I feel myself closer than ever to the man whom I have pursued into the past and across the United States for more than a year—Mark Twain. For Twain also had a nightmare about the river he immortalized.

He would see himself in the pilothouse of a stern-wheeler, on a barely recognizable stretch of the Mississippi, headed for some vague disaster: ". . . usually in my dream I am just about to start into a black shadow without being able to tell whether it is Selma bluff, or Hat Island, or only a black wall of night."

Our shared nightmare became for me an apt symbol for the great author's life. Most Americans remember Mark Twain as the father of Huck Finn's idyllic cruise through eternal boyhood and Tom Sawyer's endless summer of freedom and adventure. Indeed, this nation's best-loved author was every bit as adventurous, patriotic, romantic, and humorous as anyone has ever imagined. I found another Twain as well—one who grew cynical, bitter, saddened by the profound personal tragedies life dealt him, a man who became obsessed with the frailties of the human race, who saw clearly ahead a black wall of night.

Tramp printer, river pilot, Confederate guerrilla, prospector, starry-eyed optimist, acid-tongued cynic: The man who became Mark Twain was born Samuel Langhorne Clemens, and he ranged across the nation for

Doctor of letters, student of the world: Wearing the robe in which he received an honorary degree from Oxford University in 1907, Mark Twain poses for a rare color photograph, published here for the first time. Mixing cynicism with humor, Twain worked his countrymen into literary portraits that remain as vivid and meaningful today as they were nearly a century ago. ALVIN LANGDON COBURN, COURTESY MARK TWAIN MEMORIAL, HARTFORD, CONNECTICUT



more than a third of his life, digesting the new American experience before sharing it with the world as writer and lecturer. He adopted his pen name from the cry heard in his steamboat days, signaling two fathoms (12 feet) of water—a navigable depth. His popularity is attested by the fact that more than a score of his books remain in print, and translations are still read around the world.

Yet I heard this comment many times in my travels: "Mark Twain? I read his books when I was a kid. A great writer of children's stories."

IRONICALLY, it was the writer of "children's stories" who railed against conventional religion in *Letters from the Earth*. Released in 1962, 52 years after his death, it became a best-seller to a generation that seemed to be losing its moorings. The creator of the innocence of Tom Sawyer also penned the bitterly satirical supplications of *The War Prayer*. Also released posthumously, it echoes today's frustrations and despair with too many foreign battlefields.

Even *Huckleberry Finn* crackles with social comment beneath a surface of delights. Traveling down the river with an escaped slave, Huck firmly believes that his soul is lost for harboring the fugitive. In a classic conflict between society's moral teaching and an individual's own conscience, the waif writes a letter betraying his friend Jim. Conscience wins, and Huck finally tears it up: "All right, then, I'll *go* to hell. . . ."

Those who return to Huck Finn in later years are surprised to find it filled with rascals, drunkards, flimflam men, feuding families—a chronicle of man's inhumanities to man, a far deeper and more meaningful tale than their youth had perceived.

Rather than detracting from his enormous reputation, this other side of the Twain mind adds to his stature. The mixture of romance and reality, a youthful exuberance and a heart

Twain's world and our own meet as the *Delta Queen*, a legacy of the steamboat era, ties up at Memphis, Tennessee. By the mid-19th century the Mississippi Valley provided an agricultural heartland for the young republic and a focus for the best-loved stories of Samuel Langhorne Clemens, a onetime river pilot who used the boatman's call "mark twain" as his pen name.

of darkness, produced literature that appeals to every generation of Americans.

"The quality that makes the man so enduringly good to read is that he shared some of the pain we all have," I was told by Wilson H. Faude, curator of Twain's former home in Hartford, Connecticut, now the Mark Twain Memorial. "He was, above all, human."

HALLEY'S COMET blazed into view in the year of the author's birth, 1835, at a time when our nation still groped for identity. Twain died when the comet reappeared 75 years later, tracing a fiery tail across the night sky as clearly as he had illuminated the character of his countrymen.

Suddenly, these could be only Americans talking:

Huckleberry Finn: "All I say is, kings is kings, and you got to make allowances. Take them all around, they're a mighty ornery lot. It's the way they're raised."

River raftsman: "Whoo-oop! I'm the old original iron-jawed, brass-mounted, copper-bellied corpse-maker from the wilds of Arkansaw! Look at me! I'm the man they call Sudden Death and General Desolation! Sired by a hurricane, dam'd by an earthquake, half-brother to the cholera. . . ."

An American traveler in France: "I am a free-born sovereign, sir, an American, sir, and I want everybody to know it!"

Irreverent, swaggering, talkative, skeptical, proud—Americans all. "There is more of America in Mark Twain's books than in any others," wrote historian Bernard DeVoto. "He wrote books that have in them something eternally true to the core of his nation's life."

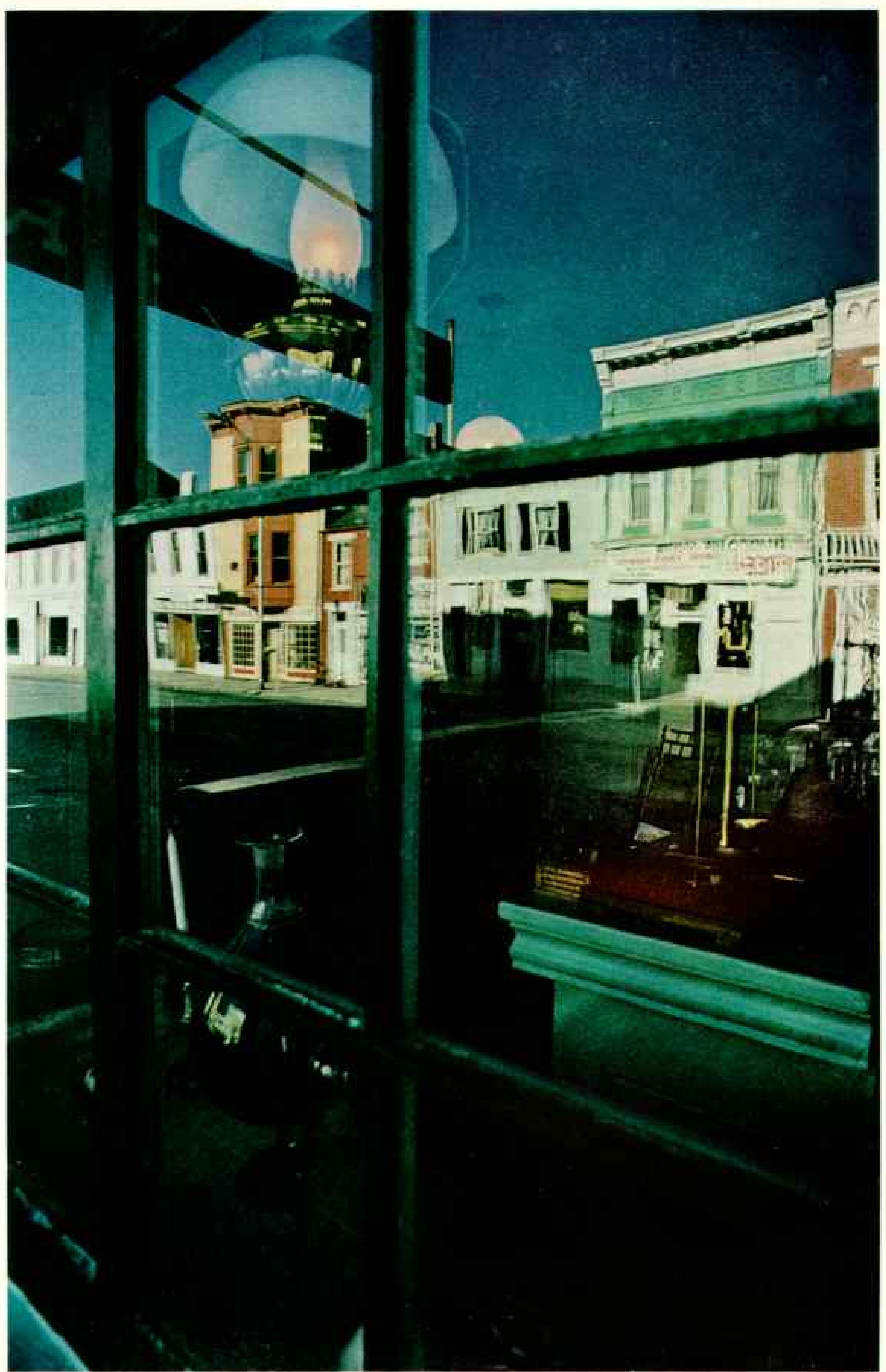
The geographic core, in Twain's early years, was the great valley of the Mississippi River, main artery of transportation in the young nation's heart. Keelboats, flatboats, and large rafts carried the first major commerce. Lumber, corn, tobacco, wheat, and furs moved downstream to the delta country; sugar, molasses, cotton, and whiskey traveled north. In the 1850's, before the climax of westward expansion, the vast basin drained three-quarters of the settled United States.

Young Mark Twain entered that world in 1857 as a cub pilot on a steamboat. The cast of characters set before him in his new profession was rich and varied—a cosmos. He participated abundantly in this life, listening to pilothouse talk of feuds, piracies, lynchings, medicine shows, and savage waterside

COURTESY MARK TWAIN PAPERS, UNIVERSITY OF CALIFORNIA, BERKELEY

Cradle of an author's greatness, Sam Clemens's boyhood home—Hannibal, Missouri—became the setting for some of his most famous books. The drowsy ambience of yesterday's frontier town endures when viewed through the rippled panes of a drugstore (**right**) restored to its old-time flavor. Elsewhere, shopping centers and super-highways reflect the present.

Following the death of his father, John Clemens, 12-year-old Sam became a printer's apprentice; at 15 he posed jauntily (**above**) for his earliest-known portrait. Hannibal youngsters (**below**) still find time and place for the forbidden pleasures that tempted Tom Sawyer and Huck Finn.



slums like Natchez-Under-the-Hill. All would resurface in his books, together with the colorful language that he soaked up with a memory that seemed phonographic.

He heard pilots curse a difficult turn at the helm when the night was "as dark as the inside of a cow." Heard them cursed in turn by flatboatmen who suffered near misses from the big packets, "Whar'n the ___ you goin' to! Cain't you see nothin', you dash-dashed aig-suckin', sheep-stealin', one-eyed son of a stuffed monkey!"

Steamboat decks teemed not only with the main current of pioneering humanity, but its flotsam of hustlers, gamblers, and thugs as well. From them all Mark Twain gained a keen perception of the human race, of the difference between what people claim to be and what they really are. His four and a half years in the steamboat trade marked the real beginning of his education, and the most lasting part of it. In later life Twain acknowledged that the river had acquainted him with every possible type of human nature. Those acquaintanceships strengthened all his writing, but he never wrote better than when he wrote of the people along the great stream.

IN 1811 the first paddle-wheel steamer plied the Mississippi, and the stately floating palaces dominated traffic for the next half century. All but a few have disappeared, replaced by snub-nosed diesel towboats, so-called even though they push their rafts of barges instead of pulling them. A large tow headed upriver on the Mississippi creeps along as slowly as two miles an hour, but because the loads are massive, freight tows offer the lowest cost per ton-mile of any form of transportation. Three large tows today can push more tonnage than was carried by all the steamboats on the Mississippi and its tributaries in 1851.

The *Creole Belle* had just unloaded four barges of crude oil in Mt. Vernon, Indiana, when I boarded her. Sound and freshly painted, she was as handsome as a boat can be with her bow chopped off just forward of the bridge. The *Belle* and her sisters are built to butt their blunt heads against a flotilla of barges and make of them a huge powered raft.

With the empties riding high, we eased away from the shore for a thousand-mile, three-day voyage, down the Ohio River to Cairo and thence down the Mississippi to New Orleans.

While part of me drifted along in the present, the remainder kept eddying into the past. I spent much of the long days in the pilothouse, reading *Life on the Mississippi* and watching Capt. Henry Hornsby, Jr., at the hydraulic steering levers.

Twain's book described the world of Horace Bixby, river tutor to a cub pilot named Samuel Clemens more than a century ago. Throwing the six-foot wheel of his steamboat into a blur, Bixby steered past a threatening snag. Bravely ringing engine bells for more speed, he urged the three-tiered "wedding cake on water" over a hidden sand reef that dragged and sucked at the hull.

Henry Hornsby calmly glanced from the radar screen to the electronic depth finder. He tugged on the levers and lined up the front of his raft of barges with a blinking navigation light on a far bank.

Henry Hornsby and Horace Bixby—two pilots on the Mississippi, alike in the ring and rhythm of their names, but separated by a century of technology. To avoid underwater obstructions, my pilot had only to swivel around in his padded chair and glance at a navigational chart. Horace Bixby had to depend upon memory—knowing every foot of the constantly changing channels. The catalog of facts required of him once led the cub Sam Clemens to cry out in despair, "I haven't got brains enough to be a pilot; and if I had I wouldn't have strength enough to carry them around, unless I went on crutches."

THE VESSELS of yesterday and today also lie worlds apart. Our gadget-laden diesel seemed as similar to a colorful old paddle-wheeler as a jackhammer is to John Henry.

The river was on the rise, offering running depth from bank to bank, and pushing us to a brisk 17 miles an hour. The *Creole Belle*

Voyage through a time warp: Aboard a raft similar to that of Mark Twain's hero Huckleberry Finn, staff writer Noel Grove and a neighbor, Bill Patterson, drift past St. Louis and its arch. More than just a children's adventure, Huck's flight downriver with a runaway slave chronicles the split in the American personality, as humane ideals came into conflict with social codes and human injustices. TOM HOOPER

A boy's ambition fulfilled: Sam Clemens got his river pilot's license in 1859 at the age of 23 (**above**). His teacher, seasoned pilot Horace Bixby, once accused his student of not knowing "enough to pilot a cow down a lane." He urged Sam to jot down river details in a little memorandum book, which the author unearthed years later (**below**).

COURTESY MARK TWAIN MEMORIAL (ABOVE) AND MARK TWAIN PAPERS

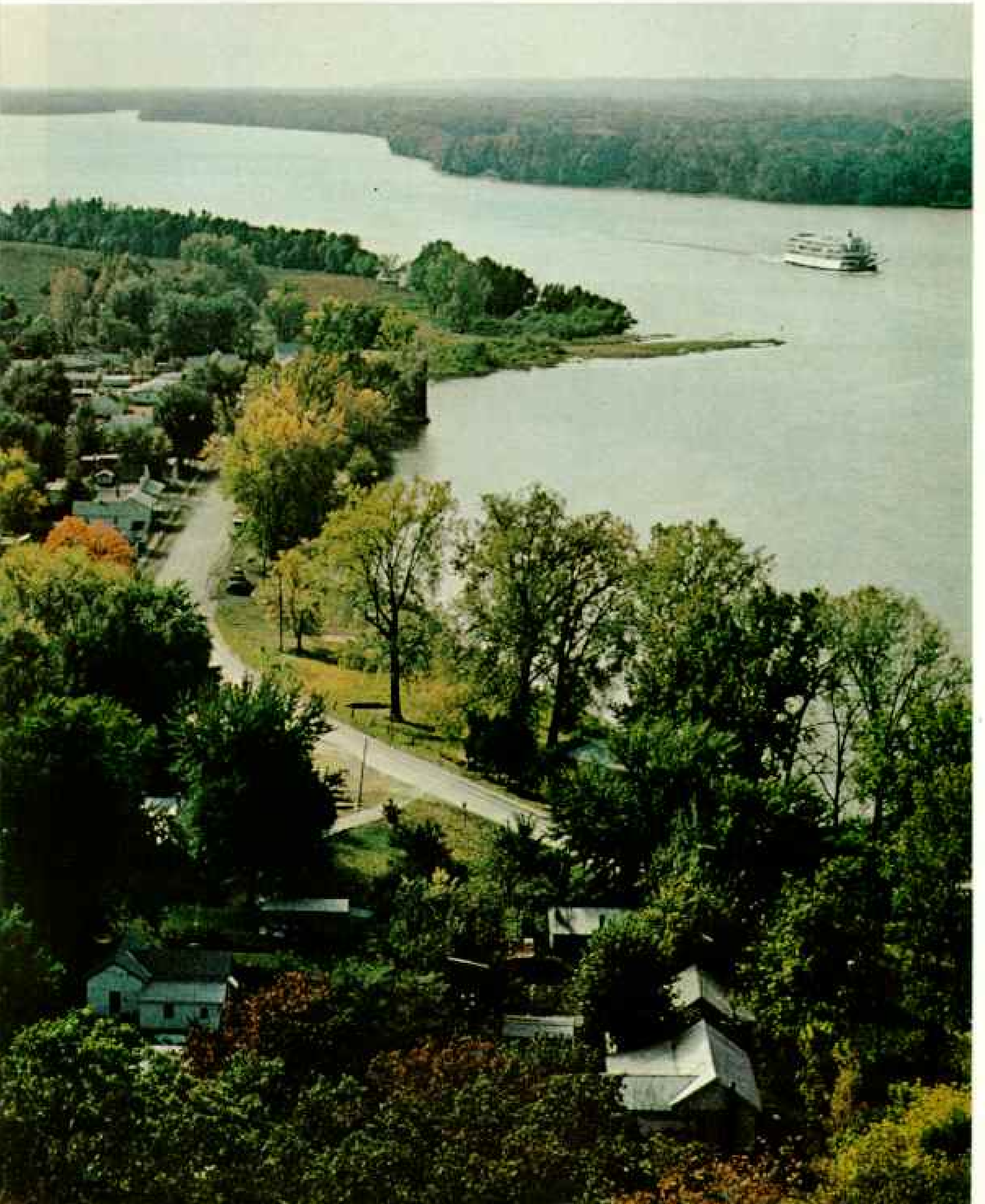
Notes made by me when I was learning to be a Mississippi River pilot, in 1856-7.

Found this book among some old rubbish to-day, Dec 8/1880.
S.L. Clemens
Hartford, Conn.

"S-t-e-a-m-boat a-comin'!" The *Delta Queen* churns past Hamburg, Illinois, on an excursion trip from St. Louis to Hannibal. At mid-19th century, paddle-wheelers were the major link with the outside world for residents of riverside towns. The cry, signaling the arrival of passengers, mail,

and supplies, all borne in a gaudy, multi-tiered floating palace, triggered a stampede to the waterfront that Twain describes in *Life on the Mississippi:* "...every house and store pours out a human contribution, and all in a twinkling the dead town is alive and moving."

A growing network of railroads spelled doom for the steamboat era, and when the Civil War suspended river commerce, Twain left piloting with fond memories, later expressed: "...I loved the profession far better than any I have followed since, and I took a measureless pride in it."



seemed as safe as a lone car on a four-lane freeway, so 60 miles below Baton Rouge I asked if I could take over the controls.

Our four barges, lashed together two by two, gave us a total length exceeding two football fields. "She turns a little sluggish," Henry warned, as he gave up his seat. I eased us around a gradual ten-mile bend, felt I'd mastered corners, and headed confidently toward the hairpin turn at 81-Mile Point. Nosing around it, I held near midstream, eased the levers to a half-turn position, and calmly awaited the graceful arc I was sure I had set in motion.

Halfway around the bend I saw my mistake. Cocked broadside to the strong current in my casual turn, our stretched-out 5,000 tons were being pushed toward the mudbank faster than the twin propellers could thrust us downstream. The same dread that knotted behind the third button of my shirt must have visited Horace Bixby's cub pilot. Young Clemens had once believed the steamboat he steered was headed for disaster. He remembered: "I was helpless. I did not know what in the world to do. I was quaking from head to foot, and I could have hung my hat on my eyes, they stuck out so far."

Sam Clemens eluded disaster; he had been fooled by a fake warning of shallow water to test his confidence. Horace Bixby had scolded him accordingly, "... when you get into a dangerous place, don't turn coward. That isn't going to help matters any. ..."

Henry Hornsby bailed me out of trouble by leaning over me and applying a few emergency measures on the controls. He had noted my frequent, anxious glances at the shores as we drifted dangerously sideways, and his advice rang strikingly similar: "You can't let yourself get scared, or you start making mistakes."

"THE FACE OF THE WATER, in time, became a wonderful book—" Twain wrote, "a book that was a dead language to the uneducated passenger, but which told its mind to me without reserve. ..." But with his catalog of knowledge about the river, he realized that romance and beauty had been lost. A brilliant sunset could mean a bad wind the following day; a long slanting mark that lay sparkling on the water indicated a bluff reef that might kill a steamboat one night.

Twain the philosopher related his loss to the human experience: "Since those days, I have pitied doctors from my heart. What does the lovely flush in a beauty's cheek mean to a doctor but a 'break' that ripples above some deadly disease? ... Does he ever see her beauty at all, or doesn't he simply view her professionally, and comment upon her unwholesome condition all to himself? And doesn't he sometimes wonder whether he has gained most or lost most by learning his trade?"

Whatever Twain might have lost in river romance was replaced by a wealth of valuable experience. Some of America's best literature may be traced to fulfillment of the dream he shared with his childhood playmates: "When I was a boy, there was but one permanent ambition among my comrades in our village on the west bank of the Mississippi River. That was, to be a steamboatman."

THE "VILLAGE" was Hannibal, Missouri, fictionalized as St. Petersburg in his books. Today Hannibal's population (19,000) is six times larger than the hometown of Tom Sawyer and Huck Finn in the 1840's. Then, quiet woodlands lay little more than a rifle shot away from the boys' frame houses. A bullet fired from old Hannibal today might land in one of the new shopping centers on the freeway bypass. When the last of the vintage overnight steamboats, the *Delta Queen*, lands irregularly with loads of tourists, few idolizing youngsters greet it at the shore. Who, then, are their heroes now?

In Hannibal Junior High School, English teacher Mrs. Dorothy Hahn already had some answers. "We did an assignment in which the students were asked to cut out pictures in newspapers and magazines that showed people they admired. Then they were to explain why that person 'had it made.'"

With her permission I looked through 20 of the completed papers. All but five expressed admiration for people who had "a good job" of almost any description, as long as it provided financial security.

A Tom Sawyer who never left home, Lylburn Williams of Valmeyer, Illinois, has spent 70 years along the Mississippi, a living link in the web of characters who people Mark Twain's books. "I love it here," the farmer-trapper-fisherman says, "but the river is nothing to fool with. I've hauled out 11 bodies in my time, just along this stretch."

Knowledge of the river's power lived with Mark Twain as it does with Mrs. Addie Jackson of Arkansas City, Arkansas, a survivor of the record 1927 flood. Twain questioned attempts by the Mississippi River Commission to control flooding: "...the Commission might as well bully the comets in their courses and undertake to make them behave, as try to bully the Mississippi into right and reasonable conduct." More than 40 years later, the '27 flood inundated Arkansas City, then an active river port, with murky water more than 12 feet deep. Many of the 2,200 residents waited in Red Cross

tents on the levee for a return to normalcy. The flood took 300 lives along the river and cost a quarter of a billion dollars, prompting the Flood Control Act of 1928. A comparable deluge struck again in 1973, seemingly proving the point Mark Twain had made nearly a century earlier.

Heroes, it appears, change faster than boys, whose impatience with school surely dates back to stone tablets. Mark Twain once described the result of his own aversion to book learning: "It used to take me all vacation to grow a new hide in place of the one they flogged off me during the school term."

In Hannibal disciplinarians still believe the nerves that control a boy's attention span are directly connected to the seat of his pants. "Yes, we still have corporal punishment," said Jerry Rash, 31-year-old principal of the junior high school.

"But teachers are not allowed to spank students, to avoid having them do so in the heat of anger," he said in the school office. An image flashed to mind of the impish Tom Sawyer before a furious instructor. "The master's arm performed until it was tired," Twain wrote, "and the stock of switches notably diminished."

"I use this," Mr. Rash added. Opening a desk drawer, he produced the rubber sole of a shoe, about size 10½, hard yet flexible.

As we talked, rustling noises spilled from a door just down the hall. We walked the few steps from his office into a waiting room and looked upon as promising a collection of mischief as ever threw a paper wad or cocked a rubber band.

Two boys accused of fighting in class followed Mr. Rash into his chambers. Their story told, they agreed that "a few licks" would be just punishment for their misdeeds. An awful silence ensued as I waited outside the door. Then . . . CRACK!

The report leaped through the office door and echoed down the hall. In the next room, where half a dozen accused still waited, it had the quieting effect of a falling guillotine blade.

HAVE AIR CONDITIONING and the gasoline engine, crowded suburbs and television dulled the Tom Sawyers of today? Hundreds of miles south of Hannibal I drove along the river through a string of quiet delta towns where the life-style of Tom Sawyer and Huck Finn endures.

At Holly Grove, Arkansas, for example, Michael Brown and Cleveland Banks, both 11, dangled cane poles from a railroad trestle into a dappled creek, until their concentration gave way to fighting a nest of mud dauber wasps and poking at a dead snake. Barely ten miles down the highway I hunkered beside Jimmy Sweaney and Bertrand White to

"The Mississippi . . . is always changing its habitat *bodily*—is always moving bodily *sidewise*." Such a move as Twain described left Arkansas City's business district (**above, right**) facing a 20-foot levee instead of the graceful waterway that once bolstered trade.

A lifelong resident of Arkansas City, storekeeper Leonard Reitzammer (**above**) remembers an urban heyday that included 40 businesses and an opera house before the river began following a new channel three miles away. With population and commerce diminished, the town now experiences a rebirth. Young married couples find the hamlet an attractive place to raise a family—an echo of the small, quiet river towns in Mark Twain's books.

watch them catch rough fish called grindle from a water-filled ditch.

"We can sell these in town for about three dollars, around ten cents apiece," said Jimmy, hauling up a wire basket alive with flopping captives.

Often, carbon copies of Twain characters may be found with a modern twist. Just outside Natchez, Mississippi, I paused to watch two cyclists on minibikes frolic on a dusty playground created by road construction. Their snarling steeds threaded deep-cut ruts, side-slid around corners, and shot skyward for split seconds on the lee side of hillocks. Finally, both machines skidded to a stop beside me, visored helmets came off, and I stared into the freckled faces of Bill McCalip, 11, and Brad Passman, 12—Tom and Huck, plus 125 years.

Bill's arm was still thin, as he showed me,

from a cast he had recently worn after a bad spill. A bucking bike once sent Brad's chin into the handlebars, expelling a tooth. "Boy, my lip stuck out to here," he said. Tom Sawyer never displayed his sore toe with more pride than Brad, as he tugged out his lip to demonstrate its earlier grotesqueness.

WHEN RAILROADS began drying up the demand for steamboat pilots and the Civil War halted commerce, Mark Twain left the river country. He tried soldiering for two weeks with a motley band of Confederate guerrillas who diligently avoided contact with the enemy. Twain quit after deciding, "... I knew more about retreating than the man that invented retreating."

He went west by stagecoach and succumbed to the epidemic of gold and silver fever in Nevada's Washoe region. For eight months he flirted with the colossal wealth available to the lucky and the persistent, and was rebuffed. Broke and discouraged, he accepted a job as reporter with the Virginia City *Territorial Enterprise,* to literature's enduring gratitude.

He later described his last moments as a silver miner, standing in a shaft eight feet deep, preparing to shovel loosened rock and dirt out of a hole: "I made the toss, and landed the mess just on the edge of the shaft and it all came back on my head and down the back of my neck. I never said a word, but climbed out and walked home. I inwardly resolved that I would starve before I would make a target of myself and shoot rubbish at it with a long-handled shovel."

Rags-to-riches stories did abound, however. Tunnels honeycombed the ground beneath the Washoe and poured out wealth that made

millionaires of saddle bums. A hay farmer, Twain recalled, traded a few acres of his ranch for an undeveloped mine, hit pay dirt, and hiked his income from thirty dollars to sixty thousand a month. Two teamsters took their wages in shares of a "worthless" mine that within a year was paying both of them $100,000 annually.

The dream of quick fortune lives on in Nevada, where out-of-staters flock to casinos of legalized gambling instead of to the mines. Every prospector who entered the silver fields dreamed of becoming rich. Many did, and built mansions to live in and financial empires to play with. Every gambler who rolls the dice or fans the cards today secretly expects to leave Nevada substantially wealthier. The number who succeed annually would barely fill a washroom at Harolds Club.

TRADING ON its colorful past, Virginia City now mines metal from tourist pockets. In early morning, early evening, and all night long, it exists as a placid mountain village, as western as a packhorse, as relaxed as a sleeping cat in the sun (pages 324-5).

About 9 a.m. a sandaled army begins rumbling over the board sidewalks. Flashing neon lights herd them into bars and cafés. A recording hawks them into the "Old Territorial Prison," with its wax inmates. They snap pictures of each other posing in front of the old storefronts, finger through free ore samples at one of several museums, and shake hands with battalions of slot machines.

"Like Coney Island," snorted one of Virginia City's lifetime residents. "But tourism is our only industry now."

"The real good ore is mostly played out," said Henry Hesse, who worked the mines in 1919. "There's still some in there, but it would take a lot of money to get it."

Boom-time miners accepted the risks that accompanied mining, and many paid with their lives. Some perished in cave-ins and fires, and others were crushed when ore buckets broke loose while being lifted up vertical shafts. Life above ground was no less violent. The first 26 graves in the town cemetery were reportedly filled with murder victims.

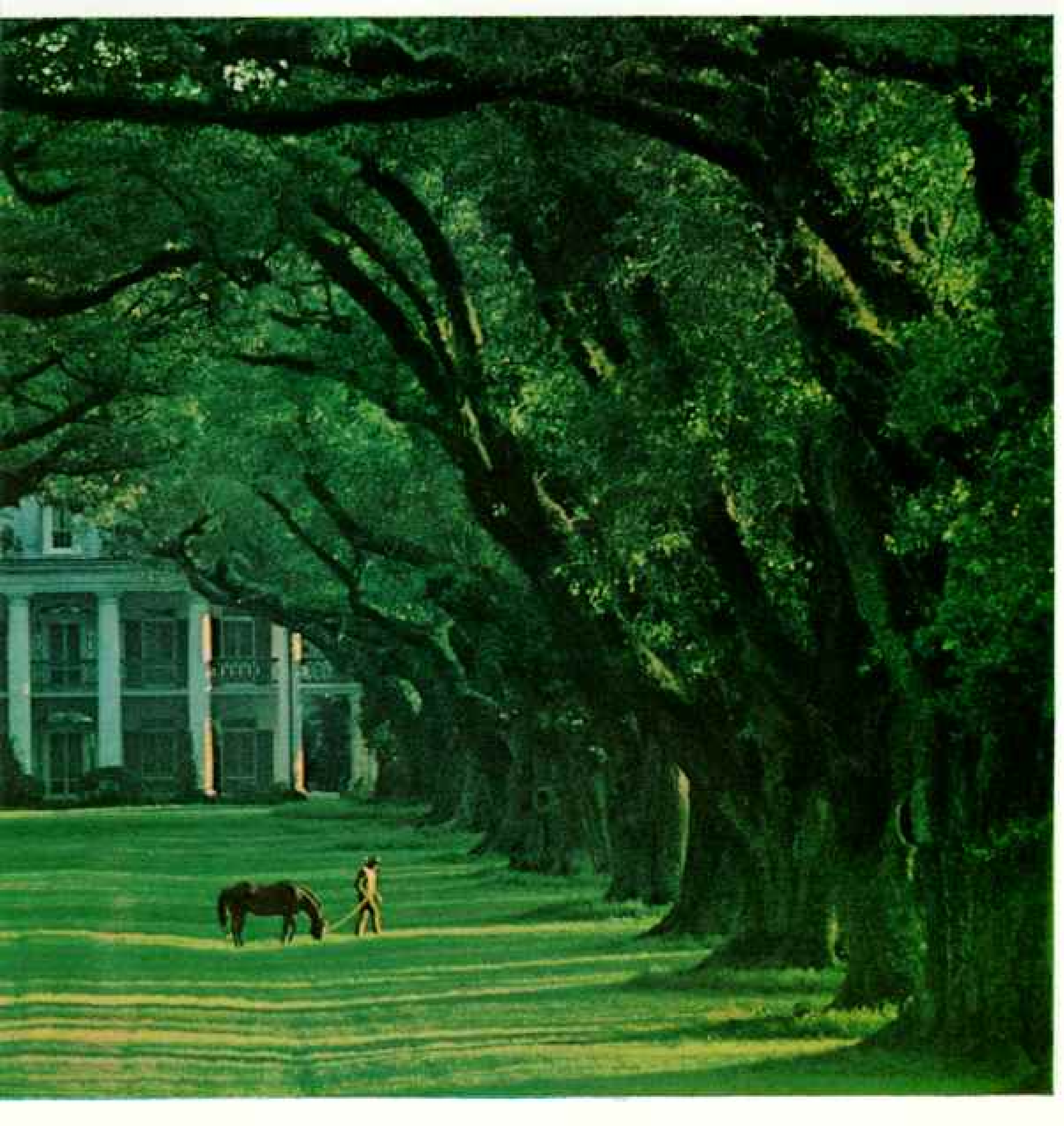
Gentler diversions included storytelling, a recreational art form in the developing West. The tall tale reached a pinnacle with Mark Twain, whose writing sparkles with outlandish wit and digestible absurdities. Listen to the former Mississippi riverman playfully impugn the size of a Nevada stream: "One of the pleasantest and most invigorating exercises one can contrive is to run and jump across the Humboldt River till he is overheated, and then drink it dry."

"**And now and then you see** a pillared and porticoed great manor-house, embowered in trees," wrote Twain of river views between Baton Rouge and New Orleans. Here, through a green tunnel, Oak Alley plantation house gleams near Vacherie, Louisiana, as it did when the author voyaged past it aboard a steamboat in 1882, gathering more material for *Life on the Mississippi.*

ANOTHER ACCOUNT more than illustrates the dearth of females in the rough mining camps: "... once in Star City, in the Humboldt Mountains, I took my place in a sort of long, post-office single file of miners, to patiently await my chance to peep through a crack in the cabin and get a sight of the splendid new sensation—a genuine, live Woman! And at the end of half of an hour my turn came, and I put my eye to the crack, and there she was, with one arm akimbo, and tossing flapjacks in a frying pan with the other. And she was one hundred and sixty-five years old, and hadn't a tooth in her head."

From the discouragement of his mining failures, Mark Twain began digging his way to regional fame as a newspaper reporter and humorist. The instant riches of a mining strike would not be his in the reporting trade, but for making money, his pen would prove mightier than his pickax. In the spring of 1864, less than two years after joining the *Territorial Enterprise*, he boarded the stagecoach for San Francisco, then and now a hotbed of hopeful young writers.

Just as Mark Twain honed and experimented with his new writing muscles, his journalistic descendants work to develop their skills and new techniques. Reclusive Richard Brautigan has gained a national reputation with his sensitive novelettes—*In Watermelon Sugar, Trout Fishing in America*—using



"You could tell when 'Big Mama' went by in the night, by the size of the swell that went with her." So spoke an elderly riverman of the *Sprague*, largest stern-wheel towboat ever built. Launched in 1901, as river freight hauling switched from packet boats to towed barges, the 318-footer survived to become a showboat and museum in 1948, before her career ended in a 1974 fire.

The river was his school, a pilothouse his classroom. Former pilot Warner Evans reminisces near the towboat *Lizzie*, now retired like himself near Natchez, Mississippi. No reader of Twain, he read the face of the water before the days of electronic depth finders. "Mark Twain?" he said, at mention of the name. "Why, that's what crewmen used to call when they threw the lead line to measure water depth."

words so spare and abrupt they seem to leap from the page. Beat poetry had its beginnings in the San Francisco of the mid-1950's. In a former church basement in the North Beach area, young wordsmiths bare their poetic souls two nights a week.

"I've always wondered what Twain would be writing if he were here now," said Bruce Brugmann, editor and publisher of the *Bay Guardian*, part of the subculture newspaper and small-book industry that thrives on criticism of modern society (page 329). "We do lots of investigative work, using satire and irony in our writing, devices that were his stock in trade. He had to leave the city for a while, you know, because of some scathing columns he wrote."

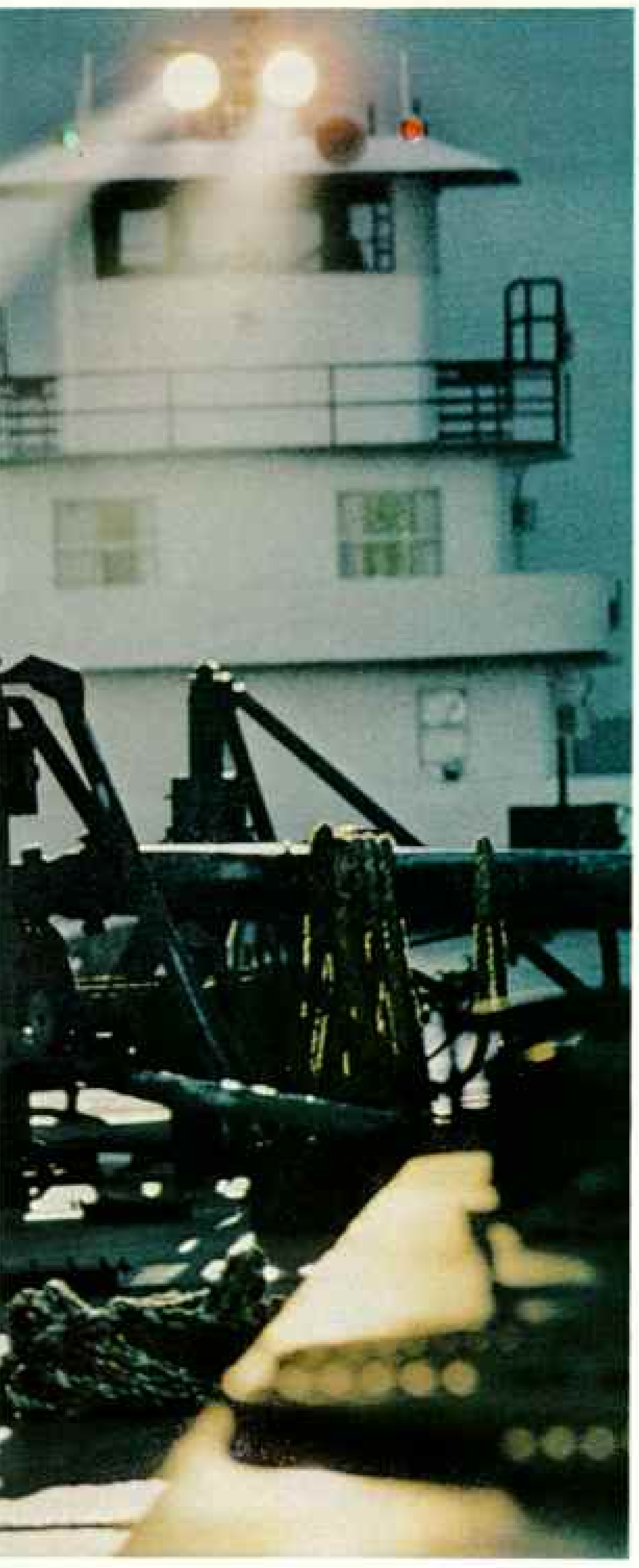
Attacks on the city government, concerning such issues as mistreatment of Chinese, so angered officials that Twain fled to the goldfields in the Sacramento Valley. His descriptions of the rough-country settlers there ring familiarly in a modern world accustomed to trend setting on the West Coast. "It was a splendid population—for all the slow, sleepy, sluggish-brained sloths stayed at home. . . . It was that population that gave to California a name for getting up astounding enterprises and rushing them through with a magnificent dash and daring and a recklessness of cost or consequences, which she bears unto this day —and when she projects a new surprise, the grave world smiles as usual, and says 'Well, that is California all over.'"

IN THE DREARY WINTER of 1864-65 in Angels Camp, he kept a notebook. Scattered among notations about the weather and the tedious mining-camp meals lies an entry noting a story he had heard that day —an entry that would determine his course forever: "Coleman with his jumping frog—bet stranger $50—stranger had no frog, and C. got him one:—in the mean time stranger filled C.'s frog full of shot and he couldn't jump. The stranger's frog won."

Retold with his descriptive genius, the story was printed in newspapers across the United States and became known as "The Celebrated Jumping Frog of Calaveras County." Mark Twain's national reputation was now well established as "the wild humorist of the Pacific slope."

Two years later the opportunity came for him to take a distinctly American look at the Old World. In New York City the steamship

Ghosts of rivermen past seem to dance a searchlight shuffle as two deckhands tighten cables linking a raft of barges pushed by the *Creole Belle* past Avondale Shipyards at New Orleans. Diesel-powered push craft —towboats in name only—dominate river traffic with floating warehouses that may exceed six acres in size. Unlike cub pilot Mark Twain, who apprenticed under an old master, some of today's student helmsmen learn their skills by attending the five-year-old National River Academy at Helena,



Arkansas. Aspiring crew members can thank the energy crisis in part for an active river commerce. Moving massive cargoes, with river current ofttimes an ally, towing companies offer the lowest in cost-per-ton freight rates.

Quaker City prepared to sail on a pleasure cruise to Europe and the Holy Land. For the first time, a sizable group of United States citizens planned to journey as tourists—a milestone, of sorts, in a country's development. Twain was assigned to accompany them, as correspondent for a California newspaper. If readers expected the usual glowing travelogue, they were sorely surprised.

Unimpressed by the Sultan of Turkey, for example, he reported, "... one could set a trap anywhere and catch a dozen abler men in a night." Casually he debunked revered artists and art treasures, and took unholy verbal shots at the Holy Land. Leaving Nazareth on horseback, he turned for a last look and described the city as "clinging like a whitewashed wasp's nest to the hillside."

Twain's accounts also ribbed his fellow passengers for being brash, naive, and too quick to believe themselves cultured. He noted that French words and phrases began creeping into their language. One traveler, he related, began affecting a French pronunciation when addressing his longtime friend Herbert as "Mr. Er-bare."

Tongue in cheek, he observed that the male passengers were acquiring the ill-mannered habit of staring pretty Italian girls directly in the face, "because it is the custom of the country and they say the girls like it." He explained further: "We wish to excite the envy of our untraveled friends with our strange foreign fashions which we can't shake off.... The gentle reader will never, never know what a consummate ass he can become until he goes abroad."

THE *QUAKER CITY* TRAVELERS, and all Americans for that matter, were searching for a place in the world community. Twain recognized that they were trying too hard, and he laughed at them, and at himself. Back home, more newspapers began printing his articles. America laughed with him. Upon his return to the States the book version of his travels, *The Innocents Abroad*, became an instant best-seller.

One passenger who escaped Twain's barbs was a handsome and wealthy shipboard acquaintance, Charles Langdon, from Elmira, New York. One day young Langdon showed his journalist friend a miniature portrait of his sister Olivia, and Twain was smitten by the image. He remained in the East after the voyage to woo and marry "Livy," his companion

and first-draft editor for the next 35 years. A few weeks after his marriage, Mark wrote a Nevada friend: "If all of one's married days are as happy as these new ones have been to me, I have deliberately fooled away thirty years of my life. If it were to do over again I would marry in early infancy instead of wasting time cutting teeth and breaking crockery."

AT THE AGE OF 36 Twain settled in Hartford, Connecticut. There he built an elaborate three-story brick house that rode the crest of a knoll at the edge of the city like a huge, angular river ship. Critics labeled it "steamboat Gothic" in design, for a balcony topping one medieval turret resembled a pilothouse, and a large porch wrapped a quarter way around the house like the prow of a stern-wheeler (pages 330-31).

His first child and only son, Langdon, died of diphtheria shortly before the Clemenses moved in. Three daughters followed—Susy, Clara, and Jean—and here Mark Twain, literary lion and family man, enjoyed 17 of his happiest and most productive years.

Susy, a family favorite, began a biography of her famous father when she was 13. Her descriptions of him, in loving but often misspelled detail, include: "He has a very good figure—in short, he is an extraordinarily fine looking man. All his features are perfect, exept that he hasn't extrodinary teeth. His complexion is very fair, and he doesn't ware a beard. He is a very good man and a very funny one. He *has* got a temper, but we all of us have in this family. He is the loveliest man I ever saw or ever hope to see—and oh, so absent-minded. He does tell perfectly delightful stories. Clara and I used to sit on each arm of his chair and listen while he told us stories about the pictures on the wall."

The house cost around $130,000 when it was built in the early 1870's, according to curator Wilson Faude. "There is no telling what it would cost today, even if you could find the craftsmen to build one like it.

"The Clemenses' living expenses here have been estimated as high as $100,000 a year," he added, "because of the great amount of entertaining they did."

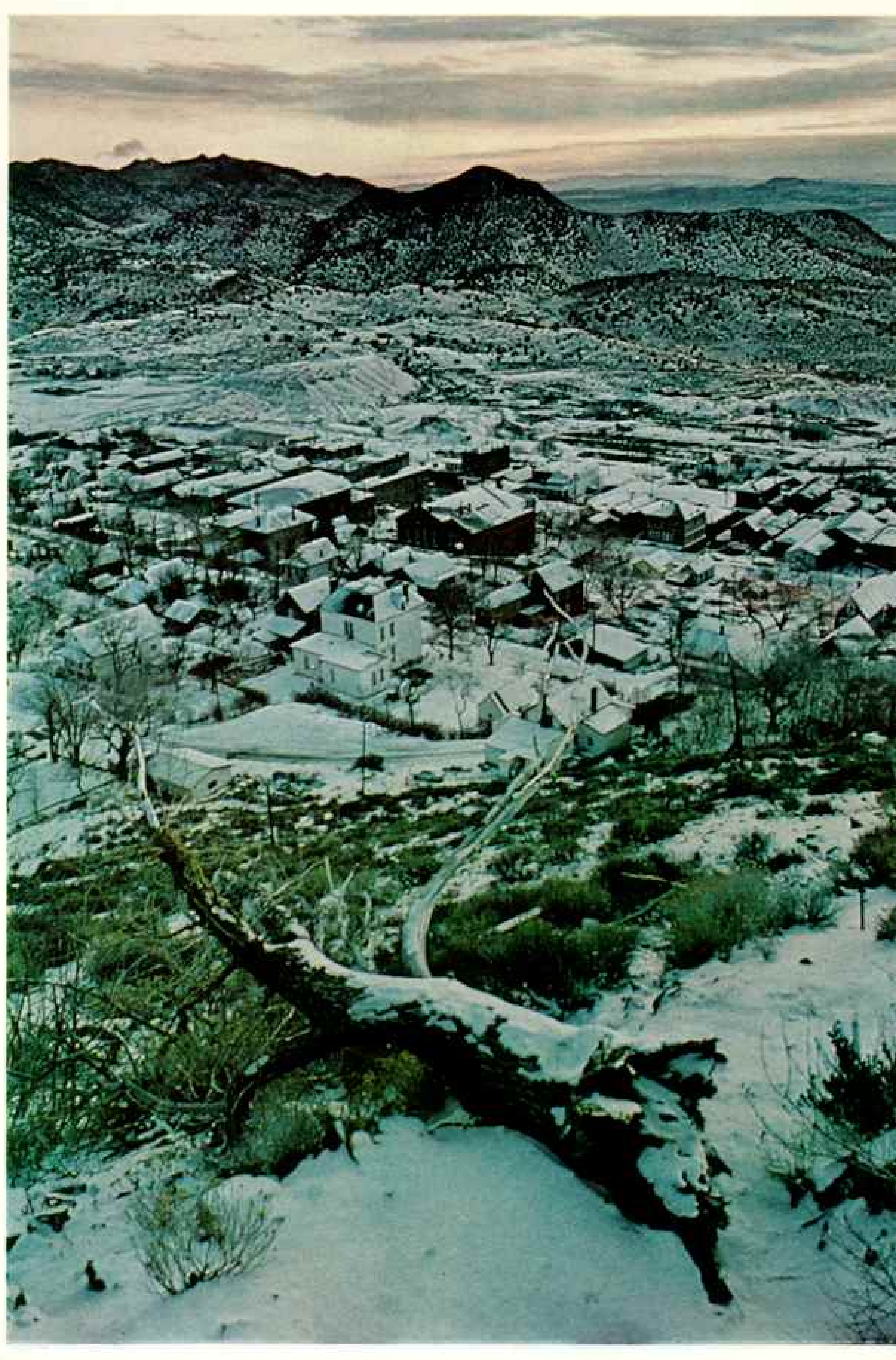
Twain's talent as a writer was undisputed, his popularity proven, but he remained a rough-cut diamond. To many in the literary community of the day, his was the language of river towns and mining camps.

Trafficking in ragtime, a New Orleans jazz band improvises a concert on Royal Street, reserved for pedestrians on weekends. Twain praised the beauty of the French Quarter with its "delicate cobweb" of iron railings. Elsewhere in the city, he complained, ". . . there is no architecture in New Orleans, except in the cemeteries." Architectural comment still abounds here as proliferating skyscrapers and a controversial stadium alter the city profile.

Livy, cast in a Victorian mold, honed the rough edges of his prose, sometimes to what seem today unnecessary extremes. It would appear only natural for Tom Sawyer to say that patent medicines roasted the "guts" of his aunt's cat, Peter, but the critical part of the anatomy appears in the book as "bowels." Huck Finn logically would have complained of being combed "all to hell." At Livy's insistence, he was combed "all to thunder."

No doubt Twain chafed at times under her prudent deletions, but he cheerfully submitted his manuscripts to her. Privately he vented his sense of the bawdy with such ribald spoofs as *1601*, circulated only among close friends.

ALTHOUGH Mark Twain's best books were published while he lived in Hartford, the bulk of the actual writing was done near Elmira, New York, during summer visits to the Langdons' Quarry Farm. "There were too many distractions here in Hartford," Mr. Faude said. "At one time there were three collies, kittens, school friends of the girls, friends dropping by and spending the night."



"Virginia had grown to be the 'livest' town, for its age and population, that America had ever produced." Except for a summer influx of tourists, today's Virginia City, Nevada, bears little resemblance to the rough gold-and-silver mining community Twain knew in the 1860's.

George Antunovich, at 88 the oldest remaining deep miner, and his wife, Stella, remember a town filled with the same youth and vibrancy reflected in the couple's earliest portraits, above them. A failure at mining, Twain took a job as a reporter on the Virginia City *Territorial Enterprise*, where he began building his reputation as a humorist.

Charmed by Twain's literary success, his Elmira in-laws built an octagonal study about a hundred yards from their house, which overlooked the Chemung Valley. During summer visits to Quarry Farm, he walked to the study about 7:30 a.m., skipped lunch, and wrote until early afternoon.

In Elmira lives perhaps the last person who knew Mark Twain at the peak of his creativity. As a child, Mrs. Charles Petrie, 103, often saw him when she visited the Clemens girls at Quarry Farm.

"We were playing tag in the woods one day, when Mr. Clemens stepped out of the study and called to us, 'Come down, children, I want to read a story to you. It's called *The Prince and the Pauper.*' Of course, we sat there in perfect excitement, listening to this wonderful story about the little prince who went outside the castle and everybody treated him so mean. . . ."

Life around the Clemens family was filled with creativity, she recalled, as the floodgates of memory now opened behind the faded eyes. "Susy wanted to play charades one day," she said. "She came out of the closet, covered with a gray shawl, making eating motions. Oh, what was that word she was acting out? Do you know what it was . . . she all covered with gray and pretending like she was eating?"

The thin hands, idly picking at her dress until then, fluttered suddenly like delicate, blue-veined birds to her mouth, which worked and smacked vigorously with mock chewing. "Can you think what it was?"

In the dim light of her comfortable parlor we played a century-old game of charades, last played at Quarry Farm when trolley cars clattered at the foot of the hill and Mark Twain sat a hundred yards away, creating characters that mirrored a nation. . . .

"I remember now," she said, brightening. "The word was 'ingratiate.' Get it, 'in-gray-she-ate'? Oh, those were wonderful summers, just wonderful."

AS EARLY AS 1870 Twain had experimented with a story about the boyhood adventures of a lad he named Billy Rogers. Two years later, he changed the name to Tom, and began shaping his adventures into a stage play. Not until 1874, in the Elmira study, did the story begin developing in earnest. After publication in 1876, *Tom Sawyer* quickly became a classic tale of American boyhood. Tom's mischievous daring, ingenuity, and the sweet innocence of his affection for Becky Thatcher are almost as sure to be studied in American schools today as is the Declaration of Independence.

MARK TWAIN'S own declaration of independence came from another character. Six chapters into *Tom Sawyer,* he drags in "the juvenile pariah of the village, Huckleberry Finn, son of the town drunkard." Fleeing a respectable life with the puritanical Widow Douglas, Huck protests to his friend, Tom Sawyer: "I've tried it, and it don't work; it don't work, Tom. It ain't for me. . . . The widder eats by a bell; she goes to bed by a bell; she gits up by a bell—everything's so awful reg'lar a body can't stand it."

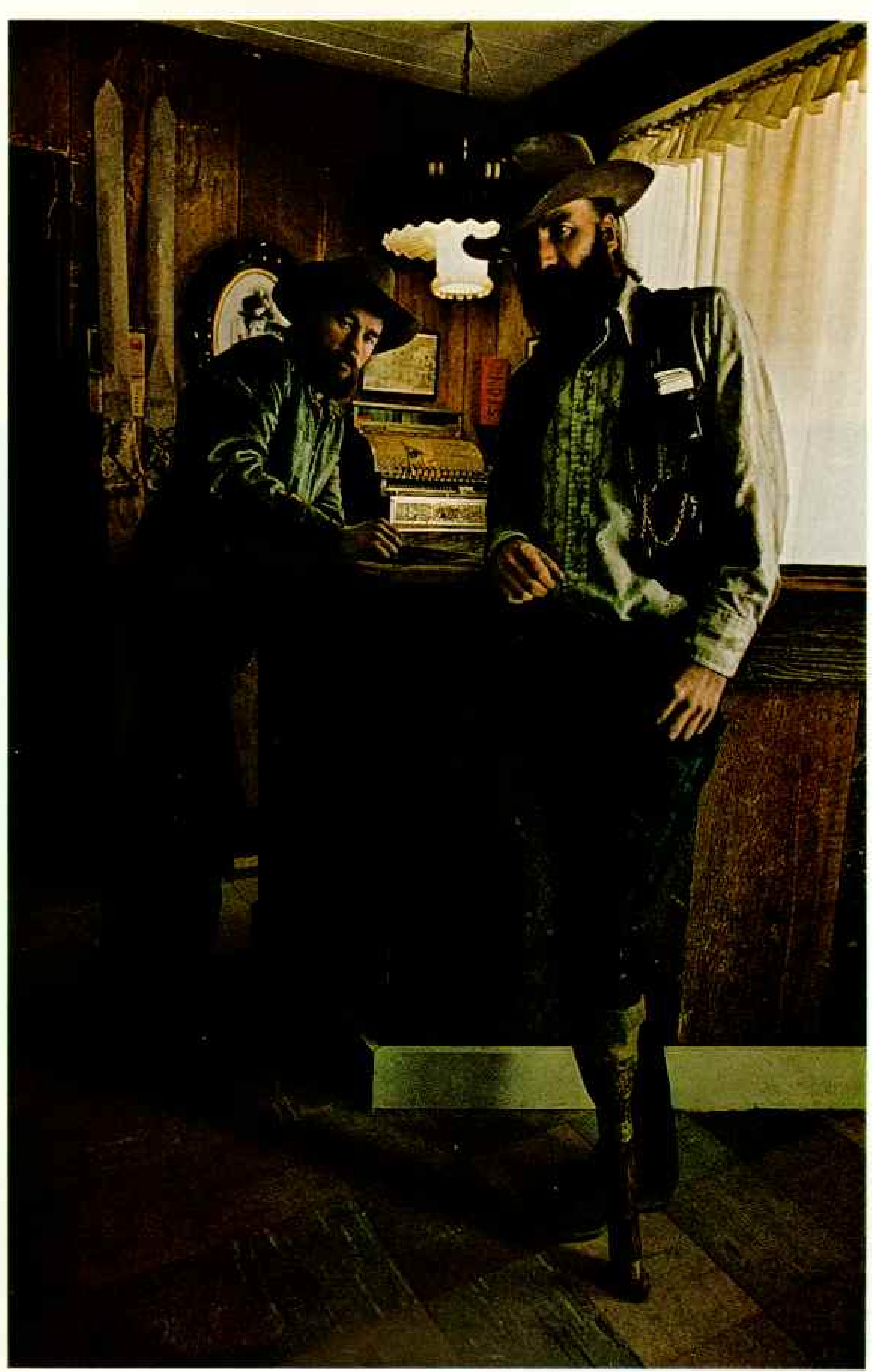
Nine years after *Tom Sawyer* swept the nation, Huck was given a life of his own, in a book often considered the best ever written about Americans. His raft flight down the Mississippi with a runaway slave presents a moving panorama for exploration of American society.

On the river, and especially with Huck Finn, Twain found the ultimate expression of escape from the pace he lived by and often deplored, from life's regularities and the energy-sapping clamor for success.

Americans have ever combined their drives with a yearning for quietude, according to Norman Holmes Pearson, Mark Twain scholar at Yale. "The American population was becoming settled and security conscious when his first books came out," he told me. "The frontier was slipping away, life was becoming more complicated, and there was a yearning for escape in a time of increasing stress. A great deal of that nostalgia exists now, as well."

Mark Twain suggested that an ingredient was missing in the American ambition when he said: "What a robust people, what a nation

As though lifted from the pages of *Roughing It,* citizens meet at a saloon in Silver City, a former boomtown. Despite the excitement of flush times, Twain grew restless in Nevada. In 1864 he boarded the California stage, bidding farewell to an area "which had afforded me the most vigorous enjoyment of life I had ever experienced."



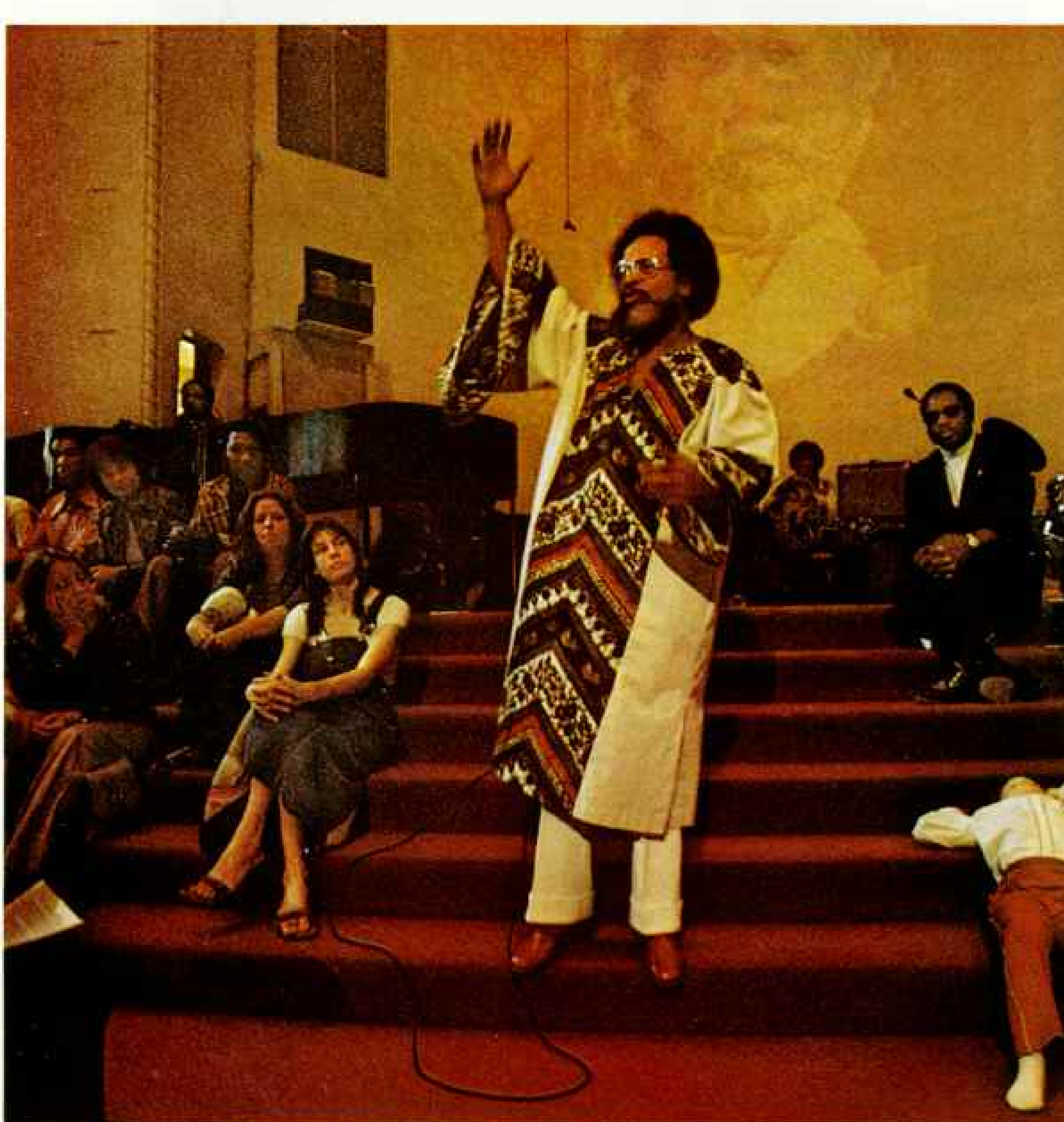
of thinkers we might be, if we would only lay ourselves on the shelf occasionally and renew our edges!"

The art of relaxation and renewal eluded the master storyteller as well. In *Life on the Mississippi* he told of overhearing a conversation between two conniving businessmen, who bragged of changing labels and falsifying contents on their products.

Twain described them scathingly: ". . . the dollar their god, how to get it their religion." The sect was no complete stranger to him. Driven to amass even greater wealth than his books and lectures could bring him, he lost thousands of dollars in wildcat schemes of investment.

Some $190,000 was poured into a complicated typesetting machine under development by inventor James Paige before the project was abandoned. For years Twain backed an abortive corporation that planned to manufacture "plasmon," a wonder food that was to end starvation. The list of his speculations runs above a hundred. Two of them were his own inventions—a self-pasting scrapbook and an adjustable clothes strap.

He scorned another that might have given him the wealth for which he yearned. Discouraged by his investment losses, he turned down Alexander Graham Bell's offer of part interest in a scheme to transmit the human voice via an electric wire. Later he nursed



a singular contempt for the contraption.

The Mark Twain Memorial at Hartford retains the cane with which he once demolished a wall phone in frustration about the "thunder" over the wires that drowned reception. And, resorting to the written word, he included a reference to Dr. Bell's device in a holiday greeting: "It is my heart-warm and world-embracing Christmas hope and aspiration that all of us, the high, the low, the rich, the poor, the admired, the despised, the loved, the hated, the civilized, the savage may eventually be gathered together in a heaven of everlasting rest and peace and bliss, except the inventor of the telephone."

Personal tragedy haunted his entire life, in the deaths of loved ones: his father, dying of pneumonia when Sam was 12; his brother Henry, killed by a steamboat explosion; the death of his son, Langdon, at 19 months. His eldest daughter, Susy, died of spinal meningitis, Mrs. Clemens succumbed to a heart attack in Florence, and youngest daughter, Jean, an epileptic, drowned in an upstairs bathtub.

BITTERNESS fed on the man who had made the world laugh. The moralizing of his earlier writing had been well padded with humor. Now the gloves came off with biting satire. He pretended to praise the U. S. military for the massacre of 600 Philippine Moros in the bowl of a volcanic crater. In

"We print the news and raise hell." Editor Bruce Brugmann's description of the small, iconoclastic *Bay Guardian* (**above**) would doubtless have appealed to young Mark Twain in San Francisco. A social critic as well as a humorist, Twain infuriated city officials with his attacks against municipal corruption.

He criticized conventional religion as well, writing in *Mark Twain's Notebook:* "If Christ were here now, there is one thing he would *not* be—a Christian." Twain felt that the church of his time had lost touch with everyday life, a sentiment shared today by the Reverend A. Cecil Williams of San Francisco's Glide Memorial United Methodist Church (**left**). "That's why our church is involved in such issues as drug abuse, youth counseling, and urban problems," says the unconventional minister, whose informal Sunday "celebrations" include rock music and light shows.

The Mysterious Stranger, he insisted that man drop his religious illusions and depend upon himself, not Providence, to make a better world. His philosophical treatise *What Is Man?* was deemed so irreverent that his daughter Jean refused to type it.

The last of his own illusions seemed to have crumbled near the end. Dictating his autobiography late in life, he commented with a crushing sense of despair on men's final release from earthly struggles: ". . . they vanish from a world where they were of no consequence; where they achieved nothing; where they were a mistake and a failure and a foolishness; where they have left no sign that they had existed—a world which will lament them a day and forget them forever."

AS HE HAD MISCALCULATED on his finances, he erred on his own fame. Sixty-five years after his death, his name and major books remain an important link in the American experience.

Even his mannerisms and platform personality remain alive, in Hal Holbrook's *Mark Twain Tonight!* The actor has portrayed the author every year since 1954. He has probably appeared more times as Mark Twain lecturing than Mark Twain himself lectured—perhaps the most complete immersion into one man's psyche by another in history. "For a while I tried to give it up," said the actor in his New York City apartment, "but I guess the character's gotten into me now.

"Mark Twain exemplified the American character as well as anybody has. He was imperfect as a human being, but imperfect in the ways that Americans are. He was shot through with an appetite for the materialistic, for making a fortune—he saw the irony of it.

"Young people are less concerned with money now. They see what's happening in the world, and they want to get back to the basics of survival."

Perhaps it was the lure of the basic theme of Mark Twain's greatest book, *Huckleberry Finn,* that drew my neighbor, Bill Patterson, and me back to the Mississippi. Near St. Louis we built a raft and shoved off from the shore, headed downstream (page 307).

Days we drifted, nights we tied up to willows and built campfires from the flotsam of perhaps a dozen states. The current that challenged us by day seemed to laugh at our exhaustion at night with the chuck-chuck-chuckling of wavelets *(Continued on page 336)*

"Part steamboat, part medieval stronghold, and part cuckoo clock." Thus has the house Mark Twain built in Hartford, Connecticut, been described. Flushed with the successes of *The Innocents Abroad* and *Roughing It,* famed as a lecturer, and married to the former Olivia Langdon of Elmira, New York, he settled in a literary neighborhood that included Harriet Beecher Stowe and editor-writer Charles Dudley Warner.

The Clemenses' three daughters were photographed with their parents (**right**) on the steamboat-deck porch in 1885: from left, Clara, 11; wife Olivia; Jean, 5; Twain; and Susy, 13. Katy Leary, family maid for more than 30 years, remembered: "I have never known a happier household."

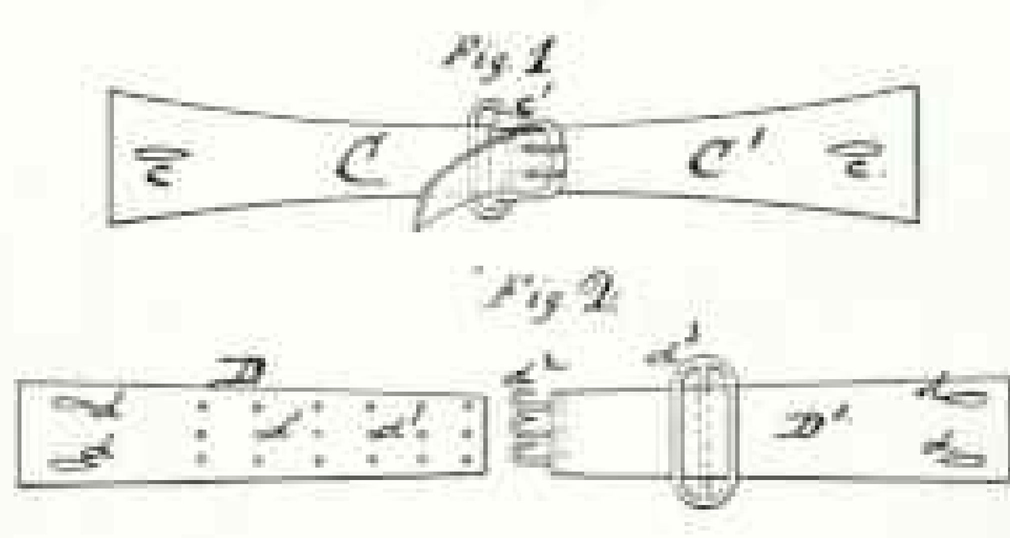
Today the mansion is open to the public, privately maintained as the Mark Twain Memorial.

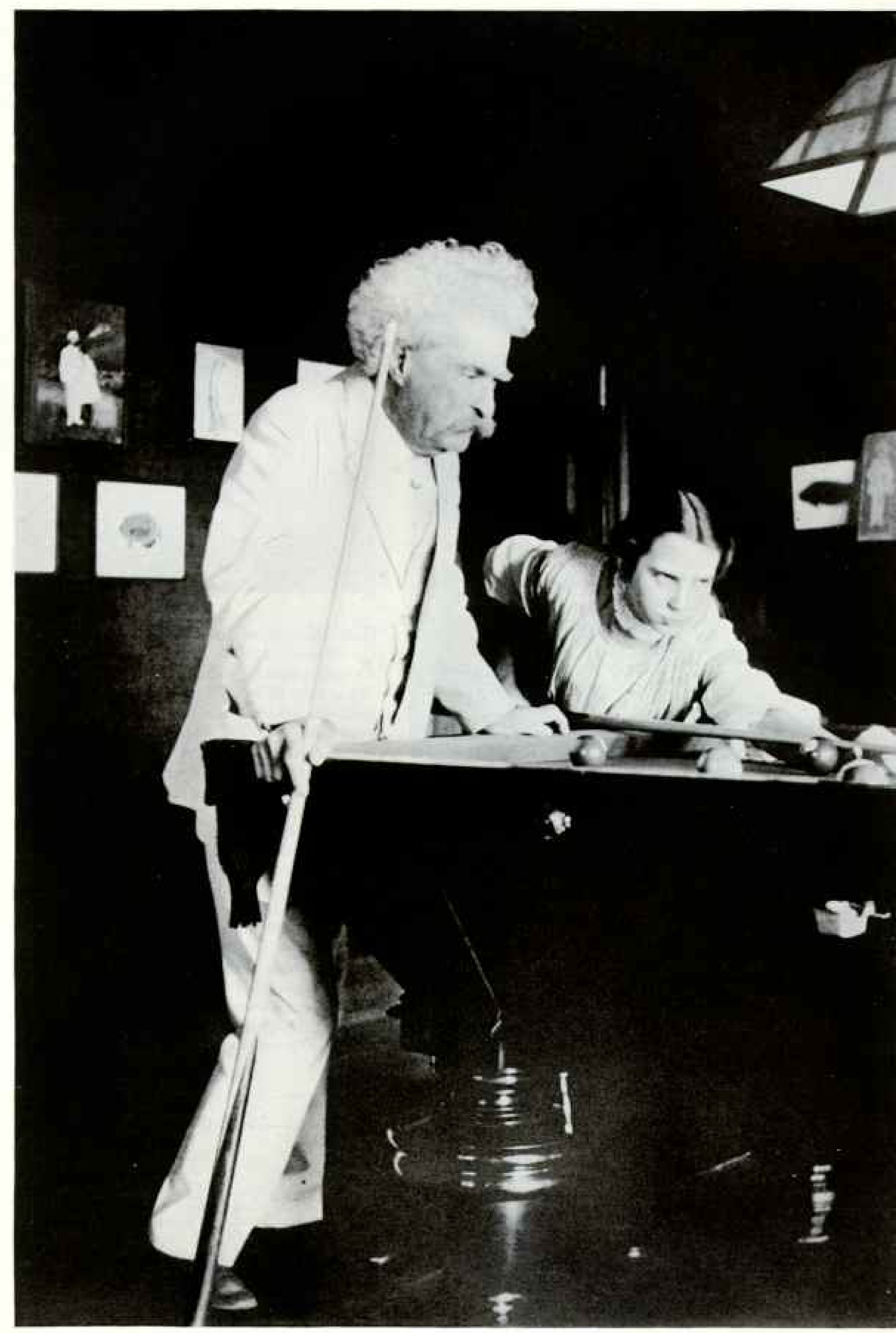
COURTESY MARK TWAIN MEMORIAL

COURTESY MARK TWAIN MEMORIAL

"**How ugly, tasteless, repulsive,** are all the domestic interiors I have ever seen in Europe compared with the perfect taste of this ground floor. . . ." Twain's letter to his wife, who was in Paris, expresses the deep contentment he felt within the Hartford house. A bust of the author looks over the foyer of the 19-room structure, restored with painstaking accuracy.

Twain's most memorable books were produced during the 17 satisfying years here, although much of the writing was done during summer-long visits with his in-laws at Elmira. After a youth of poverty, he yielded to extravagant tastes. In Boston to lecture, he wore an ostentatious sealskin coat that won him enormous publicity (**above**). His thirst for wealth cost him thousands in wildcat investment schemes. His own hopeful inventions included an adjustable strap to keep one's clothes in place (**below**).





"...I have been an author for 20 years and an ass for 55."

AN AMUSING COMMENT, but one that reflected the growing self-reproach of Twain's later years. Burdened by cynicism, he often retreated with friends for hours at billiards, a longtime source of recreation.

"... when he is tired and wishes to rest himself he stays up all night and plays ..." wrote Susy in a schoolgirl biography of her famous father. Between games, Twain's output was more than 40 books. At his last home, a house called Stormfield at Redding, Connecticut, the now-familiar white-maned and white-suited figure (**left**) joins Louise Paine, daughter of his biographer Albert Bigelow Paine.

The work of his final years was laced with bitterness, fed by the deaths of Susy and Livy. Still, composition continued by the man who once revealed, "... the writing of books ... was always play, not work. I enjoyed it; it was merely billiards to me."

Among his better shots:

The Celebrated Jumping Frog of Calaveras County (1867).

A stomach full of lead held down Jim Smiley's prize leaper, but Mark Twain's retelling of the old mining-camp tale catapulted the young journalist into the national spotlight.

The Innocents Abroad (1869).

Accompanying a group of his countrymen through Europe and the Holy Land, Twain takes satirical potshots at the mores and mannerisms of both the New World and the Old.

Roughing It (1872).

Facts take a backseat to humor in the chronicle of Twain's western adventures, but a telling portrait of life in frontier "flush times" emerges.

The Gilded Age (1873-74).

Speculations of the visionary Colonel Sellers cost his friend "Squire" Hawkins several fortunes as Twain and coauthor Charles Dudley Warner examine the opportunism and exploitation of the post-Civil War era.

The Adventures of Tom Sawyer (1876).

One summer's experiences for a lad in a drowsy river town have evolved into the American idyll of adventurous boyhood.

The Prince and the Pauper (1882).

Prince Edward exchanges clothes and life-style with urchin Tom Canty, and the fictional device reveals the social ills of Tudor England.

Life on the Mississippi (1883).

The author's reminiscences provide an authentic and colorful account of the steamboat era and the science of piloting.

Adventures of Huckleberry Finn (1885).

A runaway boy and an escaped slave meet a roster of American characters and social codes in their raft flight down the Mississippi.

A Connecticut Yankee in King Arthur's Court (1889).

An enterprising Yankee mechanic, knocked unconscious in a fight, awakens in Camelot and tries to improve the lot of the peasantry.

The Tragedy of Pudd'nhead Wilson (1894).

The cradle switch of two babies—one black and one white—sets the stage for a comment about racial and class prejudice.

Extracts from Adam's Diary (1904).

A brief but entertaining fantasy of first man's befuddling encounter with first woman.

The Mysterious Stranger (Released posthumously, 1916).

Satan's nephew appears and amazes an Austrian villager with his views of the universe and man's place in it.

Europe and Elsewhere (Posthumously, 1923),* which includes *The War Prayer.

A stranger comes upon a populace girding for conflict. His satirical supplications to the Almighty for aid in wreaking destruction bespeak Twain's revulsion against war.

Letters from the Earth (Posthumously, 1962).

Satan visits this planet and his correspondence with an angel comments on inconsistencies in the Christian religion.

COURTESY MARK TWAIN PAPERS

beneath the sodden deck boards of the raft.

It was not an easy voyage. Unseen currents tried to push us aground, or hold us away from the shore. A harmless-looking snag ripped up our deck boards as though they were cardboard. A front oar broke, and with crippled steering we drifted into the upswept prow of an anchored barge and were nearly sucked under.

We stopped often, always to friendly receptions, for we were riverfolk now. Bottomland farmers shut off their tractors, cocked a foot on the fender, and chatted about floods that wiped out a season's planting, but enriched the soil for the next year. "Trouble is, we've had floods two years in a row now," said Charles Winheim at an old landing that showed as "Cliff Cave" on the charts.

We entered Kimmswick, population about 250, by the back door after tying up near the boat dock and walking a mile on the railroad track to the Missouri village. Here was the St. Petersburg of Twain's books, even more so than today's Hannibal. Picket fences surrounded several frame houses, and youngsters played hopscotch, nearly uninterrupted, in the streets. Dogs watched us, but didn't bark. There are few enemies here.

"GREEN'S TAVERN" the sign said in front of a bungalow, and Ma Green herself heaved out of a rocker to relieve the monotony of our lukewarm canteen water. She sank back into the chair afterward and began an apology for her slowness that turned autobiographical.

"I'm 74, and my knee has been bothering me. I used to dance up a storm and I could drink a full glass of straight whiskey on a Saturday night. But now my knee feels like water and since my husband died, even a little whiskey makes me nauseous. Seems as though if you don't have enough sense to behave, the Lord takes care of you Himself."

Most of the town's work force commutes every day to St. Louis, whose city limits begin about twenty miles away. Why, then, live in Kimmswick? Her eyebrows shot up in surprise. "Did you ever live in a city?"

Volumes were said in the silence that followed. We left Kimmswick pleased at finding a modern St. Petersburg, but strangely troubled by another thought. America is no longer made up of Kimmswicks, yet the small-town idyll seems to endure. Is there room for a Huck Finn freedom in today's fast-paced urban stream? Are we losing sight of that need Twain recognized, "to relax and renew"?

MY MIND FLASHED BACK to the previous day, when our raft drifted below Herculaneum, Missouri. As we came directly opposite the town, youngsters began detaching themselves from the houses and lawns high above until they stood, tiny dots against the high bluffs, to watch our passage. A shout drifted down:

"WHERE DID YOU STA-A-R-R-RT?"

"ST. LO-O-O-U-IS!"

Silence drifted with us for several seconds, and then . . .

"HOW FAR ARE YOU GO-O-I-I-NG?"

We were moving farther apart with each shout. Long explanations about jobs, of deadlines, domestic duties, and the hundreds of responsibilities that nag at modern man would soon be impossible. I simplified my answer:

"UNTIL WE GET TIRED OF I-I-I-IT!"

No response floated back and I wondered if they had understood. I cupped my hands once again, when suddenly a strange sound, so unexpected it startled us, came rattling down the bluff and across the water. It was the sound of small hands clapping.

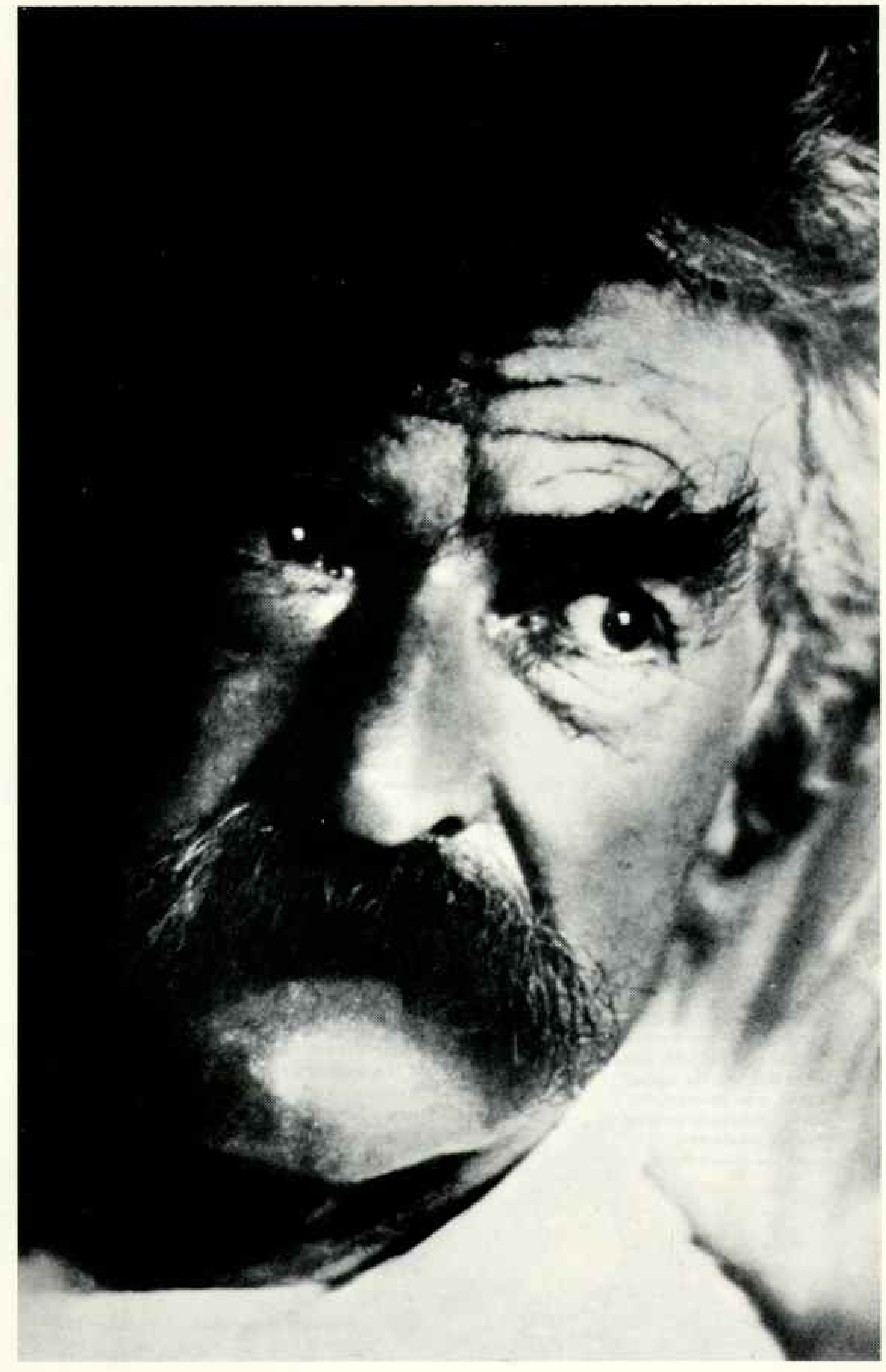
I had fooled them, innocently enough. From my answer, they had no way of knowing that, like the Widow Douglas, we also lived by the bell. They too will hear its toll, summoning them to the frenetic activity that marks a modern world, to a pace that Mark Twain recognized, and defined.

But perhaps, if they see the dangers at this tender age, they will learn to relax and renew as well, to ignore the bell occasionally when, as Huck put it, "everything's so awful reg'lar a body can't stand it."

I am sorry for the little fraud I shouted to them. I hope there was none in their reply. □

"The Lincoln of our literature," friend and editor William Dean Howells called Twain, here photographed in bed where he dictated some of his most bitter and incisive works in later years. But not even painful heart disease could stem the flow of humor when he told a friend, "I am losing enough sleep to supply a worn-out army." On April 21, 1910, he slept at last.

ORIGINAL FROM MARK TWAIN MEMORIAL, REPRODUCTION COURTESY THOMAS Y. CROWELL CO. FROM "MARK TWAIN HIMSELF" BY M. MELTZER



The Strangest Sea

By EUGENIE CLARK, Ph.D.

Photographs by
DAVID DOUBILET

Explosion of life, a school of sweepers, transparent tropical fish, curtain the entrance to a Red Sea cave.

More than any other major body of water, the Red Sea is a world apart—geographically and ecologically. Fed only by a narrow strait at the southern end and by the Suez Canal, its waters—among earth's warmest and saltiest—wash vast plunging reefs that lace almost the entire shoreline. This unique environment harbors a fantastic array of life forms, many of them found nowhere else. On this, her 20th expedition to the Red Sea, the author teamed with photographer David Doubilet to describe its dazzling inhabitants.

SWEEPERS, PARAPRIACANTHUS

THE RED SEA is perhaps the most extraordinary large body of water on earth. It has a higher salinity than any ocean. No rivers run into it. Scorched by tropical sun and seared by desert drought—annual rainfall averages less than an inch—it loses each year through evaporation the equivalent of about six feet of water. To replace this huge deficit, water flows in chiefly from the Indian Ocean through shallow Bab al Mandab, the strait at the southern end.

Most ocean depths are cold, but the cigar-shaped Red Sea holds warm abyssal water, especially in certain volcanic depths where temperatures reach 138° Fahrenheit. These hot spots hoard potential fortunes of immeasurable worth: in places 5,000 times more iron, 25,000 times more manganese, and 30,000 times more lead than normal seawater. And the value of the gold, silver, copper, and zinc in the upper 30—of a possible 300—feet of sediments alone has been estimated at more than two billion dollars.

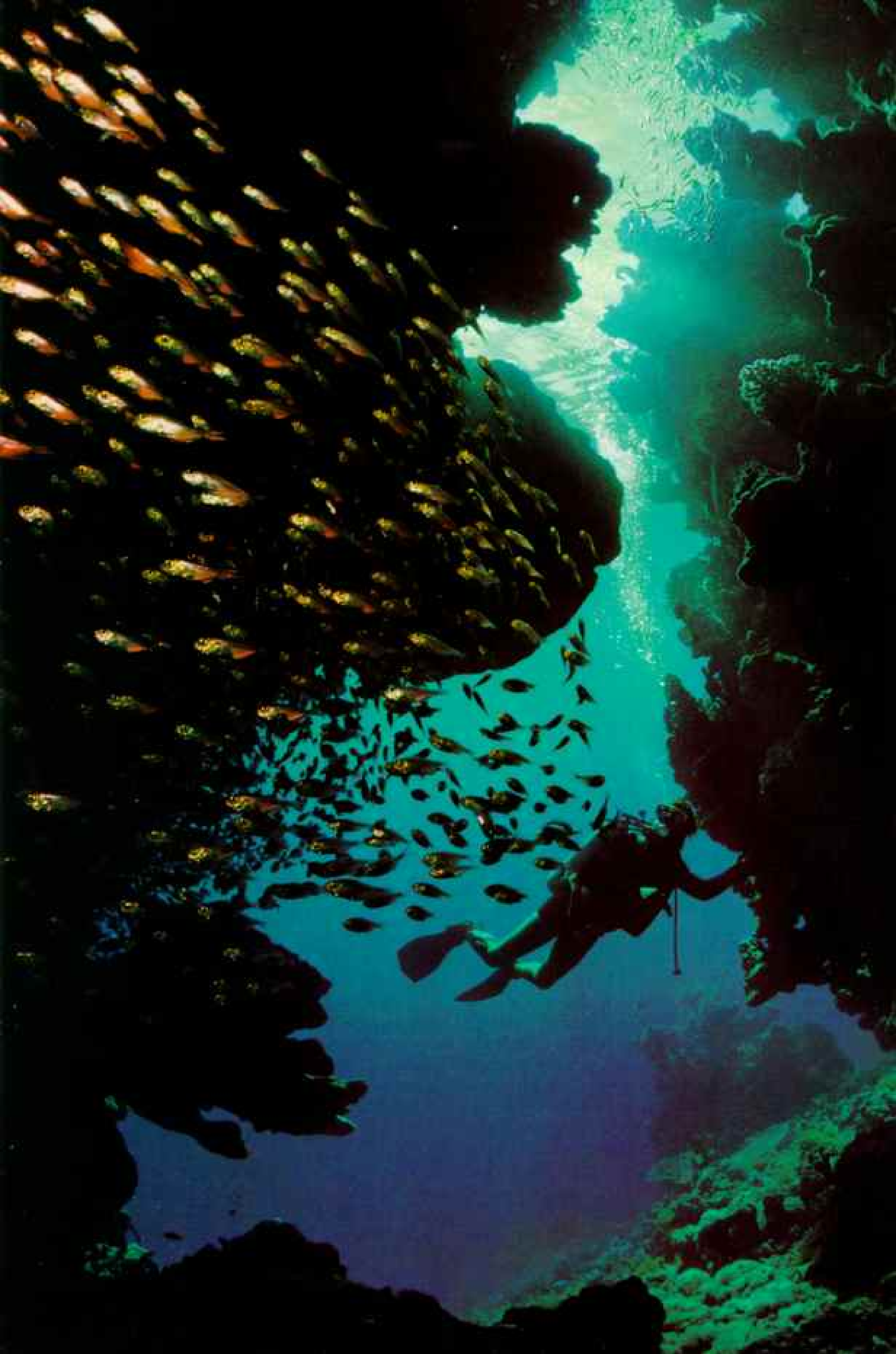
Weeks can go by with hardly a puff of wind over the sea. The waveless surface catches fire at sunrise and sunset, reflecting rosy heavens and the glowing pink hills that border this sea. I like to think this is why sailors down the centuries have called it "Red," perhaps even as early as 3,500 years ago, when Egypt's Queen Hatshepsut sent out her famous expedition to its shores. On the walls of her temple she had artists carve the first known representations of Red Sea marine life.

Yet despite the aridity and harsh sterility of the sea's surroundings, its coral-encrusted margins, from the surface to a depth of some two hundred feet, concentrate an array of living things unique on this planet.*

For a diver, the Red Sea is a world of incredible beauty and complexity—and of paradoxes not a few—a vibrant underwater realm where living space for the sea's plants and creatures stands mostly on edge. A precipitous trench as much as a mile and a half deep slashes the sea's middle along its entire length, at the northern end plunging from shoreline shallows to thousands of feet down in less than a hundred surface yards.

I have been privileged to help lead the way for a growing procession of marine biologists from around the world who come to discover

*The author described two of the more unusual creatures she encountered on earlier expeditions in "The Red Sea's Sharkproof Fish," NATIONAL GEOGRAPHIC, November 1974 and "The Red Sea's Gardens of Eels," November 1972.



and study the Red Sea's rich and varied underwater life. Here one still finds species new to science. The base for most investigators studying the Red Sea has been Hebrew University's Heinz Steinitz Marine Biology Laboratory at Elat, Israel. And there is promise now of another major marine research center to be established nearby in Jordan.

Enhancing my delight in recent journeys has been association with the brilliant young picturemaker David Doubilet, an underwater photographer of rare courage, sensitivity, and patience. David's talents are demonstrated in the accompanying photographs, taken during dives we made at or near Ras Muhammad (Head of Mohammed), the tip of a wedge of land that splits the northern Red Sea into the Gulfs of Suez and Aqaba.

This rocky promontory at the southernmost end of the war-torn Sinai is a parched and empty place, and signs warn of vastly different dangers there—minefields and sharks. Yet if I could dive in only one spot in the world, I would choose Ras Muhammad.

Corals Grow on Clifflike Slopes

Here barren desert drops into blue tropical waters harboring incredibly beautiful coral reefs and the richest marine life I have found in 25 years of diving along the length of the

Gnarled hand of barren rock, Ras Muhammad (**left**) reaches into the Red Sea at the southernmost tip of the Sinai peninsula, which was seized by Israel during the six-day war of 1967. Ras Muhammad's coral gardens were later set aside as a nature preserve. The California-size Red Sea forms part of the Great Rift Valley system, where Asia and Africa continue to drift apart. Veering northeastward, the rift forms the deep and narrow Gulf of Aqaba. To the northwest forks the shallow Gulf of Suez, leading to the recently reopened Suez Canal.

Red Sea. Near the shore, above the steeply plunging continental slope, a narrow underwater plateau provides a fantastic "garden-aquarium" teeming with marine life.

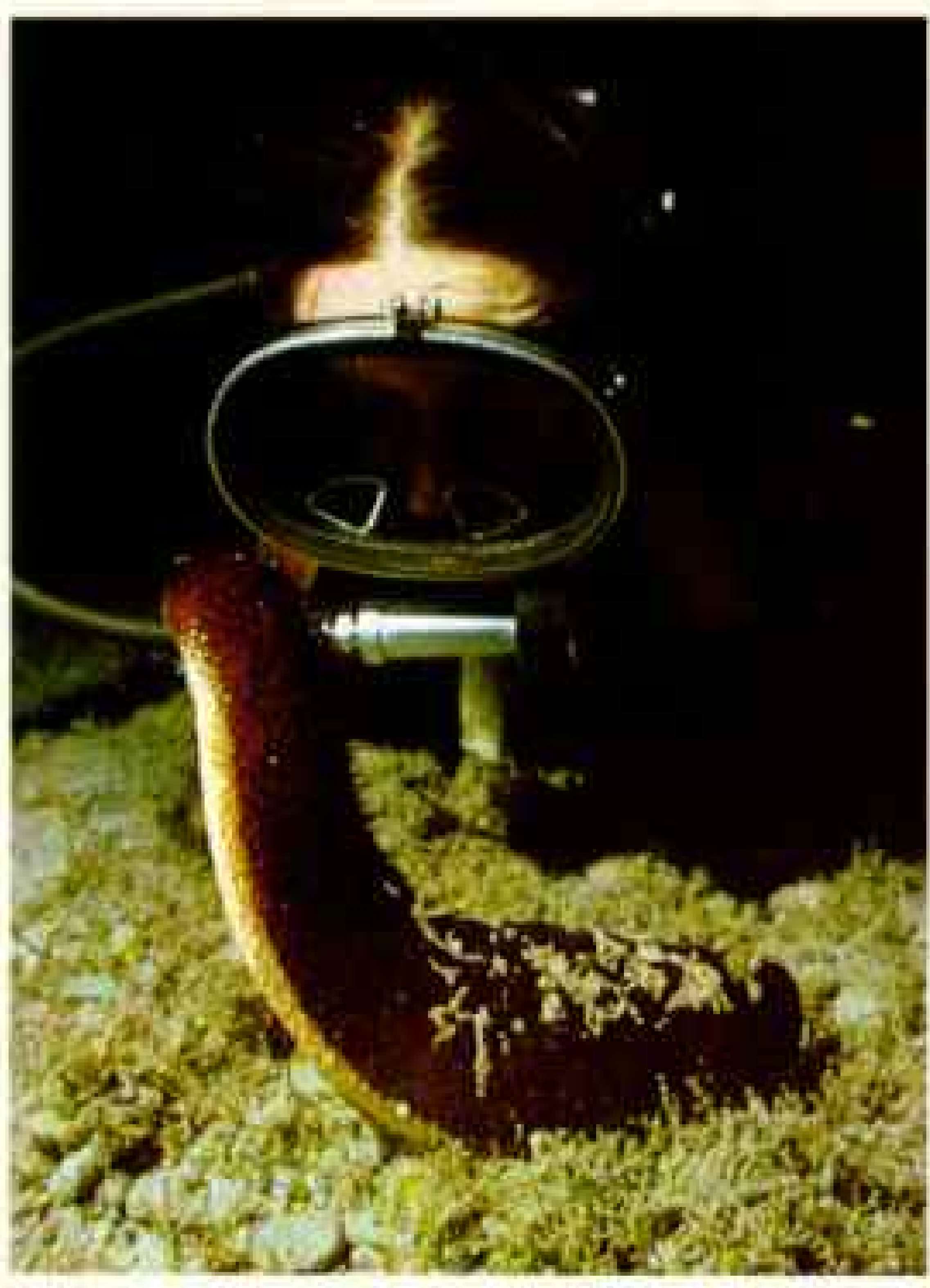
Here, as in certain other Red Sea areas, the profusion of different corals exceeds that of any known comparable area—even the Great Barrier Reef of Australia. Corals and their relatives the sea anemones constitute much of the bottom cover that furnishes niches for a panoply of marine creatures.

The Suez Canal has allowed migration of some Red Sea forms into the eastern Mediterranean, but few Mediterranean species have invaded the Red Sea.

The Indian Ocean, through the sea's southern bottleneck at Bab al Mandab, has been the primordial source for most living things in its oceanic offshoot. Thus the Red Sea is a kind of special-environment incubator for the evolution of immigrant Indian Ocean species. Some scientists believe the number of fish species unique to the Red Sea runs as high as 15 percent of the total found there. For most, the pedigree can be traced back to a cousin in the Indian Ocean.

Let me invite you now into the strange and wondrous "oceanarium" off Ras Muhammad, as we descend into its depths with professional diving guide Howard Rosenstein.

OPHEODESOMA (ABOVE) AND HOLOTHURIA MARMORATA



The fringing coral reefs form but a narrow shelf. Beyond it, we swim through a curtain of marine "goldfish," *Anthias squamipinnis*, and catch the current that carries us toward the outer plateau. Propelled through a forest of sea fans, we glide like soaring birds, using our fins only to steer ourselves.

We sink deeper, where the current is gentler, and the water darkens to midnight blue. At 90 feet Howard and I grab a coral ledge. We huddle, as if in ambush, into wall crevices in the lee of sea fans. What looks like broccoli grows in huge clumps on the lumpy hard-coral substrate. This is alcyonaria, a ubiquitous soft coral.

Sea Provides the Horsepower

David, loaded with cameras, catches up from behind. He grins, abruptly rights himself, and throws a salute. Erect and motionless as a soldier at attention, he slips past as if standing on a merry-go-round, carried by the invisible current.

On the outer face of the Sinai's ultimate coral wall, the expelled air from our scuba tanks dribbles up the near-vertical slope like Alka-Seltzer bubbles. David's photoflash momentarily turns white sea fans pink, and the "broccoli" becomes red.

A blue angelfish with a mustard-yellow band flits back and forth above our heads, letting our air bubbles massage its belly. If I hold my breath long enough, the fish comes and looks directly into my face mask as if to ask, "Well, how about it?"

Surgeonfish in a giant school pass like a moving tapestry. A blizzard of silver jacks swims above a cluster of black-masked puffer fish that scurry past like bandits running from the scene of a larceny.

Sharks materialize from the blue and swim through orange-golden clouds of anthiases; then, fading away from the reef, they ride the current like giant condors (pages 352-3).

Two days earlier we had seen 15 sharks of

Cucumber courtship: An August night finds normally lethargic sea cucumbers (**above**) twisting and writhing in a graceful mating ballet. The author (**left**) watches another of the animals, which surmounts the distance from his mate by wafting sperm along on the current. Eaten in China as an aphrodisiac, these starfish kin feed on nutrients in the sand.

this genus, *Carcharhinus*, in a courtship frenzy. They were milling around in a loose group. Then a female broke away from the throng and swam upward with a male following and biting her repeatedly, tearing the edges of her fins, slashing the sides of her body, leaving a crescent of tooth marks on her flanks. It looked like vicious, aggressive behavior, but we knew well what size chunks he *might* have torn from her, and so could only conclude that these were "love bites." We were the first to record the courtship biting by these sharks anywhere in the open sea.

The day wanes, measured by the endless parade of fishes. Howard signals David and me to ascend to decompress. On our way we enter a beautiful cave where hundreds of transparent sweepers scintillate around us like scattered coins (page 339).

Blinking Fish Set Reef Ablaze

We emerge at the sand cove where our jeep is parked just as the evening sun sets behind the mountains.

Then—a final wonder! As we pack our gear and head for our motel at Sharm el Sheikh, hundreds of tiny greenish lights start to twinkle above a reef. They are the eerie "headlights" of *Photoblepharon*, those fantastic fish that flash at you from under-eye pockets equipped with their own lids. The pockets harbor luminescent bacteria that give the fish a glowing jack-o'-lantern look when we encounter them on night dives.

The abundance of marine life in places such as Ras Muhammad, and the overall delights of working in the Red Sea, will always call back photographers like David, professional divers such as Howard Rosenstein, and scientists like myself to take up the challenge of its endless secrets. Pray that permanent peace will eventually come to this area, and that, when curious visitors start to come in numbers, they will find the coast of Sinai still unpolluted and pristine. □

All for one and one for all. White polyps of a gorgonian take in food for the whole colony. Like many corals, they share a common digestive system. Such flexible whips, plumes, and fans have resilient trunklike skeletons that bend with the shifting currents. Found at various levels of the reef, the plankton eaters come in a palette of colors.

ACABARIA ERYTHRAEA, 4 INCHES; ANNE LEVINE DOUBILET

Rainbow World Beneath the Red Sea

A PORTFOLIO BY

DAVID DOUBILET

FOR THOUSANDS OF YEARS the world beneath the waves has cast a special spell. Ancient legend tells of Alexander the Great descending into the sea in a glass cage and meeting a monster so large that it took three days for it to swim past him. No such giants prowl the Red Sea in real life, yet such curious and colorful creatures as the tiny plaid-clad hawkfish (**right**) continue to draw scientists to its reefs, which shelter one of earth's greatest concentrations of marine life.

The Red Sea has long served man with its bounty and intrigued him with its secrets. Historians study its role in the development of early civilizations. Geologists know it as an area of mysterious abyssal hot spots, whose sediments may hold billions of dollars' worth of precious metals. But for many the Red Sea's greatest treasures are those that live out their lives much nearer the surface of the crystalline water.

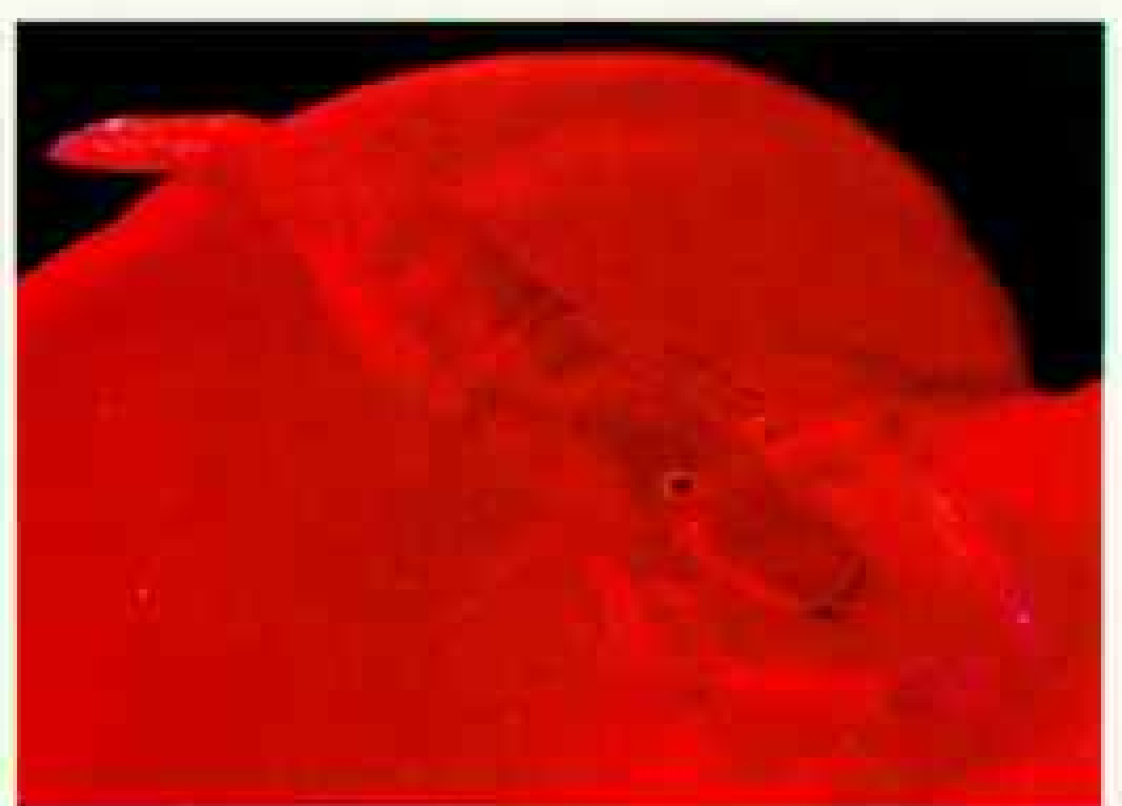
HAWKFISH, OXYCIRRHITES TYPUS, 3 INCHES; CORALS, ACABARIA ERYTHRAEA AND DENDRONEPHTHYA

DEADLY SHELTER, the stinging tentacles of sea anemones—usually lethal to smaller creatures—offer safe lodging for spotted damselfish and boldly striped clownfish. Somehow these fishes can either mask their identity as prey or actually inhibit their hosts from stinging. The little swimmers acclimate themselves to their living home by rubbing progressively larger areas of themselves against an anemone. What service do the fishes perform in return for the protection? Some scientists believe that they keep their host's habitat clean, and that they fetch crustaceans and other morsels for the anemone, snatching scraps from the kill for themselves.

In this rare photograph (**below**), a free-floating young anemone finds temporary refuge amid the spiny arms of a sea urchin.

CLOWNFISH, AMPHIPRION BICINCTUS, 3 INCHES; DAMSELFISH, DASCYLLUS TRIMACULATUS, 1 1/2 INCHES; ANEMONES, RADIANTHUS RITTERI (LEFT) AND BOLOCEROIDES MCMURRICHI (BELOW), 1 INCH; SEA URCHIN, DIADEMA SETOSUM

UNDULATING through a velvet sea, a nudibranch (**above**) breathes with its exposed feathery gills. This Red Sea species' graceful movements inspired its nickname, Badia, after a famed Egyptian belly dancer. The nudibranch, or sea slug, produces countless thousands of eggs arrayed like a scarf of delicate chiffon (**far right**). A tiny shrimp (**right**) gets a red-carpet ride from its crimson steed.



NUDIBRANCH, HEXABRANCHUS SANGUINEUS, 12 INCHES; EGG CLUSTER, 3 INCHES WIDE; SHRIMP, PERICLIMENES IMPERATOR, 1/2 INCH

HUMPBACKED and bandy-legged, an ungainly anglerfish (**right**) waits for dinner amid clumps of pink tube sponges. The fleshy tip of the fish's hair-thin first dorsal spine (**facing page**) seems a tempting snack to the unwary. When its prey draws near, the angler, like a superpowered vacuum sweeper, sucks the victim into its mouth faster than the human eye can see. If its "bait" should be stolen, the fish simply grows it back.

SEEING-EYE FISH: In a dramatic symbiotic relationship, a goby stands watch while a half-blind shrimp cleans out the hole they both call home. Using its antenna as a guideline, the shrimp, which lacks peripheral vision, stays in constant contact with the goby. The fish transmits information by its wiggling motions.

ANGLERFISH, ANTENNARIUS, 7 INCHES; GOBY, CRYPTOCENTRUS SUNGAMI, 2 INCHES; SHRIMP, ALPHEUS, 2 INCHES

MENACING GAZE belies the shy nature of a six-foot female shark (**above**), surrounded by golden anthiases too puny for her gastronomic attention. Marks on her flanks are "love nip" scars from a courtship ritual first observed in her species on this expedition. Common shark of the Red Sea, the species has yet to be firmly identified. Though resembling the aggressive Indo-Pacific gray reef shark, it behaves quite differently, fleeing if confronted by a diver.

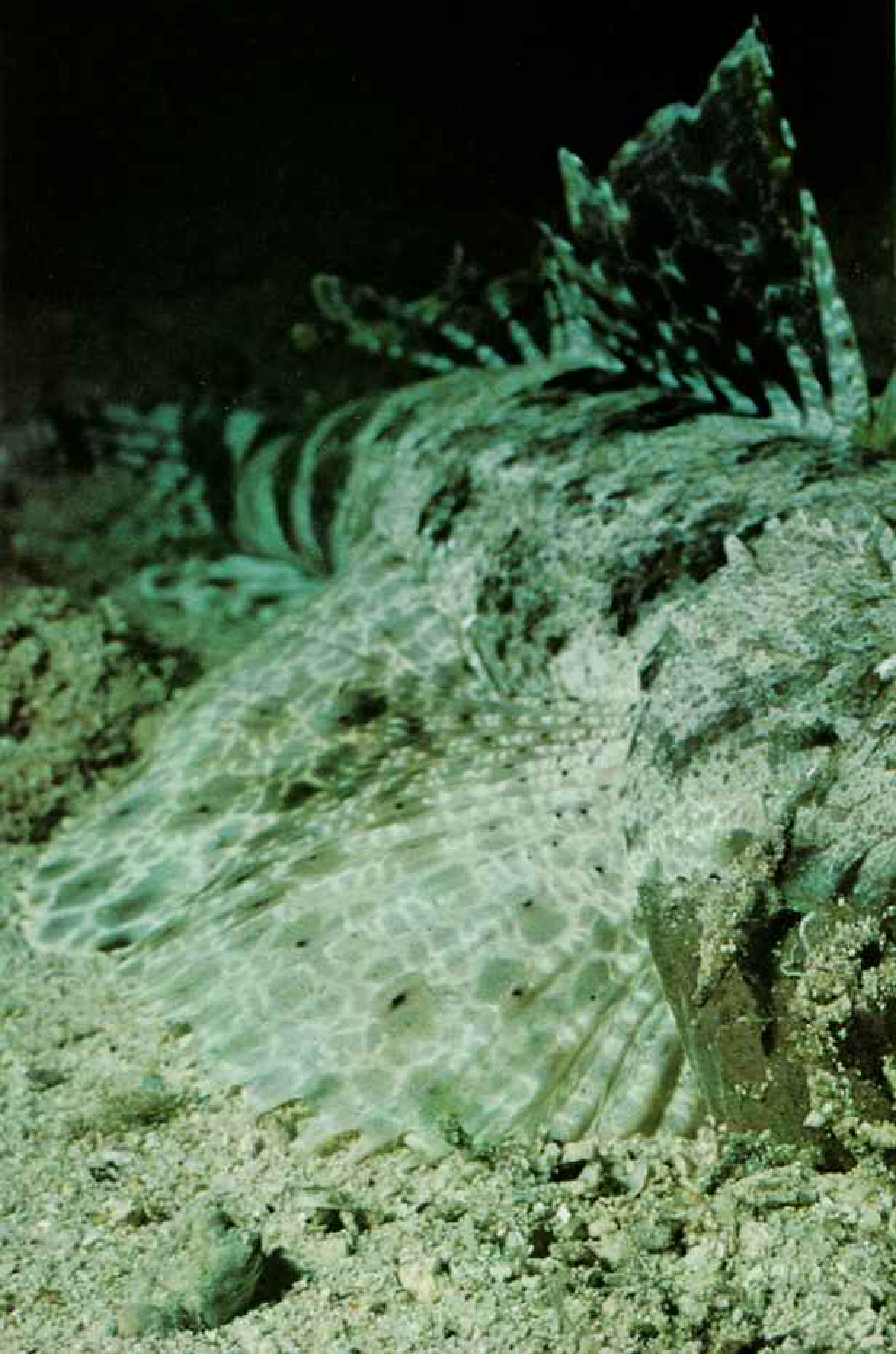
HARBORING DEATH in each of its 13 dorsal spines, a stonefish takes its ease on the seafloor. This most venomous of all finned creatures can send a careless wader into agonized paroxysms, sometimes with fatal results. Highly camouflaged, it goes unnoticed until its small prey strays too close. Then with a lightning snap of its jaws, the stonefish is a lone fish.

SHARK, CARCHARHINUS, 4 FEET; ANTHIAS SQUAMIPINNIS, 3 INCHES. STONEFISH, SYNANCEIA VERRUCOSA, 15 INCHES

WOLF PACK of the reefs, eight dozen long-nose barracudas (**right**) prowl as one. These three-footers are smaller cousins of the great barracuda known nearly worldwide. Both species can be as vicious as sharks, but in clear water usually shun creatures larger than themselves.

UGLY MUG betrays a scorpionfish (**right**) lurking in a crevice. Named for their venom, these fish use stinging fins for defense. A brace of poisonous lionfish (**below**) bristle with flag-bearing spines that warn divers away. Slow swimmers, the lions spread their lacy pectoral fins to herd bite-size victims into dead-end coral alleyways.

SCORPIONFISH, SCORPAENOPSIS, 12 INCHES; LIONFISH, PTEROIS VOLITANS, 15 INCHES; CORAL (BOTTOM), LITOPHYTON ARBOREUM; BARRACUDA, SPHYRAENA JELLO



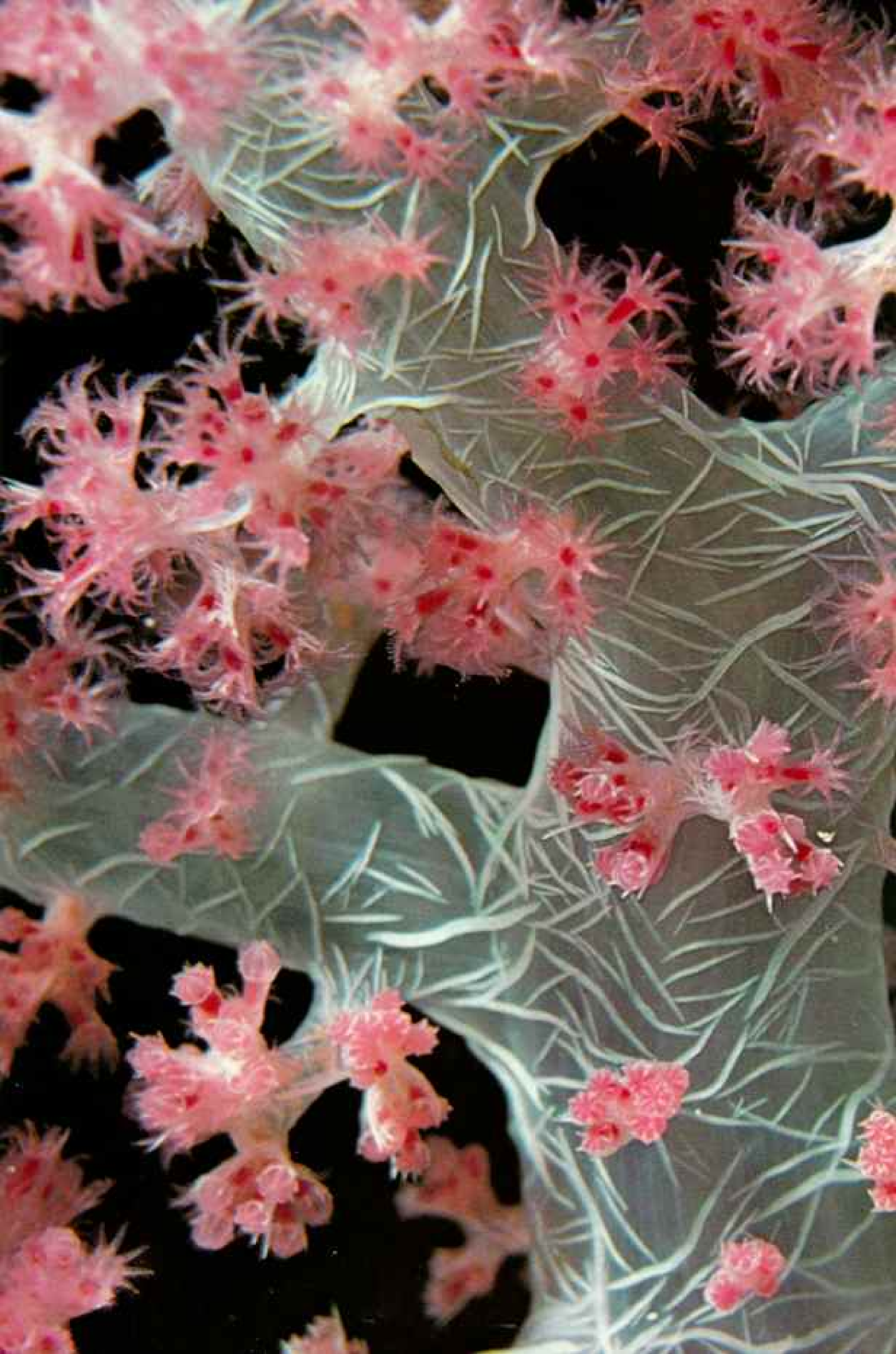
WITH SOFTLY SMILING JAWS, *a crocodile fish lies in wait for food. Its glowing green eyes reflect the camera's flash. The camouflage of this bottom-dwelling flathead fails to protect it from the nets of fishermen, who use it as an ingredient of flavorful fish stews.*

PLATYCEPHALUS, 30 INCHES

THORNY PROBLEM of how to eat a prickly sea urchin leaves a triggerfish unfazed. With a huff and a puff, the deft hunter actually blows the urchin over with a well-aimed jet of water (**above**). Now the urchin's underside, protected only by short spines, is exposed. The tough-skinned triggerfish, eyes set back out of harm's way, has little trouble finishing off its meal (**facing page**). A final flip of its tail, and the toothy marauder departs (**near right**).

The triggerfish derives its name from its folding front dorsal fin. When threatened, the fish will dart into a small hole in the reef and lock its sturdy first dorsal spine in the up position, lodging itself into the coral. Thus anchored, the fish cannot be pulled from its refuge without breaking the spine. To free itself, it must lower a smaller dorsal spine that triggers the release of the first.

PSEUDOBALISTES FUSCUS, [illegible] INCHES; SEA URCHIN, DIADEMA SETOSUM

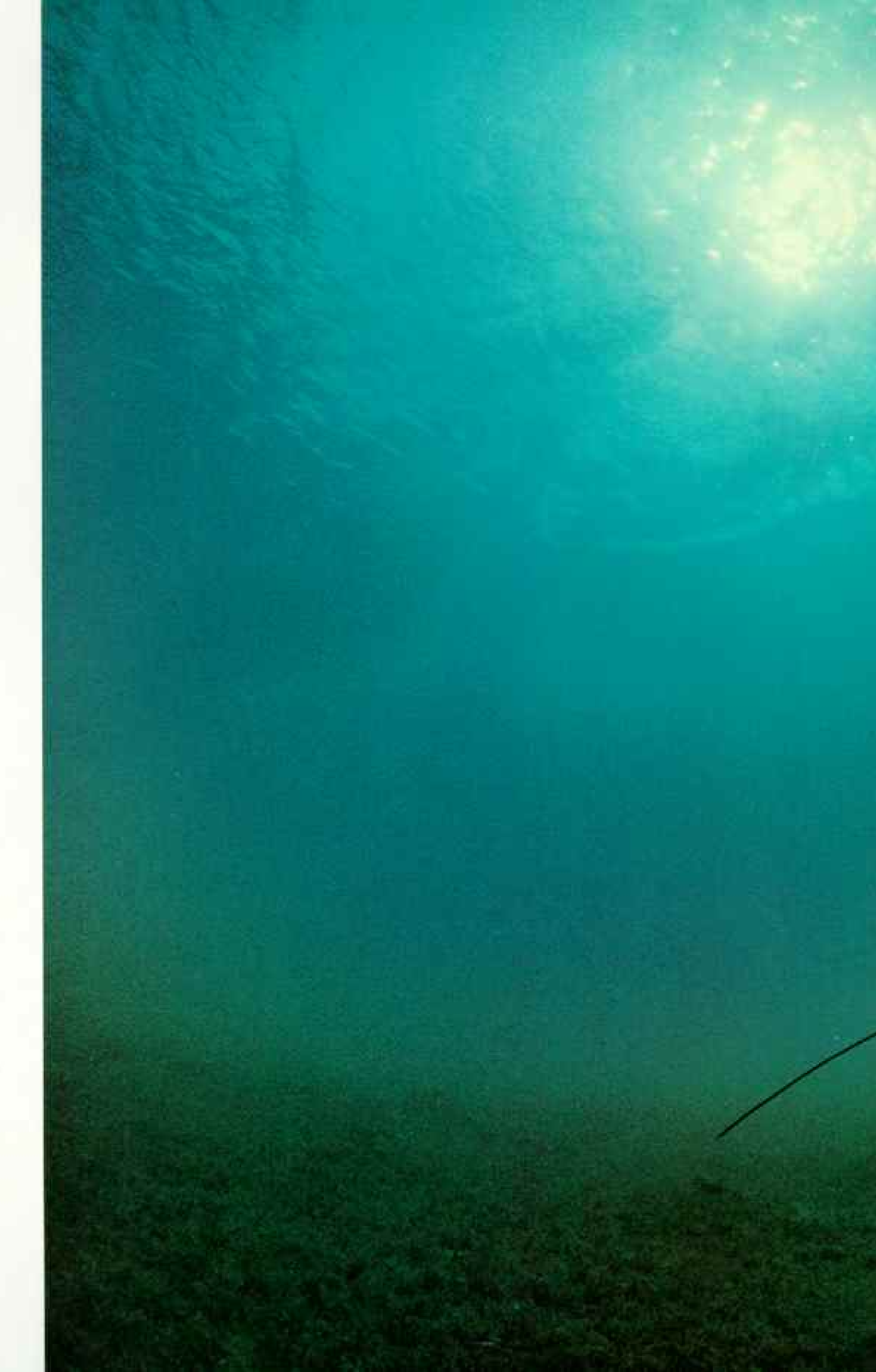


FRAGILE CHERRY BLOSSOMS, *polyps of a soft coral extend to feed, capturing plankton with tiny tentacles. White limestone secretions lie imbedded in transparent branches that give structural support to the coral.*

DENDRONEPHTHYA KLUNZINGERI, 3 BY 4 INCHES. ANNE LEVINE DOUBILET

WHIP CORAL, JUNCELLA JUNCEA, 2 1/2 TO 3 FEET; PSEUDOCHROMIS FRIDMANI, 1 1/2 INCHES; ANTHIAS SQUAMIPINNIS, 3 INCHES; CORAL (FACING PAGE), ELLISELLA

INTRUDER from another world, a diver descends the reef precipice (**above**) beyond a grove of whip coral. Touring this realm, an awed visitor might brush past the improbably purple fridmani (**right**), found nowhere else on earth. He would surely encounter great numbers of small anthiases that feed amid the reefs' gorgonian coral (**facing page**). Many of these common Red Sea fish lead two lives: For a time they exist as orange-and-gold females, but later become red-hued males with spotted fins!



RIDING AN UNDERSEA WIND, *an eagle ray glides through the shallows. The photographer's air bubbles reflect the glow of late-afternoon sun. As another day draws to a close, many creatures seek rest and shelter, but the living reefs never sleep.* □

EAGLE RAY, AETOBATUS NARINARI, 8 FEET ACROSS

Late-summer ice chokes the harbor at Augpilagtoq,

Greenland Feels the

By JOHN J. PUTMAN Photographs by

WE WERE AT A FESTIVE LUNCH following Confirmation Sunday rites at the district center of Umanak when the call came from Flemming Jensen's wife, Christa. Pregnant and not wishing to risk a sledge journey, she had remained home in the village of Ikerasak, three hours away by dogsled. Now Flemming paled as he listened.

A young mother in the village had put the barrel of a hunting rifle in her mouth and killed herself. Many in the village were drunk and the mood was ugly. For the first time in their months in Greenland, Flemming heard Christa say, "I am afraid."

That his wife was in danger was unlikely; it would be uncommon for Greenlanders, even drunk, to injure a Danish woman. And

a fishing village near the southern tip of earth's largest island.

Winds of Change

GEORGE F. MOBLEY BOTH NATIONAL GEOGRAPHIC STAFF

yet, we were soon on the ice behind Flemming's dogs, bound for Ikerasak.

It was a cold, gray April day with a bitter wind. Now and then, to warm ourselves, we jumped off the sledge and ran beside it for a time. The trail was well scored, for in Greenland the highways are the fjords, traversed by sledge in winter, by boat in summer—though for some weeks they are usable by neither.

We passed, and were passed by, other sledges, whose drivers and passengers waved, drank beer, and snacked on raw *mátak,* whale skin. Some *piniartorssuit*—great hunters—passed us swiftly. We first heard the heavy breathing of their team behind us; then the dogs rushed by close, snarling and snapping at our team. There was the crack of a whip, and their dogs pulled on ahead. We watched,

RACING THE DARK MAW *of an approaching storm, a group of Polar Eskimos struggle home empty-handed to Moriussaq. Rising winds and fickle ice thwarted their hunt. These hardy hunters still stalk the walrus and the narwhal, but return to prefab houses, diaper-clad babies, and blaring transistor radios.*

Friends in foul weather or fair, walrus hunters camped near Cape Parry arm-wrestle (**above**) while the wind pummels their tent. At Frederiksdal a villager practices righting his kayak (**left**), a lifesaving skill should he capsize.

Officially a county of Denmark since 1953, Greenland evolves under Danish guidance from a hunting culture to a technological society. For many, the wrench has prompted a frustrating search for identity in a changing world.

until the sledge diminished into a dark speck, then vanished from view.

While Flemming drove, I lay and listened to the wind and the soft pounding of the dogs.

I had come to Greenland to learn of the changes that had taken place since the early 1950's. In those years the Danish parliament, with the approval of the Greenlanders, had made the colony a Danish county and declared its inhabitants Danish citizens.

No longer would Greenlanders live only as hunters, isolated from the outside world and dependent on the Danish Crown. Their society would be transformed into a modern community, with all the attendant benefits, and their economy would be based on money and the development of industry.

Few Real Eskimos Remain

Since then billions of Danish kroner have poured into the island, together with thousands of Danes with special skills, like Flemming and Christa, who are schoolteachers. The beneficiaries of this help, the 41,500 Greenlanders, are a tiny but ancient population scattered in towns and villages along thousands of miles of coast (map, page 375). Their Eskimo forebears had come from Canada, crossing the ice bridge from Ellesmere Island a thousand years ago. In the centuries since their first contact with Europeans, they have absorbed so much white blood that only a few are still called Eskimos—the vast majority, Greenlanders.

Seventy percent of all Greenlanders live in the hundred small villages that remain; in the past 20 years 50 villages have been abandoned for the promise of an easier and more modern life in the larger towns.

We reached Ikerasak about 7 p.m. It is a village of 250 people and 800 dogs; most of the men are hunters. There is a church, a store, the school where Flemming and Christa teach, a fish house where Greenland halibut is salted in barrels, and 30 homes. Now it was quiet; few people were about. Christa told us that the first shock of the tragedy had passed, that the ugly mood had vanished as villagers began to learn the motive: a husband who was often drunk, his beatings, her despair.

Now they were wrestling with the questions left by the death. Who would take in the children? Where was the husband? What about the three-day Confirmation holiday, just beginning, and the many parties planned by proud parents and relatives?

Getting on top of the problem, Flemming Jensen has his pupils in Ikerasak mount their desks (**above**) to teach them the Danish word for "upon." Danes comprise almost three-fourths of the teaching corps on the island, yet few of them speak Greenlandic, a language so difficult that those not born and bred to it seldom attain fluency.

With unusual perseverance, Jensen acquired a working knowledge of the language. Danish officials have now initiated a program to give prospective teachers at least some familiarity with Greenlandic.

Children such as the patch-protected scholar (**left**) must still learn Danish before their education in Western ways can even begin, a linguistic hurdle that only the brightest surmount. Though hundreds of Greenlanders have completed college-level teacher training, few have earned academic degrees from Danish universities. Of those who have enrolled directly from Greenland high schools, none has graduated.

The answers would come slowly, in the Greenland way. Meanwhile, life would go on.

The next afternoon one question was answered. Children came to the door: *"Kavfesoriartoritsigoq*—You are to come for coffee at our house." The parties began. There were candles in cottage windows and on the tables inside, with coffee and cake, small talk, many smiles, cigarettes proffered and accepted. Gifts were left for the newly confirmed youngster: a bar of soap, a box of rifle cartridges, a can of pears, a sweater, some money.

Water Supply Arrives by Sledge

At one home I met Hansinguaq and Aron, the village watermen. Each morning from December to June, they take their sledge out to the nearest iceberg. Making many trips, they haul several tons of ice back to the water house and light a fire under it. As the ice melts, village women come with bright plastic buckets for their daily supply of fresh water.

Johannes Fleischer, 34, manages the Royal Greenland Trade Department store where the villagers sell their sealskins. He also serves as village official and banker, is responsible for the electric generator, and handles the finances of the fish house. Johannes does his jobs well and villagers call him Johansinguaq, or little Johannes, the diminutive expressing respect and affection. But his restless eyes sometimes indicate the tensions he feels.

I also met Louise Jacobsen, for 22 years the village midwife-nurse. Her house sits atop a ridge. Patients come and go. She told me her education consisted of seven years of schooling and four years of hospital training. "We followed the nurses around, but we were really trained as midwives, rather than nurses. We could have learned more, but much of our time was taken with things like cleaning the rooms of those nurses."

Her words express not so much bitterness as a sense of opportunity lost. Although the doctor comes periodically from Umanak, and helicopter evacuation is available, it is Louise who deals first with the injured and sick.

She makes the best of it, and has requested a phone in her house. "Now, when an injured person is brought in and I don't know what to do, I must run to the post office to call the doctor. In that time, a patient could die."

I met Julius one evening at an *imiaq* (homemade beer) party. He was one of two catechists in the village; by long tradition, such men have served as schoolteachers and church leaders. A friendly and attractive man, he told me something of his life: "For a long time, there was one great sad thing. My wife and I could not have children. Then, when I was teaching in a northern village, a woman there shot herself. The father agreed that we should take those children. Now we are grandparents, and we are very happy."

Yet I knew Julius also had reason not to be happy. Recent changes have dealt a blow to many catechists of Julius's age. Once they were the most learned men in their communities. Then came the flood of better educated, more aggressive Danish teachers who were often assigned leadership positions. It was said that in recent years Julius had begun to drink heavily and often failed to appear at school. He could no longer stay in Ikerasak. The next year would find him, once again, in a new village, a new school.

As the bottles of imiaq came and went, a quarrel arose for the first time between Julius and Flemming. It concerned a student who was doing poorly. "He is not intelligent," Julius insisted. "He is, if only we can find the right approach," Flemming replied. They argued, the boy's father listening closely.

"Maybe all the teachers should be Danish," Julius said and fell silent.

The party continued: We drank, danced, laughed. At one a.m. the host produced a box of sparklers. We went out into the pale light. It was snowing. We lit the sparklers, waved them, laughed and smiled at one another, then threw them hard toward the sky.

Hunters Range Far Over a Frozen Sea

I was awakened early the next morning by a pounding on the door. It was Jens Therkildsen, a young hunter. He wore *kamit*, boots of dog and sealskin; *qardliit amit*, sealskin trousers; a heavy sweater, and an *ánorâk*, a windbreaker. I was to go seal hunting that day with Jens and his father, Johannes.

They were exceptional men. Johannes taught hunting skills at the school. Jens served as the representative of the police, ran the village movie, operated the library, open during the dark months. Neither drank.

It's a splendid few moments, the run from a hunter's house through the village and down to the fjord. The dogs are eager and flying; you run behind, holding to a sledge stanchion. Villagers stop to watch and smile, for it's a fine sight and they know the excitement. The

day may be long, bitter cold, cruelly demanding; success is problematic—and yet....

We were on the ice now, and I watched Johannes trim his sledge and control his dogs with quick, almost imperceptible motions and calls. At rest a dog sledge is a collection of quarrelsome animals, tangled harness, and wooden boards held together by pegs. In motion, under a man like Johannes, it becomes a thing of beauty, seemingly a single living creature, delicately adjusting pace and direction to the ice conditions ahead.

As we traveled, clouds pressed low until they hung from cliff to cliff across the fjord. A light snow began to fall, softening all images. In the diffused light, ice, snow, and clouds picked up the color of the icebergs. Our world turned a single shade of blue, deceptively gentle looking.

Now and then we would stop, the hunters would climb an iceberg and scan the fjord with binoculars, looking for *utoq*, a seal on the ice. Just as we were about to give up, they spied one some three miles away.

Jens pulled a hair from his sealskin trousers and watched it flutter in the wind: He had to approach the seal from downwind. He recalibrated his rifle's telescopic sight, firing several shots at a small target until he bull's-eyed. He would have one shot.

He moved off quickly, running low behind a hunting blind, a rectangle of white cloth with a hole in the middle for his rifle, and set on a tiny sledge. In a few minutes, he appeared as a tiny figure in the distance. He lay down and crept forward, pushing the blind. The seal's head went up, down, up. I saw the flash of the shot. Before the sound reached us, Jens was racing across the ice to grab the seal before it fell into its hole.

Villagers Use All Parts of a Seal

The hunters had hoped for more, but were satisfied. We headed back toward the village, the seal lashed beside us.

At Johannes's, we carried the seal into the kitchen and placed it belly up on the floor. Jens's wife bent over, keeping her legs stiff in the Greenlandic manner, and went to work with her *ulo*—a sharp knife resembling a food chopper, with the handle attached to the backside of the blade.

She opened and peeled off the skin as swiftly as a mother removing an overcoat from a toddler. She cut away the fat and meat, removed the organs. In minutes all that remained was a skeleton and two large and startled-looking eyes.

Those eyes and the liver are eaten immediately as delicacies. The meat, organs, and intestines are boiled or dried for use later.

Oil from the fat would be sold for 50 øre a liter (about a dime a quart). The skin, strung on a drying rack, would fetch 70 to 90 kroner locally, plus an additional payment after the skins are sold at auction in Copenhagen.

The preceding year village hunters had sold 1,787 skins. With proceeds from halibut, they received 230,645 kroner—$36,645.

There were also fox and shark to be sought in winter, halibut, salmon, grouse, and sea gull in summer. For seven magic days in August, when the young gulls first try to fly and spiral helplessly into the fjord, the hunters paddle among them, stunning them with blows from sticks.

It was, for Johannes and Jens, a good life; a life they wanted to keep.

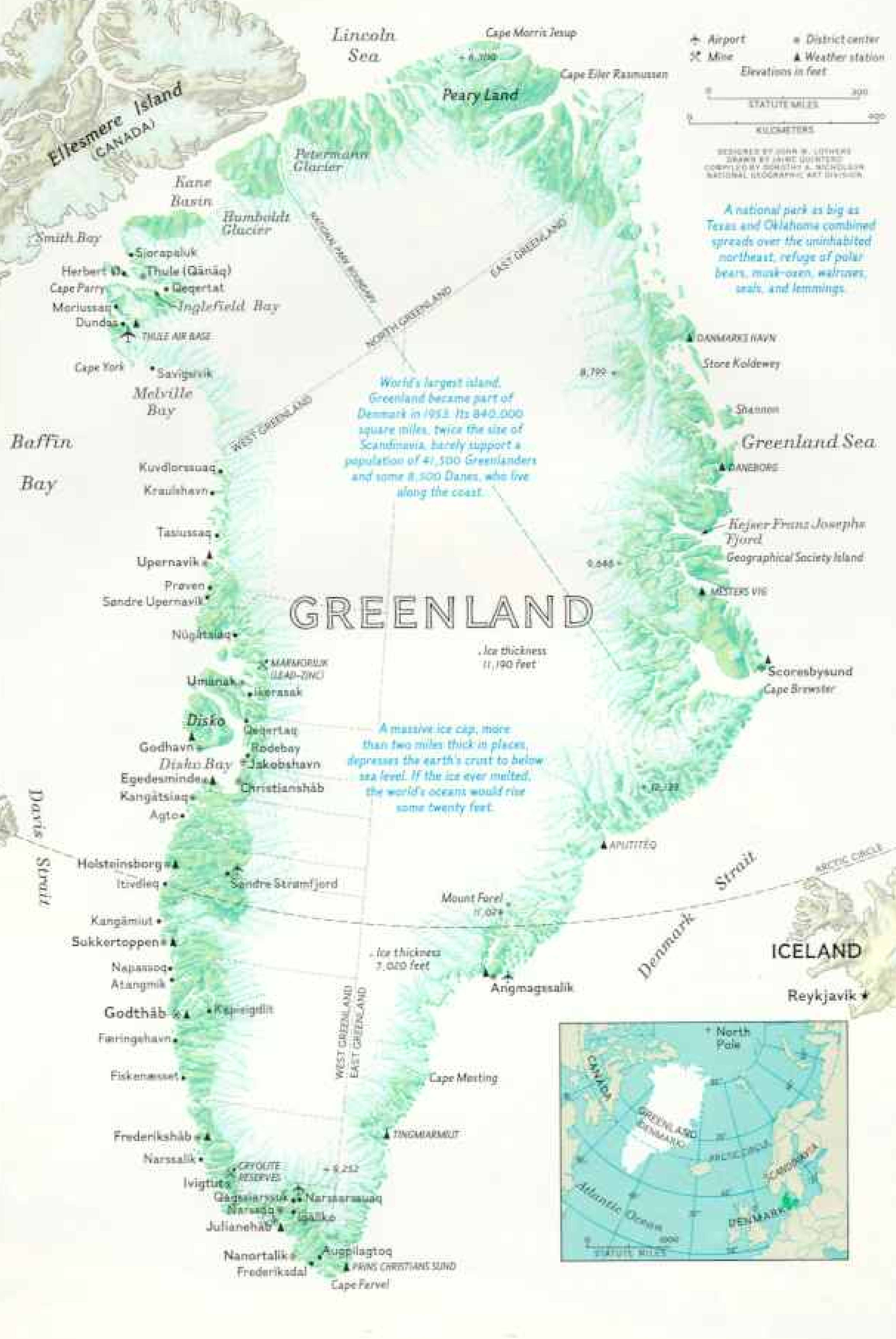
Driver Must Master Willful Dogs

Sledge dogs lay everywhere in the village, drowsing in the sun, or curling nose to tail for warmth while snow dusted their backs. They love to run, and eagerly accept the harness, but they insist on the driver earning his way. Some dogs learn to keep their lead lines tight without really pulling. Others try always to veer toward the easier snow. Still others, when the pulling is difficult, always find it necessary to drop back from the line to relieve themselves. And scarcely a hunter has escaped the indignity, when his attention was momentarily diverted, of having dogs bound off with the sledge, not to return for hours.

While a man must be firm with dogs, he should not be brutal. One day a hunter, somewhat drunk, became angry at a dog and beat it without mercy for 15 minutes. Everyone could hear the howls. Later another man beat the drunk man for 15 minutes.

Most villagers simply toss their garbage and slops out the door and among the rocks; the dogs take care of it. But when a village committee set the date for the annual sledge race, the hunters ceased feeding their dogs. A hungry dog, they explained, runs faster.

A few years earlier, at race time, a team of hungry dogs had broken loose and killed a child. This year the trouble came from Flemming's dogs. We heard them suddenly fighting and discovered that they had broken into the pen where Flemming kept his puppies


Lincoln Sea
Cape Morris Jesup
Cape Eiler Rasmussen
Peary Land
Airport
Mine
District center
Weather station
Elevations in feet
STATUTE MILES
KILOMETERS
Ellesmere Island (CANADA)
Petermann Glacier
Kane Basin
Humboldt Glacier
Smith Bay
Siorapaluk
Herbert Ø
Thule (Qânâq)
Cape Parry
Qeqertat
Moriussaq
Inglefield Bay
Dundas
THULE AIR BASE
Cape York
Savigsivik
Melville Bay
NORTH GREENLAND
EAST GREENLAND
WEST GREENLAND
A national park as big as Texas and Oklahoma combined spreads over the uninhabited northeast, refuge of polar bears, musk-oxen, walruses, seals, and lemmings.
DANMARKS HAVN
Store Koldewey
8,799
Shannon
World's largest island, Greenland became part of Denmark in 1953. Its 840,000 square miles, twice the size of Scandinavia, barely support a population of 41,500 Greenlanders and some 8,500 Danes, who live along the coast.
Baffin Bay
Greenland Sea
DANEBORG
Kuvdlorssuaq
Kraulshavn
Tasiussaq
Upernavik
Prøven
Søndre Upernavik
Kejser Franz Josephs Fjord
Geographical Society Island
9,646
MESTERS VIG
GREENLAND
Nûgâtsiaq
MARMORILIK (LEAD-ZINC)
Ice thickness 11,190 feet
Umanak
Ikerasak
Scoresbysund
Cape Brewster
Disko
Qeqertaq
Godhavn
Rodebay
Disko Bay
Jakobshavn
Egedesminde
Christianshåb
Kangâtsiaq
Agto
A massive ice cap, more than two miles thick in places, depresses the earth's crust to below sea level. If the ice ever melted, the world's oceans would rise some twenty feet.
12,139
Davis Strait
APUTITEQ
Holsteinsborg
Itivdleq
Søndre Strømfjord
ARCTIC CIRCLE
Mount Forel 11,024
Denmark Strait
Kangâmiut
Sukkertoppen
Ice thickness 7,020 feet
ICELAND
Napassoq
Atangmik
Angmagssalik
Reykjavik
Godthåb
Kapisigdlit
WEST GREENLAND
EAST GREENLAND
Færingehavn
North Pole
CANADA
Fiskenæsset
Cape Mosting
GREENLAND (DENMARK)
ARCTIC CIRCLE
SCANDINAVIA
Atlantic Ocean
DENMARK
STATUTE MILES
Frederikshåb
TINGMIARMIUT
Narssalik
CRYOLITE RESERVES
9,252
Ivigtut
Qagssiarssuk
Narssarssuaq
Narsaq
Igaliko
Julianehåb
Nanortalik
Augpilagtoq
Frederiksdal
PRINS CHRISTIANS SUND
Cape Farvel

In blue jeans and sneakers, a young Greenlander strums a guitar (**left**) and ponders her future. Gone are the reassuring bonds of village life, with its common struggle to survive in a harsh though beautiful land.

In the capital, Godthåb, Greenlanders as well as Danes live in apartment blocks that seem to stretch forever (**top**). They are built by a concerned Danish Government that pours more than a hundred million dollars into the island every year, only to confront a cruel reality. Money can't buy identity, and hunters turned shopkeepers and mechanics vent frustrations in alcohol and self-hatred. The suicide rate here is four times that of Denmark.

Close-knit family relationships remain a bulwark. In Julianehåb, Greenlander Otto Lauf relaxes at the home of his parents, where pictures on the wall speak of love of kin and homeland (**above**).

and the dried halibut he used for dog food.

Flemming grabbed his whip and ran into the pen. With whip handle and boots he beat and kicked the dogs away from the halibut and toward the door. They snarled and jumped at him. I watched. If he made a mistake, I would have to take an ax and go in with him. In a few minutes it was over. Flemming had taken a substantial risk; but if he was to keep dogs, he had no choice.

On race day the villagers assembled on the fjord and on the bluff above. Only 12 hunters had entered; there had been little snow and much wind; the clear ice was likely to cut the dogs' feet, and many hunters did not wish to risk their teams. The winner, a newcomer to the village, drove the 31-mile loop in less than two hours. He was carried off triumphantly, still in his sledge, by his companions.

Both Flemming and Christa come from middle-class teachers' families; they are young, attractive, and would seem more at home strolling in Copenhagen's Tivoli amusement park. Why had they come to Greenland?

"In Denmark," Flemming told me, "many teachers work at the same school all their lives. How terrible, we thought, to stay at one job and one place until pension and proper burial. We wanted to put something else into our lives. Many in our generation see faults in our own society; they have an ideal of a simpler society where they can find more peace of mind, a new angle on life. Maybe this was the biggest reason."

And so they had come, full of illusions. "We had to adjust to many things. That every step forward could be only a tiny step; that our Greenlandic colleagues would almost never

Because it's really green in coastal valleys, Eric the Red, a Viking outcast who sailed here in 982, gave Greenland its seemingly inappropriate name. Many of Eric's countrymen followed him from bleak Iceland, and for several centuries Norsemen inhabited the land.

Near the ruins of Norse churches and settlements, shepherds tend their flocks. When the chill of fall browns the grass, ranchers at Qagssiarssuk mount their hardy ponies for the roundup (**above**). The sheep are then herded into barges (**right**) for transport to Narssaq. Most of the meat goes to Denmark.

argue but only say 'yes'; that parents do not want to criticize the school—I could sleep every hour and no one would complain; that the children are often very tired, for they sometimes play until two a.m.

"What are we accomplishing? We teach them to add and subtract a bit, and to read and write Greenlandic and Danish, but only poorly. The one thing I am certain of is that we are giving the children a warm place in the cold months and a bath once a week."

Schooling Helps Kill a Way of Life

Equally troubling to Flemming was the policy of sending the brightest students in the villages to boarding schools, first in the larger towns, then to Denmark.

"I understand the rationale: to provide superior students with educational opportunities not available in the villages. But I am uncomfortable. I have to play God, helping select those who will be favored. Also, I know that taking the brightest youngsters from their homes and villages at this formative age is a sure way to destroy a culture."

Flemming was spent after his words; the year had been hard. Yet he was in a better position than most Danish teachers to reach his goals: He had learned Greenlandic.

Danes staff almost three-fourths of Greenland's classrooms; only a handful speak Greenlandic. There is not enough time or money to train them. Thus, before they can converse easily with their students, they must teach them Danish—they begin by holding up objects and naming them.

What does the future hold for Ikerasak? It is not a Greenlandic question. Days come,

days go, things happen, solutions evolve. All are accepted, like the weather.

On the day I left Ikerasak, life was returning to routine. The children were back in school; there would be a birthday party for one of them that afternoon, with coffee and raisin cake. The woman who had shot herself was to be buried that day, and rumor had it that her husband had already found another woman. A notice, posted by Louise, hung on the water house: "The dentist is coming Friday if the weather is good. Those with bad teeth should come to the Midwife's."

A hunter and his sledge would take me back. It was a clear day, sunny and without wind. Far across the fjord we spied what appeared to be small diaphanous white clouds that shaped and reshaped themselves against the dark-blue cliffs: ptarmigans moving to the high ground with spring. The hunter turned to smile. It was good to see such beautiful things, and good to be sledging on such a fine day. In three hours we reached Umanak.

Drifting Spirits Battle Despair

I journeyed next to Godthåb, the county capital, and called on Dr. Inge Lynge, a Dane and the island's only psychiatrist. Her house was pleasant and full of sunlight and looked out over the broad fjord.

"Here there is every comfort, every convenience, yet the suicide rate is four times that in Denmark. Why? They were not prepared for this life—big apartment blocks, neighbors they do not know, the loss of identity. In the old days, when a person was desperate, he could turn to someone in the village whom he knew; the fabric of life was strong and certain. Now, in Godthåb, a man or woman may very well feel alone."

Indeed, Godthåb stands as a monument to change. In 15 years it has jumped from 3,000 to 8,500 residents—a sixth of the island's population. Greenlanders who once lived in places like Ikerasak now dwell here in apartment blocks labeled alphabetically (page 377), and enjoy modern Danish furniture, stereos, TV's, modern kitchens and bathrooms. Only the wash fluttering from balconies, or a package of seal meat suspended by a cord outside a window, proclaims Greenland.

Here men and women whose fathers are still hunters can work at government desks or store counters, hail taxis to restaurants and nightclubs, buy all their foods packaged from one of several stores, and even sign up for skiing lessons from a Norwegian instructor.

In the Hotel Godthåb every Wednesday and Saturday night there are Greenlandic dances. The steps were taught to Greenlanders many years before by European whalers. It is a fine dance, fast and intricate, with many turnabouts. The women's long black hair swirls as they turn; the men stick out their chests as they catch their partners.

Returning to their tables, the dancers laugh and talk and order more beer, each man vying to pay. But now some will become silent, stare into space, so that laughter and withdrawal share the same table. One night a girl, after being silent for a time, stood up, swept all the bottles and glasses from her table, then overturned the table. Her rage spent, she stood there, crying, a long time.

University Degrees Seem Out of Reach

The Greenland Seminarium in Godthåb, a teachers college, is the institution of highest learning on the island. Its director is Christian Staermose, a trim, athletic-looking Dane. He has known one great disappointment.

"For 20 years Greenland has sent its best high-school graduates to universities in Denmark; in those 20 years not one has completed the course. Not one. In 20 years! We have tried many times to guess why this is so. Perhaps we have spoiled them too much."

The college has no political clubs, no Marxists, and has never known a disturbance or had a teacher locked in or out of his office.

"If we have no political clubs and no violent demonstrations," one student explained, "it is because we believe if we try to talk with each other about things, we can do better. We must do it that way."

And so in Godthåb the present struggles with the past. The past cannot be bought, it cannot be touched, it cannot be worn, it is not shiny. It only persists, as the sea, the mountains, and the glaciers.

The benefits of the policy of change are easy to measure: better housing, better communications, better opportunities; life expectancy up from 35 to 61 years; tuberculosis almost wiped out; infant mortality rates cut by nearly two-thirds. So successful were the health measures that Greenland's population doubled in only 20 years—threatening, some thought, financial disaster. So birth-control measures were introduced, cutting the birthrate from 50 to 20 per thousand.

For Danish Governor H. J. Lassen, most of

Greenland's problems are economic. In all its 840,000 square miles, it holds few profitable resources. There are shrimp and salmon, the skins of its animals, scattered sheep pastures in the south, a single operating lead-zinc mine, and a pile of cryolite from a worked-out mine in the south—sold off bit by bit as the world market firms up.

"Last year Greenland imported about 800-million-kroner worth of goods and services; it exported about 150 million," said the governor. "This means a deficit of 650 million, which must be met by the Danish taxpayer."

In the 1950's the Danes placed hopes in cod fishing. They built trawlers, harbors, factories. Then the climate turned colder. The cod retreated southward; the industry slumped.

Now the hope is oil. This spring the first concessions were granted off the west coast. Geologists believe there are other oil deposits in the north and off the east coast. But there are problems. Icebergs and storms rule out drilling platforms off the west coast; oilmen will have to use specially stabilized drilling ships that can be swiftly moved out of harm's way.

"Our purpose remains clear," Governor Lassen said, "to create a modern society, with some small settlements remaining, and to create home rule, under the Danish Crown."

Reliance on Danes Must End

And so Greenland embarks on a new sequence of changes. Key officials will be selected by the local communities, not appointed by the governor. In time local governments will take over schools and public services from the Danish Government.

This year Greenlanders begin paying an income tax. I was told the purpose was to enable them to participate in the financing of their country and so gain a stronger sense of responsibility. But the tax will fall on only 30 percent of the people, mainly Danes.

Lars Chemnitz, chairman of the Provincial Council, strongly endorses the changes. The council deals with county problems, and the Danish parliament has made no laws affecting Greenland without its consent.

"My greatest problem," he said, "is to make my fellow Greenlanders understand that it is now their responsibility to make things work better, that they must no longer look to the Danes to solve every problem. You cannot live in the past."

Psychiatrist Inge Lynge had told me how the past sometimes surfaced in the dreams of her patients. "There are sometimes very special fears—of falling from Christianity back to paganism, or of being changed into a *qivitoq*, a monster, or of helping such a monster in the mountains, and thus becoming a threat to people."

Emptiness Always Waits Over the Horizon

Other glimpses of the past had been provided in the legends collected by Hans Lynge, a Greenlandic artist and writer and husband of Dr. Lynge. They tell of lonely people who sought companionship by talking to stones or pieces of driftwood, or by capturing insects and breathing on them until they grew as large as human beings, and so could serve as friends.

I thought often of the legends of the lonely people. It seemed to me that a sense of loneliness and separation pervades life in Greenland. Even in crowds. Perhaps this is why it is a custom always to accompany friends to the heliport as they depart.

You sit strapped in your seat, the turbine engine screams, you look down. The circle of upturned faces and waving hands diminishes and blurs. The town slips behind. There is only the sea, the mountains, the glaciers.

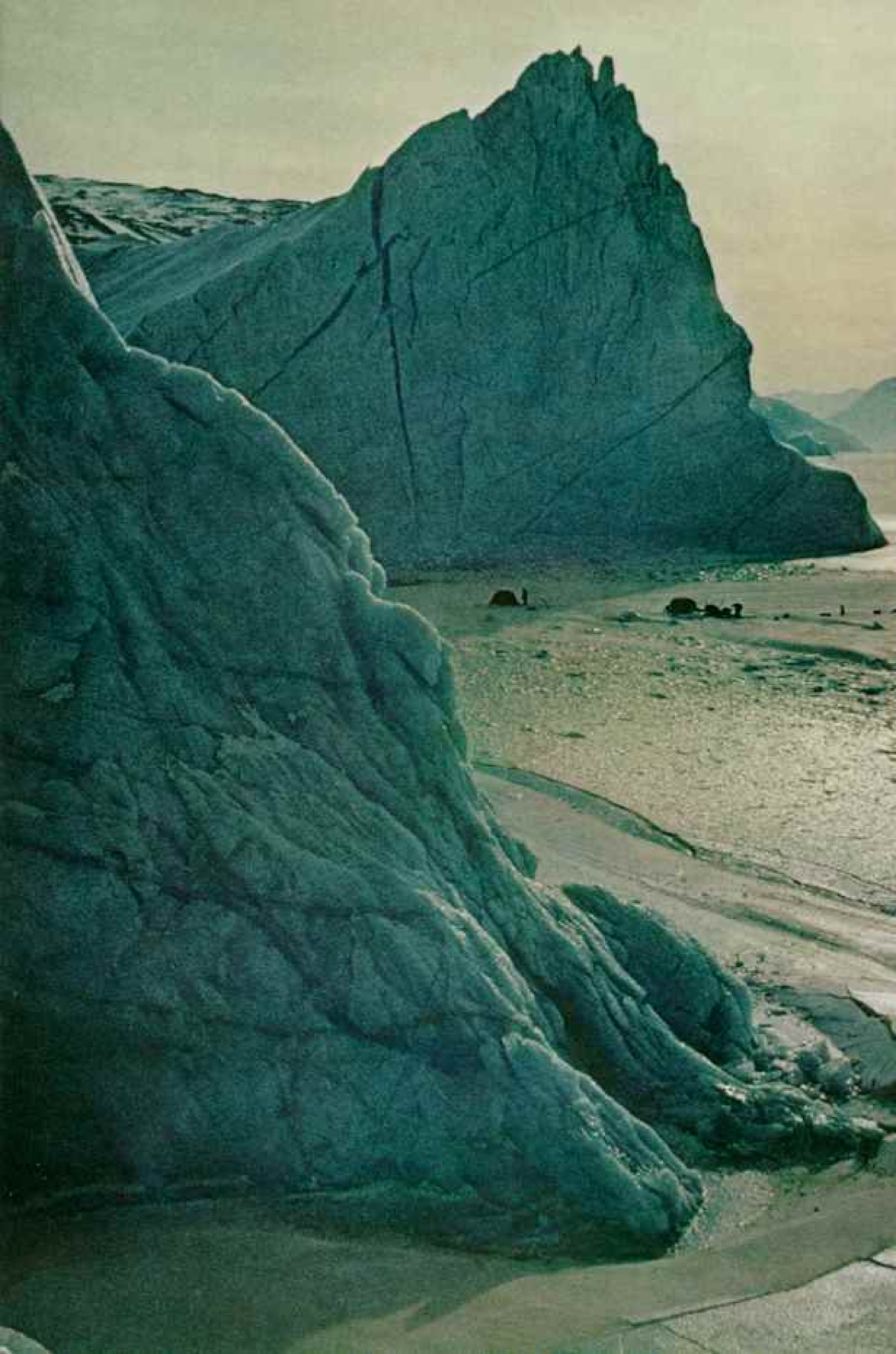
I journeyed by helicopter to Jakobshavn on Disko Bay, center of shrimp fishing, the best way for a Greenlander to make money today; to Marmorilik, a lead-zinc mine cut into a cliff and entered by cable car; and to Igaliko, in the south, where sheep farmers tend flocks amid ruins of vanished Norse villages.

I visited the east coast, joining two members of the Sirius Patrol, the Danish military unit that covers this area by dogsled.

We traveled on skis, holding on to the sledge by the stanchions and hand ropes, and did as much as 40 miles a day. It was early spring and sometimes 10° below zero F., and so our breath formed icicles on our beards (page 385); at night our bootlaces would be encased in ice; in the mornings the openings of our sleeping bags were rimmed in ice.

We slept in tents or old trappers' huts. A polar bear had *(Continued on page 386)*

Where the mountains meet the sea at Sukkertoppen, there's hardly enough space for houses (**following pages**)—and none for an airport. Greenlanders rely almost entirely on helicopters and coastal steamers.



"Give me winter, give me dogs, and you can have the rest," wrote the great Greenlandic explorer Knud Rasmussen. The men of the Danish Navy's Sirius Patrol have little else. From Daneborg, they traverse a vast chunk of northeast Greenland inhabited only by wild creatures and a handful of weather observers.

Ice frosts the beard of Jørn Nielsen (**top**) who shares a small tent with Peter Sattrup (**above**) by Kejser Franz Josephs Fjord (**left**).

Temperatures of 40° below zero are common; winds of 100 knots a possibility. During December and January, the men patrol in almost total darkness. When their two-year tour ends, nearly half conclude that Rasmussen was right and volunteer again.

beaten us to one. The door was torn from its hinges, the floor covered with snow, the stockpile of food and coal scattered.

We saw musk-oxen, hare, and polar bear. It is a beautiful land but a harsh land. The first Eskimos, pushing down from the north, had lived here for a time but moved on.

And so today, between Scoresbysund on the central east coast and Siorapaluk on the northern west coast, a distance of 2,000 miles, there are no settlements—only a handful of Danish weathermen and radiomen, and the kitchen middens of vanished Eskimo villages. Last year the government declared this 300,000-square-mile area a national park and game preserve, the largest in the world.

Seeking a Racial Meeting Place

Wherever I traveled, I was drawn back to the questions first raised at Ikerasak: two races, two cultures, tied together and journeying toward a destination that seemed often with each gain to slip farther away.

In the big district boarding schools at recess, the Danish teachers sit in one group, the Greenlandic teachers in another. Once I complimented a vice-principal on his school's excellently equipped kindergarten. He replied: "It is not things we are lacking."

A third-grader asked: "Why am I to study arithmetic every day—my father is a hunter and I shall be one too." The Danish teacher, flustered, groped for an answer: "Because you may be cheated at the shop."

A youth center was decorated with posters of rock-music groups: Deep Purple, Pink Floyd, Alice Cooper. A Beatles record blasted from loudspeakers. The kids drank soft drinks and smoked. One girl said she wanted to be a teacher; eight others said they did not know what they wanted to do.

"You know that we wish to be free," a young man told me, "but you know too that we aren't clever enough to govern our land. Therefore we must have the Dane. But the day will come when the Greenland people will say, 'We are free.'"

It casts a spell, the splendor that meets the eye nearly everywhere—from snow-misted crags north of Sukkertoppen (**above**), to a fjord near Mesters Vig veined with melting ice (**right**). A Greenlandic poet put it this way, "I get dizzy of all this beauty and shiver of happiness."

Sudden storm whips the waters of Disko Bay, sending shrimp cutters scurrying for shelter in a small sound where the crews will spend the night, after mooring their boats to a grounded iceberg. In their home port of Jakobshavn, three

houses blew away during the 80-knot gale. Oil companies now prospect in the sea bottom along the west coast. If they discover oil, they'll have to cope with the same howling winds, plus winter freezes and drifting Pentagon-size icebergs.

The views are unlikely to change unless oil is found. "If the Danes say 'It is ours,' then we must one day say 'Stop' to them. But we would be glad if it was not necessary to do so."

In the cultural exchange there are both gains and losses.

The doctor was a short man, rotund, and hitched up his trousers with suspenders. He told me he had been in Greenland seven years. "Now I must go back to Denmark before I am too old to establish a practice there."

Was he glad to be leaving? "In a way. There are so many frustrations here. We could cure venereal disease, which is endemic, if only the people would come to the hospital. But they don't. When we had an outbreak in my town, we threatened to send the police for those who didn't come for blood tests. We stopped the disease, but that is a difficult way to practice medicine."

Regrets? "Oh, yes. Some years I made many sledge journeys to serve the smaller villages. Listen!" He took two matchboxes and, with all the skill in his surgeon's hands, recreated the soft, rhythmic sound of sledge and dogs. "Oh, those were fine days, fine days."

Karen, now 23, was 14 when she first went to Denmark as a student. "I was so surprised. At 8 o'clock in the evening it became dark; here in summer the sun is always shining. The next morning I got up and looked out the window and saw all the flowers in the garden. At that moment I wanted above all else to have my parents beside me, so that I could show them those flowers."

Now she found it difficult to live in Greenland again. "In town many people are drinking and girls who have not been to Denmark stick together. Sometimes, when I approach such a group, they stop talking or change the subject." She had no suitors.

"I am not Danish, I am not Greenlander, but here I feel more at home."

Are there no places unswept by change?

Bobbing Kayakers Await Mighty Whales

"Qilalugaq! Qilalugaq!" my companions cried. I had heard the narwhals, but from a distance had judged the sound to be that of quarreling sled dogs. Then I heard the heavy breathing of whales; minutes later I saw them arching through the water, blowing, swimming strongly.

The hunters slipped into their kayaks and paddled out to take their places along the rim of ice where they hoped the beasts would pass. Minutes before, they had been joking and relaxed. Now their faces showed tension.

They sat motionless, bent forward to see and hear better. In their frail craft they resembled kingfishers waiting for their prey. The breathing of the whales grew louder. Ûmâq saw his chance: Three passed him close. With a few swift strokes he pulled out behind them, raised his harpoon, and with his throwing stick thrust it into the back of the nearest whale.

We gave chase, the hunters in their kayaks, the rest of us in a 15-foot motorboat. When the whale surfaced now and then, we harpooned it, shot it, thrust lances into it. When it was dead, the hunters cut slits in its skin, attached sealskin floats, and took it to shore, where they butchered it.

Meeting a People of the Past

My companions were Polar Eskimos. They number 600 and live in six settlements, 150 miles north of the nearest Greenlandic village and only 900 miles from the North Pole.

Robert E. Peary, in his drive for the North Pole, had been the first outsider to live among them. Later Knud Rasmussen and Peter Freuchen set up a trading station to supply them with the goods Peary had introduced—rifles, cartridges, tea, sugar.

Here, I had been told, I would find the last of the true Eskimos, the last to preserve the old ways. Here, I had been told, I would find the *real* Greenland.

My companions were from Thule, formerly Qânâq, largest of the Polar Eskimo settlements. They included the great hunter, Peter Peary; his son Miteq (Eider Duck); Qissûnguaq (Little Piece of Wood) Kristiansen; Ûmâq Henriksen; Ûssarqak Qujaukitsoq; and Inukitsorujuk Quist. A strip of beach along Inglefield Bay was our home for a time.

As the days passed, the bay ice retreated, leaving a vast blue mirror of water that reflected, in perfect detail, the sky, the mountains, the glaciers of the bay. Our world was a double image. Night and day merged: The sun was constantly above, circling in a strange loop. In order to sleep, I covered my head to blot out the light. Time in the conventional sense lost its meaning. There was only a time to hunt, a time to sleep, a time to eat.

One whale fought exceptionally hard. Repeatedly harpooned, she trailed a tangle of lines, sealskin floats, sea anchors, and blood. She showered us with water, almost capsized

Solid and spacious, prefab dwellings like the one these builders erect in Julianehåb (**above**) have replaced the sod-and-driftwood shanties where tuberculosis raged among crowded occupants. Those children who survived were lucky to reach 40. The Danes also tackled TB with another weapon—prompt medical care. Now doctors treat more mundane ailments. At Rodebay, Greenlander Dr. Niels Peter Broberg examines a flu-stricken child (**below**).

Qissûnguaq in his kayak, then—when we took a line aboard the motorboat—pulled us along for a brief Nantucket sleigh ride.

Rifle shots and lance thrusts ended her struggles. Peter attached sealskin floats, then lashed her to the side of the launch. Then I discovered the reason for her fight. One of the hunters had also harpooned her calf. We hauled it aboard by its tail and flukes.

After a kill, the men would pause for hot tea, cakes, and slices of whale skin. Then they would select an ice floe that looked strong, drive an iron post into it, and with block and tackle haul the whale onto it. There they would butcher it, the floe sinking slowly, until they stood at last in a great puddle of water and blood.

We were not always lucky; some days 60 to 80 narwhals came breathing and blowing up the bay, only to pass so far away the hunters had no chance.

One day a thick fog rolled in and the wind rose. We pulled the large slabs of whale skin from the cold water and put them in the hold of our 35-foot cutter, warmed up the motor with a blowtorch, and put in at the tiny harbor of Qeqertat—a settlement of a dozen houses. Next day there were no more whales, and we sailed for the village of Thule, stopping once to take a white whale—as white as Moby Dick.

Peter had earned about $700 that week. "We could have done better, but I am satisfied." The next day many women in the village came down to buy mátak. Soon afterward Peter sailed again, after narwhal.

Officials Try to Wall Out the Present

How often had I been told that the Polar Eskimos were the last to preserve the old ways; that here the classic Eskimo life persists. I saw their great sledges, as long as 18 feet and five feet wide; their dogs, so big that a running pack shook the ground. I knew of their weeks-long hunting trips in bitterest winter, and of how, in their polar-bear trousers and reindeer ánoråks, the men themselves came to resemble some rare Arctic animal.

I knew too that officials help to preserve that way of life. The Thule school district has obtained permission to keep the children here for the eighth and ninth grades, rather than send them to Denmark. Regulations insist that harpoons can be thrown at narwhals only from kayaks, and restrict contact with the Americans stationed at Thule Air Base, 75 miles away from Thule village.

But hunting families are moving in from Upernavik to the south. They come because the Upernavik District is overpopulated for the number of animals; eventually they may threaten the same fate for the Thule area.

For boys like Miteq there are alternate models in the shopkeepers and clerks who wear nicer clothes and lead easier lives. And why should a girl, beautiful with youth, wish to age herself swiftly by chewing on skins to soften them? Why should she wish to butcher a seal in a pool of blood, when the meat lies frozen and convenient in the local store?

Once the Danish liaison officer at Thule Air Base received an urgent message from a village. It requested a special flight by one of the U.S. helicopters that regularly bring needed supplies: The village had run out of paper diapers. Thus a new way of life inevitably comes. "The best we can do is buy them time," the officer said.

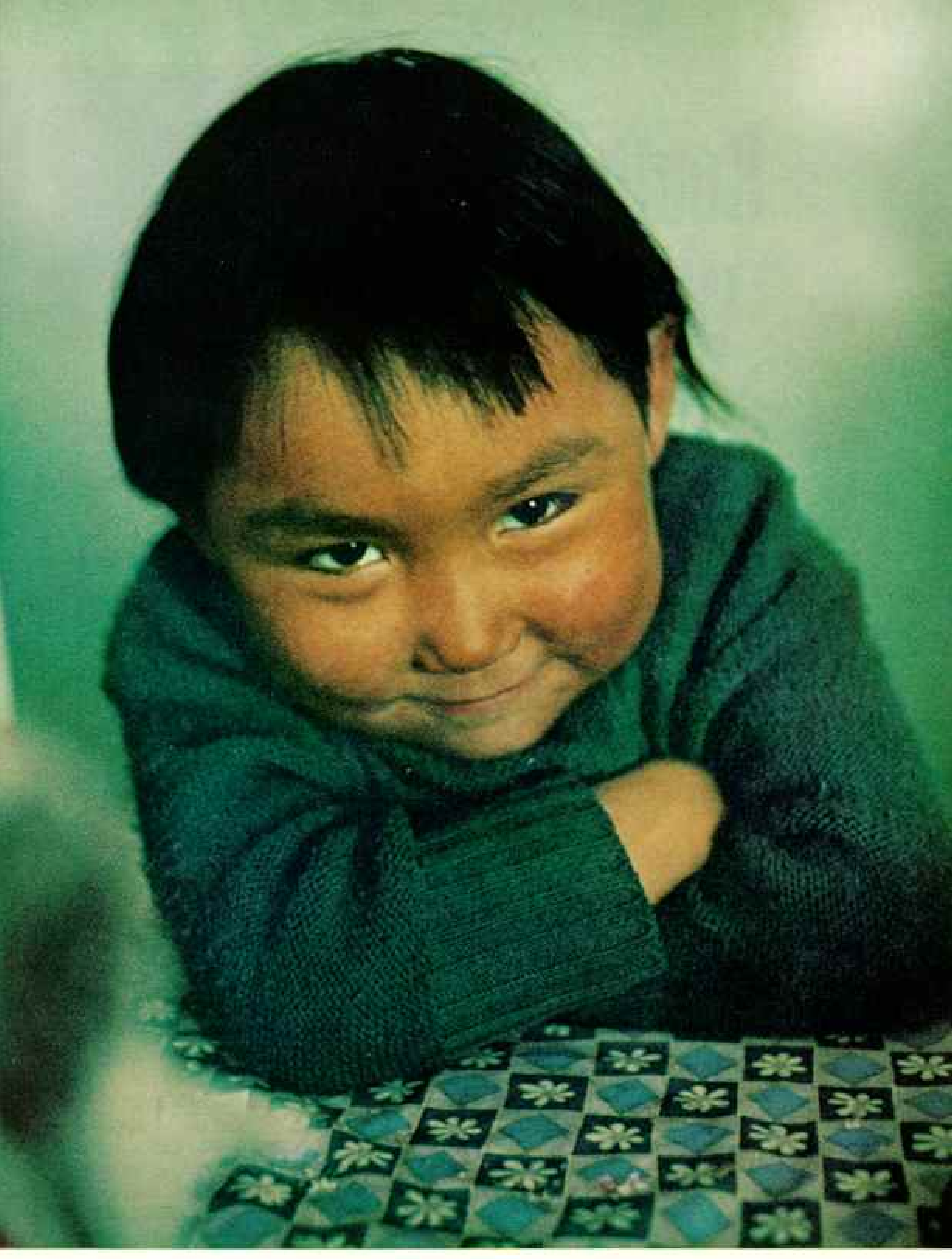
Theme of the Future: Uncertainty

It was mid-August when I departed Greenland, flying over an ice cap fissured and potholed by summer melt. Within a few weeks the cold cycle would begin again. The first dust of snow would fall at Thule, and a thin membrane of new ice would form in the bay where I had hunted whale. In the south sheepmen would be loading their animals onto boats for the journey to the slaughterhouse. In Godthåb officials would be tackling fresh piles of paperwork, while at Ikerasak, Flemming would be back in his classroom and Louise the midwife would be cleansing the cuts of children in a village where nobody picks up the bottles.

Among the legends of the Greenlanders is the story of Tusilartoq. Once, hunting in his kayak, he was blown far to sea. Unable to paddle against the wind, he almost despaired. Then he spied a white sea gull that sang a magic song and so made its way against the wind. Tusilartoq listened carefully, striving to learn the magic song. When he did, he too paddled safely home.

Today winds of change—"progress"—have blown the Greenlanders far to sea, separating them from their immemorial way of life. The Danes who live and work among them provide an example of how to cope with the modern technological age. The Greenlanders listen carefully—but here the story stops.

The ending is not known. □



For a thousand years his forebears met the Arctic on its own terms—and survived. To prevail over the new challenges that lie ahead, this child of a hunter in Siorapaluk will need all the pluck and pride that shine from his young eyes.

South Korea: What Next?

By PETER T. WHITE
Photographs by H. EDWARD KIM
BOTH NATIONAL GEOGRAPHIC STAFF

TENSIONS WERE RISING between and within North and South Korea as this article went to press. The work of two sensitive and skilled Geographic staff men, one born in Seoul, it presents a remarkably detailed portrait of a nation caught in the march of events in East Asia—and a nation of paramount concern to the United States. As the author points out, since 1950 more than a million Americans have served there in uniform; more than 54,000 died. U. S. Government expenditures in support of South Korea have amounted to more than the total sums spent for the Marshall Plan plus the Apollo program that took men to the moon.
—THE EDITOR

ALL AROUND KYONGJU, in the Republic of Korea, the maples had turned scarlet on the hillsides and fields of harvest-ready rice made golden waves in the wind. I found myself surrounded by purposeful frenzy.

Hundreds of men pulling, sweating, groaning in a tug-of-war with a block-long rope of rice straw, two feet thick. Dancers hopping to drums and gongs. Archers letting fly at 450 feet: "Good for the stomach and lungs," said one, "but especially for the mind."

His bow was laminated tree root, buffalo horn, and bamboo in a design unchanged for centuries. His arrow case displayed a poem, about calmness in action.

This was Kyongju's annual folk festival, and here came the parade—bands, banners, and pretty princesses on jeeps smothered in chrysanthemums; resplendent warriors flanking a palanquin with a royal couple wearing crowns of gold paper—all to the glory of the Silla Dynasty that 1,300 years ago united three Korean kingdoms into one.

Splendid gold objects of that era still come to light from burial mounds in the town (pages 418-19), and no wonder. Kyongju, then called Sorabol, was one of the world's great cities.

Koreans introduced the art of porcelain making into Japan, and sent to China writing paper so smooth and glistening that the Chinese believed it to be made of silk; in fact it was made of mulberry bark. Too bad that Korean culture, as an American scholar recently put it, is still "one of the best-kept secrets in the world."

And this despite the fact that Korea has been of enormous interest to the United States

for the past quarter of a century—so much so that during that period more than a million U. S. soldiers, sailors, and airmen have been stationed in Korea, and some 54,000 lost their lives there. Moreover, the country remains in the news as it faces aggression from outside and turbulence within.

Past Glories Inspire New Efforts

It began to rain, and I followed a troop of heavily armed kindergartners in soaked silks of yellow and blue to a school yard where their mothers were waiting. "It took me a month to get him ready," said a lady thrusting a coat on her little spear carrier. "Now he has caught cold."

I splashed on to a tearoom to meet the sculptor Yun Kyong-ruel, a member of the festival committee. "Our land has seen much splendor," said Mr. Yun, "but also terrible invasions." He mentioned the Mongols. And the Japanese, whose latest stay ended only after World War II; they had occupied Korea as a colony for 35 years.

"The Japanese wanted us to think of ourselves as inferior. We want our people to recall the roots of our culture, to encourage them to bring a new age of greatness to Korea. And we must do it through our own strength and effort."

That's what had already impressed me in this bustling country, whose population density of 892 per square mile—34 million in an area not much larger than Indiana—surpasses even Japan's. In Seoul, the capital, concrete evidence of strong effort struck me the day I arrived.

I drove across the Han River on a bridge

Bright face of Seoul: Shoppers swirl through the capital's major shopping district, where pedestrian overpasses offer safety from traffic. Resilient through the ages, South Koreans today face not only continuing conflict with North Korea, but the problems of growth and

burgeoning materialism. While revering the traditions of their ancestors, young and old alike increasingly challenge authority.

opened in 1970, passed scores of new apartment blocks (finished 1972), took another Han bridge (1973) and then an overhead expressway (1971) back to the city's center, walked past a new 31-story office building and down into the subway, inaugurated six weeks earlier. Six miles of underground track in operation scarcely three years after the first bulldozer took its first bite!

Government officials extolled the country's export performance, from 87 million dollars' worth in 1963 to 3.2 billion only a decade later, a 36-fold increase: shoes up 144 times, electronics up 224 times, synthetic-fiber products 230 times.

"It boils down to human factors," I was told by Nam Duck-Woo, Deputy Prime Minister and Minister for Economic Planning. "Our workers are well educated, quick to learn, and willing to work hard."

Unless one works hard one cannot survive, I gathered.

Tableaus of Toil Race Past

Even the look of the land seemed to bear this out. From Seoul in the northwest corner I crossed the country diagonally—five hours by train, much of the time parallel to the Seoul-Pusan Highway, always in sight of hills and mountains. Three-quarters of the land is mountainous. Without lots of terracing and reservoirs and sweat there wouldn't be much rice.

From my window I glimpsed early harvesters in little groups, cutting paddy, feeding diesel-powered threshers. Occasionally, where the cutting was finished, I'd see a man and an ox. "One plows right away," said my interpreter, "to plant the winter barley."

After the Kum River came the city of Taejon, after the Naktong River the scores of factories of Taegu. Steep walls of black granite flashed by within ten feet of my face. Then apple orchards and brick-red persimmons. A tunnel, and a valley shimmering with smog in the late-afternoon sun. I had arrived in Korea's southeastern corner, the powerhouse of the Korean economic miracle.

How did the Koreans do it?

The new steel mill in Pohang—using iron ore from Australia and India, and coking coal from Australia and West Virginia—is as profitable per ton produced as any other mill in Asia—indeed, anywhere. So says the plant manager. Why? "For one thing, labor in Korea represents only 10 percent of the final

Shadow of controversy surrounds Park Chung Hee, South Korea's President (**left**), who seized power as an army general in a 1961 coup. Under his rule, the country's once-stagnant economy was vitalized by industrialization. But the ironclad 1972 constitution, which allows the national leader an unlimited number of terms and sweeping emergency powers, continues to spark vehement protests. Hundreds of students, church leaders, intellectuals, and others have been jailed; some, since freed, charge they were tortured. After further furor, President Park in May 1975 proclaimed as an "emergency security measure" even harsher prison penalties for dissidents —from one year to life for those who publicly challenge the constitution.

"Two national referendums have shown that a majority of the people support the constitution," President Park told NATIONAL GEOGRAPHIC photographer Edward Kim, a native of Seoul. "I believe only a small number of people are standing against it."

Sharply disagreeing, opposition-party leader Kim Young Sam (**left**)—who noted that many voters avoided the polls—charged that pre-referendum dissent was muffled and claimed fraud in the ballot counting. "The Korean people want to recover greater freedom and democracy," he says. "Even our new prosperity is shallow. A child with a lung disease may grow very tall, but he will die young. South Korea has such a disease."

"Fight for restoration of human rights," reads the badge of a woman at a Catholic prayer meeting in Seoul (**lower left**). Riot police do not always discriminate among demonstrators; all demonstrations are illegal. Even Korean War veterans marching in support of the President get a dose of tear gas (**below**).

Republic of Korea

NUCLEUS of South Korea's flag, *um* and *yang* (equivalent to the Chinese *yin* and *yang*) symbolize contrasting life-forces joined in unity. But, in fact, Korean unity has walked a rocky road. After World War II ended 35 years of Japanese domination, United States forces held the southern half of the Korean Peninsula, which became the Republic of Korea in 1948. Soviet troops occupied the northern half. After only a brief pause for peace, the Korean War raged over the land from 1950 to 1953. Armed warfare, but not tensions, abated during the following two decades of uneasy truce between the two countries strategically poised between China, the Soviet Union, and Japan.

AREA: 38,025 square miles. **POPULATION:** 34,000,000. **ECONOMY:** Textiles and garments, iron and steel products, electronics, shipbuilding, agriculture, fishing, coal, tungsten. **CLIMATE:** Cold winters; hot, humid summers.

cost, against 30 to 40 percent in the U. S."

The Hyundai shipyard in Ulsan, nothing but rice fields in 1971, delivered its first 270,000-ton tanker in 1974 (page 406). I see the fifth tanker already on the way. The manager says, "In Japan a man takes an hour to go to work and an hour to go home, and he stops for a drink. Here we have no long commuting, no distractions, no time wasted."

The Gold Star Co., Ltd., in Pusan makes refrigerators, fans, radios, and TV sets, some for Hitachi and Zenith. I clock one of 2,200 girls on the assembly lines. She inserts 14 parts into a palm-size circuit board, wires two parts with pliers, snips 30 wire ends; 90 seconds later she's on the next circuit board.

Girls like that, aged 16 to 22, form a significant part of the Korean labor force. Fed, clothed, and lodged by their employers, many come from farms, live in dormitories, earn the equivalent of 30 cents an hour, and save for a dowry. Their swiftness and skill is reflected in the prices I see in a showroom where manufacturers woo foreign customers. Telephoto lenses, $23. Ladies' vinyl boots, $1.50 a pair. Fishing reels, 86 cents.

Global Recession Cuts Into Profits

I can also see difficulties building up, in the wake of the worldwide economic slump.

The world's largest plywood producer, the Tong Myung Timber Co. in Pusan—slicing logs from Indonesia and Malaysia—had 79 million dollars in exports in 1973, mainly to the U.S.A., but orders are way down. Yet production continues. Huge piles of plywood multiply on the hillsides.

The Hanil textile plant in Masan runs 24 hours a day; its acrylic-fiber production is second only to Du Pont's. The annual export target is 150 million dollars, but they'll be lucky to reach 130, despite price cuts. Stylish cable-stitch sweaters, packed in plastic for J. C. Penney, formerly $36 a dozen, sell for $32. "So far we've had no firings here," says the manager, "but we're running at a loss. Small and medium-size plants are closing."

Alas, I need respite from economics—a relaxing drive north along the rocky eastern coast, a region acclaimed for natural beauty.

The gravel road was bumpy and dusty, but the view smacked of Maine and of California's Big Sur. Occasionally I stopped to drink in the healthful air of the sea. The East Sea, that is. No Korean would call it the Sea of Japan.

Off Ulchin, boatmen gathered edible sea-

weed. Behind some rocks—really?—some of those ravishing Korean diving women!

Well, not quite. These ladies putting on black wet suits aren't the ones who pose for travel posters. But what workers they were. Down they plunged with face masks and hooks, up they came with sea urchins, sea slugs, and assorted mollusks.

One came ashore. Her face was seamed and weather-beaten. "Rain, snow, I go out every day, except when the waves are too high," she said. "I won't get rich but maybe my son will." She was so proud of him. She was sending him to Korea University in Seoul, to study business management.

Between-meal Treat Lures Fleet

Fifty miles on, at Mukho, I learned of 700 to 1,000 boats going after *ojingo*. Thousands of families devote themselves to stringing it on racks to dry. It's a national snack.

Could I go out to help catch it, this squid that launched a thousand ships? No, the season had just ended. Soon it would be time for *myongtai*, or pollack. But carefully collected ojingo innards still bubbled away in factory vats, producing unforgettable smells. Also fertilizer, and ingredients for paint.

Near Sokcho the moon rose reddish from the East Sea, and I stood there shivering in the wind until it was high and silvery. The beach and the rocks were dark and silent.

And the silence was alive with watchers: soldiers in bunkers along the beach, in machine-gun nests on the rocks. Patrols with dogs, regiments on alert two miles inland—here and along the south and west coasts too. An obsession with security is a prime fact of life in the Republic of Korea.

The prime threat has come from the Democratic People's Republic of Korea, which encompasses the northern half of the Korean Peninsula (map, facing page).* This splitting of one country occurred as a consequence of World War II, and the two halves have been at war, hot and cold, ever since.

I was told in Seoul by Lt. Gen. Lee Byung-hyung, the head of the Counter-Infiltration Operations Command, that his day-by-day concern was North Korean agents infiltrating, bent on espionage and subversion. He said they come not only by land—across the DMZ, the Demilitarized Zone along the boundary—but also by sea.

*H. Edward Kim gave readers a "Rare Look at North Korea" in the August 1974 NATIONAL GEOGRAPHIC.

"And some come directly to Seoul by commercial airliner, from Tokyo or Hong Kong, disguised as businessmen or tourists."

Such a supposed tourist, a Korean resident of Japan, came to last year's Independence Day celebrations and fired a revolver at the South Korean President, Park Chung Hee. President Park was unhurt, but his wife was fatally wounded. The assassin was hanged.

General Lee showed me North Korean leaflets sent south by balloon. "Their propaganda says South Korea is near starvation, that the people are being oppressed in every way. But you can see that our people are not starving, and not being oppressed."

On the surface, certainly, I found Seoul full of cheerful diversions, as expectable in a modern city of 6½ million—notably in the central area called Myong-dong, the "bright district." It hummed nightly until shortly before the midnight curfew. Music halls with stage shows. Beer halls featuring rock music, or secluded alcoves. Quiet places for *soju* and *nakchi*, white liquor and octopus.

And so many good-looking hostesses! "This is the best place in the world," a young man assured me, "for playboys of any age."

Grappling Dogs Don't Bite

In a glass-and-concrete building devoted to *taekwondo*, the venerable Korean version of karate, men belabored each other with elegant chops and kicks. Many fell but none seemed hurt.

In a drained swimming pool in a park a boxing ring had been set up, and fighting inside were—two big dogs! In fact wrestling, one getting the other by the neck with his paws and wham! No biting allowed, and no barking! The contestants' trainers gesticulated, the crowd surged. Top dog was Julius Caesar, winner on points. He won a wreath, a certificate, a trophy, and a television set.

One afternoon, after admiring the National Museum's remarkable ceramics, especially the blue-green celadon animal figures of the 12th century, I emerged onto the grounds of Kyongbok Palace. In front of its Throne Hall, primary school girls on an outing sat in a circle and cheered classmates wearing sashes with the names of other countries.

"Miss France" did a cancan, "Miss England" strutted in a blazer. "Miss Congo" wriggled. "Miss Korea," fluffing a big fan, was elected "Miss Universe" and did a traditional dance, while everyone sang "*Arirang*"

Respect for every living thing, a basic tenet of Buddhism, reflects from every cranny of the Popchu temple, where visitors enjoy the magnificent fall foliage. An

88-foot image of Buddha towers above the temple complex, begun at the foot of Mount Songni in the sixth century, after Buddhism flowed into Korea from China.

—Korea's traditional lament of lovers parting, sad but deeply satisfying. I'd never seen youngsters more unrestrainedly happy.

Then one morning I saw the riot police.

They came in green buses, in green fatigues, with black helmets and wire-mesh visors, gas masks, and clubs. They were increasingly in evidence because quite a few Koreans did indeed consider themselves oppressed.

Rights Suppressed for Public Good?

The background, in brief, was this.

President Park, who had ascended to power through a military coup in 1961, promulgated a new constitution in 1972; it allowed him to "suspend the freedom and rights of the people"; it also removed limitations on the number of terms he may serve. Subsequently he issued emergency measures making any criticism of the new constitution a crime.

President Park called all this necessary to strengthen the country, to face the worldwide economic recession and increasing agitation from North Korea. At the parade on Armed Forces Day I heard him declare:

"We will be able to prevent freedom from being taken away only when we are armed with the wisdom of temporarily sacrificing or voluntarily restricting some aspects of freedom for the sake of a greater, more comprehensive freedom."

At that very moment scores of university students were serving jail sentences, after courts-martial. So were several Christian clergymen, including a Catholic bishop convicted of aiding Communist subversion.

In Seoul thousands of students, as well as militant Protestant and Catholic clergy and laymen, waxed eager to stage demonstrations—to urge the freeing of those prisoners, and repeal of the new constitution.

And that's where the riot police came in.

"Remember, we have 37 colleges and universities in the city, that's nearly 120,000 students, and the majority probably are passive," said a professor of history. "So are many of the Christians, who represent only 10 percent of the population. Perhaps half of those would sympathize with demonstrations.

"But militant students were instrumental in bringing down President Syngman Rhee in 1960. Christians agitated against the Japanese colonialists as early as 1919. Both groups have political and social importance beyond their numbers. So there'll be conflict."

There was, and what I saw of it still seems to spill out of my notebooks:

• Demonstration at Sookmyung Women's University. Five hundred girls wearing silver snowflake pins—the school symbol, meaning pure and bright—try marching into the street, but riot police shove them back.

• Visit to the National Assembly. It has 73 elected members from President Park's party, and another 73 chosen by him; 57 were elected from the opposition party. An opposition member blasts government corruption, and the arrests of students; his party colleagues murmur *Chalhaesso*, Well done!

A Park-selected member speaks: "Don't tinker with the constitution. Didn't the nationwide referendum in 1972 vote 90 percent yes? Forget those troublemakers in jail; they broke the law! Let's raise the pay of the police."

Prime Minister Kim Jong Pil also rises, says students should stick to their studies, clergymen to the saving of souls.

• Catholic prayer meeting at the cathedral in Myong-dong. Banners say "Give back human rights"; a priest intones "Jesus knew when He helped the people that He'd wind up on the Cross, but He persevered." A woman reads a statement over a microphone, about her imprisoned husband being tortured with electricity. She chokes up.

• Korea University. All quiet. Students threw rocks at riot police yesterday and were doused with tear gas. The campus is closed.

• Visit with opposition party leader Kim Young Sam (page 399). He says 95 percent of the people would support a rewriting of the constitution, but they're too intimidated to say so; he'll persevere, no matter what.

• Protestant prayer meeting at the Christian Building. A Presbyterian minister cites Saint Paul jailed for following his beliefs, but an earthquake broke his chains! I see men taking notes; some are from newspapers. I am told that others are from *Chungang Chongbo-bu*, the Korean Central Intelligence Agency—

Hooded like a medieval warrior, one of 5,400 workers at the Pohang Iron and Steel works wears an asbestos shield against searing heat from molten iron. The ten-plant complex, built with 137 million dollars in foreign loans, plus 31 million dollars in Japanese war reparations, is a world leader in per-ton profits.

Super efficiency yields supertankers: Section by section, 270,000-ton leviathans are pieced together at Hyundai shipyard in Ulsan. These vessels will probably be completed in as little as 18 months from the time construction began. Low prices stemming from high-speed construction and cheap labor also increase foreign demand for calculators (**above, right**), here being inspected at Samsung Electronics Company in Suwon. The usual benefits of an industrial boom have not yet filtered down to urban workers; government policies keep wages low.

Seoul (**right**), largely destroyed during the Korean War, is one of the world's fastest growing cities. Its population, now 6½ million, has doubled in a decade.

they'll pressure participants later. Outside, a Methodist minister says a lot of students report to the KCIA. A smiling layman tells me he doesn't trust me either.

• Downcast professor, from closed university: "Students say to me, 'You taught us about democracy, why don't you speak out?' I know it's my moral responsibility, but I say nothing. I play the clown." Koreans call it *kobul moksumnida,* literally "to eat fear."

Looking Beyond the Facade

Law! Democracy? KCIA. Eating fear.... "You foreigners don't understand our situation." I'd heard this from more Koreans than I could remember. Some simply meant the threat from the North; others implied much more, a whole world of cultural differences.

And so I took time out, at a mountain inn, to mull over clues I had encountered. Sitting on the floor of my tiny room—with the paper door slid back to let in the clear air and a view of the valley—I tried to piece together the pattern of this dramatic Korean puzzle.

I had received a hint way back at the Kyongju festival, with my first taste of boiled silkworm grubs and Korean decorum.

"Eat them while they are hot," said my interpreter, as we walked away from a vendor's cart. "How do you like them?"

Nice nutty flavor, I said, but too squishy; I'll stick to chestnuts and dried squid.

"You shouldn't be eating things on the street anyway," he said. "It is undignified—except for low-class people, or children, or when one is drunk. Being drunk is not dignified either, but people understand."

Call it Confucianism. Korean fathers still remind the children, when they don't quite behave, that Korea was once called the land of good manners in the East. That was when the philosophy of Kongja—that's Confucius—was at its zenith here. In those days one didn't talk while eating; to this day many a Korean family eats in silence.

Or just call it the Korean way. Father says *kongbu haera*—study!—and even primary schoolers stick with their lessons till midnight. Learning is the traditional path upward, not just for the individual but for the family. Not to bring the family discredit, but honor and advancement—that's the duty owed to the ancestors, and to the generations to come.

This family-mindedness is built into the language and has far-reaching implications.

"We don't say *my* house," I was told, "but *our* house. It's not my sister but *our* sister."

A sociologist in Seoul had told me: "In Korea, Buddhist temples are often used for observing rites for ancestors. Christians also memorialize ancestors. To get the best of blessings for the family, Korean women go to any sort of God or spirit."

Confucianism says the people should trust and obey authority, and authority should love the people as a father loves his family. American political scientist E. R. Wright told me it doesn't always quite work that way in practice, but the idea is taken for granted.

He had focused on the political structure of the city of Taegu and found it hierarchical, paternalistic, rigidly bureaucratic. In short, typical of the way things are run in Korea.

That's also built into the language. You speak up or speak down, depending on the family position, or age, social standing, and power of the person addressed. It's not just a matter of tone of voice but of varied words and verb endings.

And then there's *nunchi,* or eye measure. It's a sixth sense, for watching the face of the man you deal with, especially if he's your superior. As Wright put it, "People are conscious of dependence on authority."

But didn't South Korea purport to be a democracy?

"After 1945 we were told to be democratic, so the trappings are here. The ruler tolerates an opposition party but not the loss of an election. Only once have we had a tranquil turning over of power." Thus spoke a Korean political scientist; he asked not to be named.

The Law, a Flexible Tool

And what about the law? Hahm Pyongchoon, a legal scholar, had put it bluntly in a book not long ago, before he became an adviser to President Park. Here is a summary:

The idea of looking to the law for protection is alien to Koreans. If a person needs help, he looks to his family or to others somehow connected with him—schoolmates or people from his locality. The Korean word for law, *bop,* carries three meanings. First—norm, order, system. Or penalty, punishment. Or form, appearance. And that's the traditional attitude. The law has always been an instrument for governing the people—to benefit the ruler, never the ruled. So the ruler never hesitated to disregard or change the law. That's the way it was in Elizabethan England; that's how it is in Korea. Koreans are modern in

many ways, but in terms of social outlook they still live in the 17th century.

In Seoul once more, I met a Korean who had returned after 15 years in Los Angeles and hardly recognized the place, everything looked so changed. Now, a month later, he thought that deep down little had changed.

At the market near the railway station appeared mountains of Chinese cabbages, as always in late autumn—the time for making the winter *kimchi*. No Korean breakfast, lunch, or dinner is without it; it's the one thing one must have to go with the thrice-daily rice. Each housewife devises her own variation, but no matter how you slice it, it's cabbage mixed with chopped red peppers, scallions, and garlic—all left to ferment in enormous earthenware jars. By now I liked it.

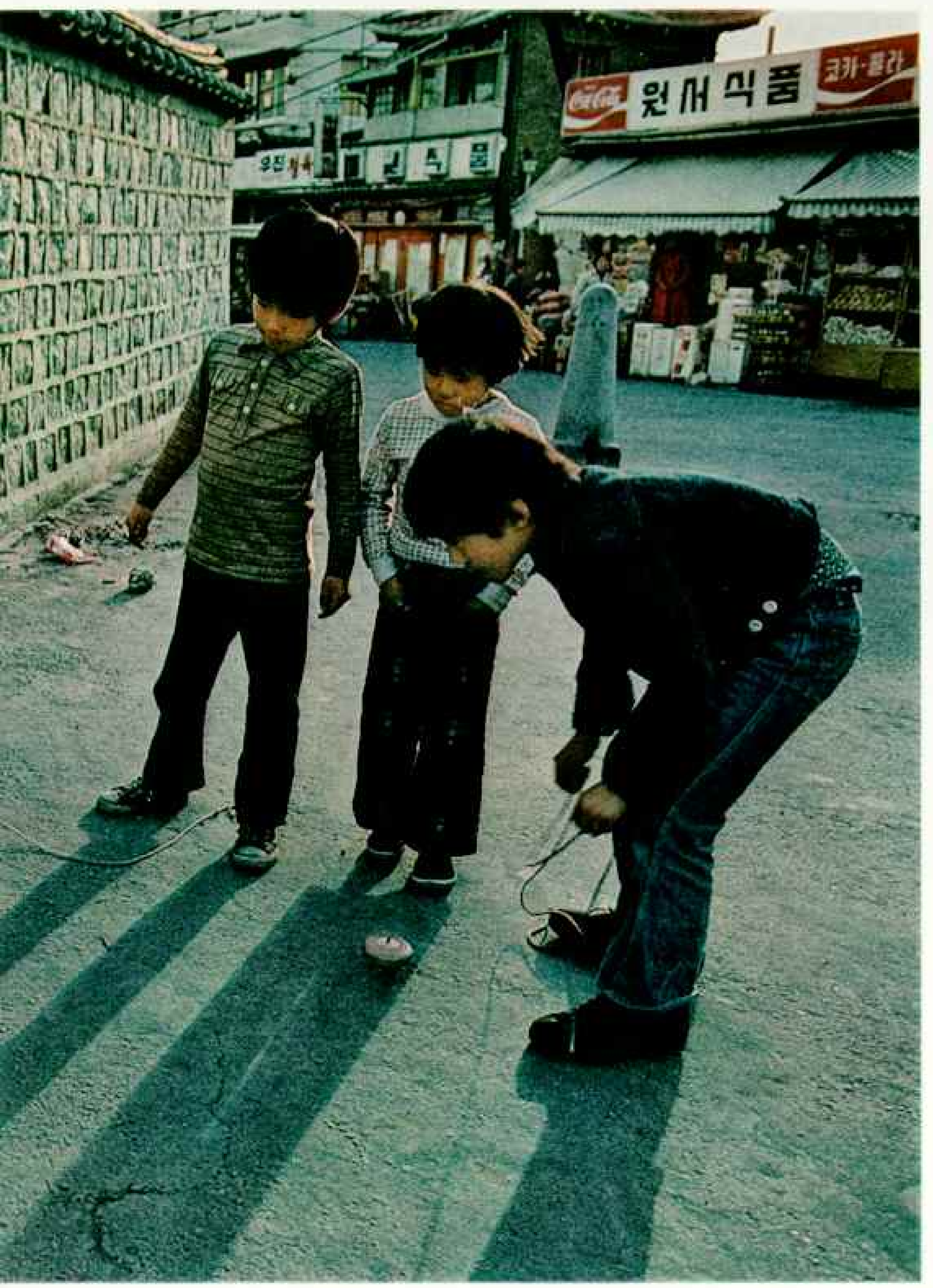
Was that a fight going on? No, only a lady and a driver settling the price of transporting her 300 cabbages in a little 3-wheel truck.

The lady pursued her kimchi-to-be, and I set out to see what my fellow Americans were up to in South Korea. There were about 50,000 now, including some 40,000 servicemen, the latest manifestation of a long involvement whose monuments I had seen all over.

A historic site on Kanghwa Island in the Yellow Sea had just been restored—the fort near the mouth of the Han River where U. S. Marines stormed ashore in 1871. The U. S. had wanted a commercial treaty, the Koreans wanted to be left alone; they fired on U. S. warships, and the fight was on. Scores of Koreans died, and three Americans; the warships left without a treaty.

Fruits of plenty honor the kings of old in a Confucian ceremony at Puyo, sixth-century capital of the Paekche Dynasty. Apples, pears, and meticulously stacked rice cakes flank a cow's head—an especially opulent offering—as robed city officials perform rites dating from the time of Kongja, the Chinese philosopher Confucius. Infused into Korea some 2,000 years ago, his doctrine stresses that general harmony derives from respect for authority.

Schoolboys spin color into a quiet Seoul street with old-fashioned wooden tops, and clothes and sneakers indistinguishable from those of their peers in



the United States—not surprisingly, since South Korea last year exported 400 million dollars' worth of textiles, finished garments, and footwear to America.

Tradition! Graceful tiled roofs seem to shout it from an old Seoul neighborhood, but TV antennas sprouting from many houses signal a modern life-style within. Two of every three households in Seoul have television, dominated by popular serialized melodramas.

Photographer Kim's family (**left**) gathers to share *mandu*, Korean dumplings. The occasion is a new arrival—Rhim Gui Yon, held by her father, Edward's brother-in-law. An antique nickel-silver stove rests on the floor, at center. The home, like most in Korea, is warmed by *ondol:* Hot air from a coal stove circulates through stone-lined flues beneath the floor.

American missionaries came in the 1880's. Forbidden at first to preach the gospel, they built schools and hospitals. Many Korean universities began that way, including Ewha—it's still Methodist, enrolling 8,000 women, the largest women's university in the world. And Seoul has more Presbyterian congregations than any American city.

Among Seoul's gigantic bronze statues—kings, heroes, and Sin Saimdang, a notably virtuous 16th-century poetess and painter—I found one of Lt. Gen. John Breitling Coulter, U. S. Army. He distinguished himself in the devastating Korean War, in which nearly three million Koreans died, and he supervised post-war reconstruction.

Dollars and Dogfaces Flow From U. S.

Amazingly enough, the 30 years since the end of World War II have seen U. S. expenditures in connection with Korea, both military and nonmilitary, amounting to not less than 37 billion dollars! That's as much as the total paid by the American people for the Marshall Plan that facilitated Western European recovery, *plus* the Apollo space program that put men on the moon.

Why such enormous outlays for South Korea? Because of its symbolic importance in the cold war of the 1950's, and because of its strategic value. As military jets fly, it's barely an hour from Seoul to Tokyo, 50 minutes to Peking, 40 minutes to Vladivostok (map, page 400). To North Korea, it's 2½ minutes.

Here are some of my notes on military life in this U. S. outpost in East Asia, currently budgeted at 580 million dollars a year:

U. S. rear echelon HQ, Yongsan District, Seoul: 8,000 military plus 8,000 dependents, an 18-hole golf course, a huge PX. On the football field, little Dolphins just squashed the Cowboys, teenage Jets are clobbering the Taegu Tigers. GI's are off to the beer halls in the Itaewon District. Money is being raised for Korean orphanages.

I Corps (Republic of Korea-US) Group HQ, Uijongbu: Lt. Gen. James F. Hollingsworth from Texas commands 11 South Korean divisions and one U. S. division. He tells me this is a war zone—the enemy is only 25 air miles from Seoul. Arrows on a map show likely North Korean invasion routes for Soviet-made tanks. The general believes that if the North Koreans strike, he can destroy them with laser-guided "smart bombs" from U. S. jets based in South Korea and on aircraft

Lampooning stuffed shirts of yore, a costumed girl portrays a Buddhist monk in a traditional masked dance, performed at the 15th National Folk Art Contest in Pusan. By saying the wrong thing at the wrong time and playing the imbecile in general, she exemplifies an old-time Korean method of mockery. More than a thousand folk artists competed in the contest, which also included songs and dramas.

carriers, and with B-52's from Okinawa. He doesn't mention nuclear weapons. He is proud that his command has planted six million trees to help reforest South Korea.

U. S. Second Division, Camp Casey: I join an infantry platoon in a night exercise—frozen paddy; slippery slopes; instead of shooting, soldiers shout "bang-bang." Radar sites on the mountains are brightly lit.

Helicoptering along Imjin River, parallel to DMZ: A 151-mile-long, 2½-mile-wide buffer zone. I see rust-brown mountains and a valley where a railroad once ran. The North Koreans invaded here 25 years ago. Camouflaged guns are dug into the hillsides, also revetments for tanks. Back at Division HQ, GI's are taught high-school math and civics. A GI says Korea's OK: The girls are terrific, and you only have to stay one year.

Meeting of Military Armistice Commission Secretariat at Panmunjom, in the middle of the DMZ: Negotiated after three years of bitter fighting, the armistice left Korea split pretty much as it had been before North Koreans invaded the South in 1950. The document was signed by a U. S. general on behalf of the United Nations Command; and by North Korea and an army officer from the People's Republic of China, which had sent soldiers to aid North Korea. South Korea didn't sign.

I attend the 428th secretariat meeting since 1953. A North Korean officer recites a list of armistice violations by "U. S. imperialist aggressors and the South Korean puppet regime." A U. S. colonel counters similarly and asks why no reply has been made to previous complaints. The North Koreans and Chinese drink hot tea; the U.N. side, including a colonel from Ethiopia, drinks ice water.

U. S. Army Outpost Oulette, inside the DMZ, on the Military Demarcation Line: GI's stand ready to set off Claymore mines, watch with radar by night, play cards. The DMZ has gone back to nature: man-tall reeds, wild boar, deer. Occasionally a deer detonates a mine. In the blue sky passes a rare Manchurian crane.

Back in Seoul an American businessman residing there was giving a party. "It's great to live in Korea," he said. "There's no violent crime and servants are so cheap."

His wife said she couldn't use the PX or the U. S. commissary, so some prices she had to pay in the market weren't so great:

"Imagine, a banana costing 20 cents! And a single lemon for two dollars! But Koreans

love Americans. And aren't they hospitable?"

Are they! I shared a taxi with an acquaintance and when I tried to pay, the man reached into his own pocket in such a way that he immobilized my hand with his elbow. Then he insisted on taking me to a tearoom.

"Was this man from Seoul?" asked another acquaintance after I told him this story.

Well, no. . . .

"Aha, I thought so!"

Koreans, I learned, tend to group one another into geographic stereotypes, according to the family's area of origin. Here's how I heard it most often:

Southeasterners—straightforward, manly; President Park is a southeasterner.

Northwesterners—the same, but aggressive as well; Kim Il Sung, the ruler of North Korea, is a northwesterner.

Northeasterners? Tough, resilient.

People from central Korea, especially from Seoul—gentle, narrow-minded, selfish.

Finally the southwesterners—clever but unreliable; skilled compromisers.

My sympathies veered toward the latter, to those southwesterners who over the centuries had had the least luck. The biggest rice producers and yet the poorest, long victimized by floods and by especially tightfisted landlords. And in the recent rush to industrial development, I was told, the southwest had been comparatively neglected.

In Seoul many southwesterners prefer not to have it known where they come from. Now the southwest was what I wanted to see.

After a four-hour bus ride to Kwangju, capital of South Cholla province, I was surprised. I saw a brand-new bus terminal as well as a brand-new hotel; a cigarette factory going up; a big, fairly new prison. Near a big high school, buses waited with riot police.

At Subuk township in Tamyang county, the administrator said all but three of his 21 villages have electricity! Three years ago, 95 percent of all households used the *chige*, or A-frame, for lugging things on one's back; now only 50 percent—thanks to the proliferation of man-pulled carts!

I stopped a few days in a village at the end of a narrow dirt road.

A little group was threshing rice. A woman fed a diesel thresher, another raked away the straw, boys tied it into bundles; still another woman collected the rice on mats and filled bags. A man tended the machine and helped the women.

He said there are 54 households here, 15 of them very poor—day laborers or share croppers; ten years ago half of these had land.

Why had they lost it? One reason: the government "cooperative" paid relatively little for rice. Then why sell to them? Because if you didn't, they wouldn't sell you fertilizer.

One morning 25 men of the Namwon Chin clan walked up a mountain to a tomb mound, to honor their 16th-generation ancestor who came here some 900 years ago. First food and drink were presented to the Mountain Spirit, then a more elaborate spread to the ancestor, finally everybody ate it all—rice, soup, kimchi, chestnuts. An old man politely said my presence was a good omen for the clan's descendants.

Crops and Spies Are Daily Concerns

In the village below, children were sliding down a reservoir wall on empty plastic fertilizer bags. Some had eczema—a deficiency in diet? A man said he remembers when some people, some days, had no food at all.

A sign said: If a stranger spends much money, has no job, doesn't know the exact prices of things, and says *tongmu*, meaning friend or comrade—grab him! He's a spy.

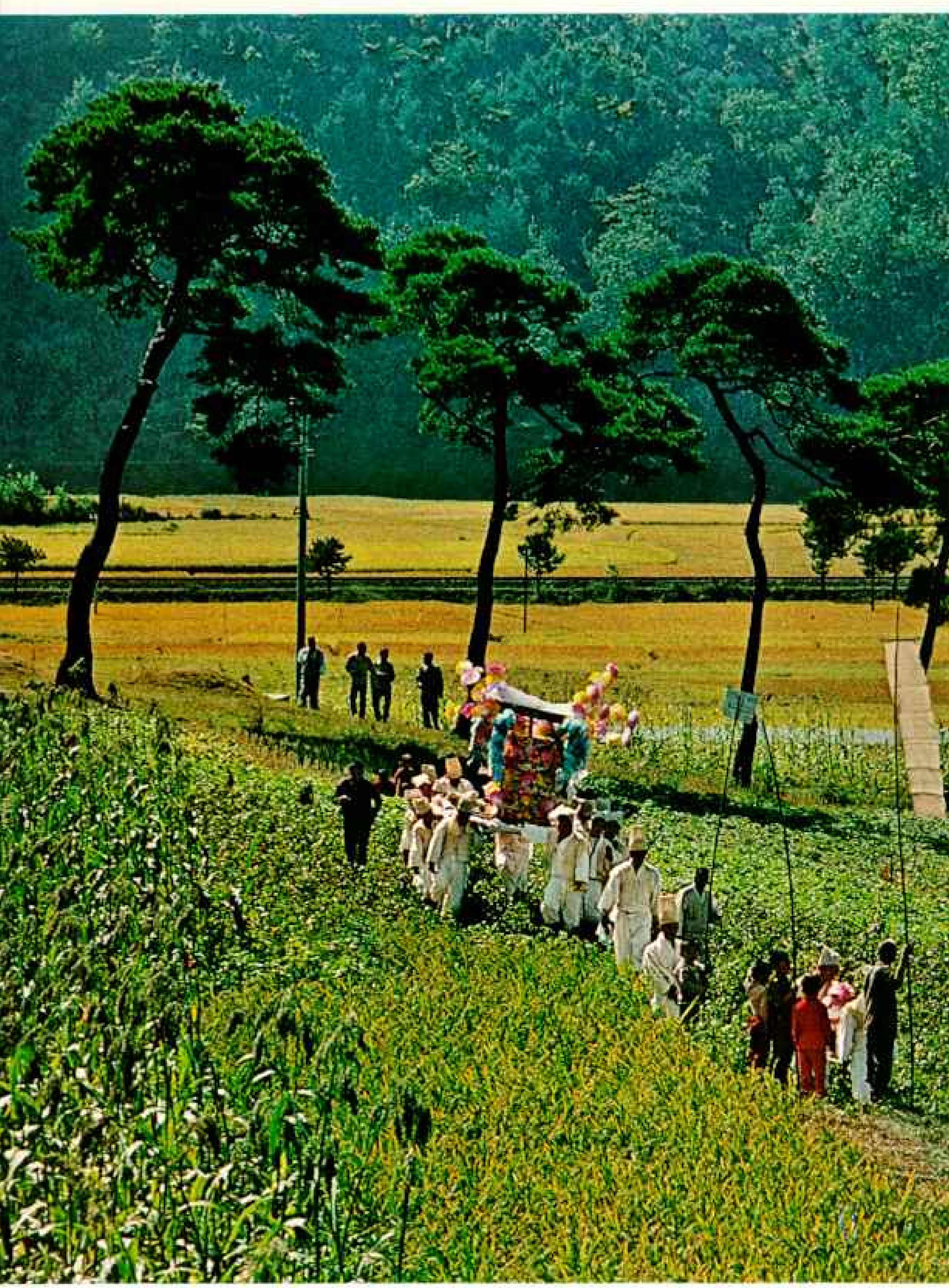
A farmer asked me in for the evening meal. His house had stone walls with rice thatch on top; in his compound I saw a rabbit cage, red peppers drying on clotheslines made of rice straw, and a stable but no cow. He had had to sell the cow, and hire one for plowing.

He said right now there's money from rice, and rice for the family. I asked about barley. It isn't good income, he said—to grow it costs almost as much as the crop will bring; but you get the money in a lump when you sell your barley in mid-July. His wife said the hardest time is May and June, when school fees have just been paid but there's no barley money yet. It's the hump of the year. "We call it barley hill."

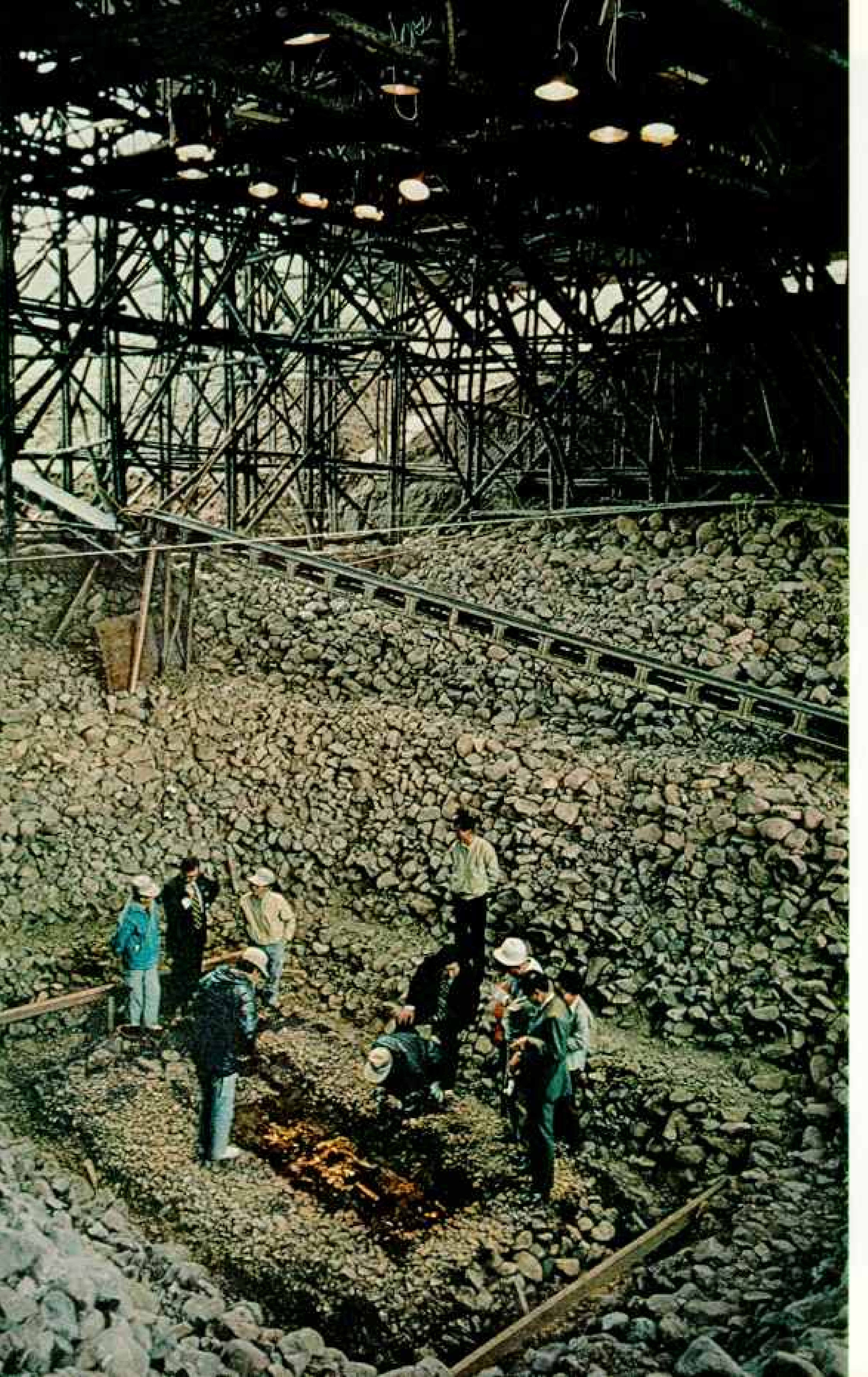
Outside, a dog grumbled. Stone walls stood silvery in the moonlight; thatch roofs looked warm, like fur caps. I remember mountains silhouetted on three sides. The smell of cow dung. A distant owl.

There was fog back in the provincial capital, so I couldn't fly to Cheju, the big island noted for mandarin oranges and impressive tallies of tourists (pages 420-23). I took a bus instead, to the southwestern seaport of Mokpo, and then a 6½-hour sea voyage.

That's how I *(Continued on page 420)*



Last journey for a Korean begins with a feast of rice, meat, and wine at a family shrine housing the coffin. Later placed on a funeral bier festooned with flowers and auspicious symbols, it is borne from the deceased's home to his tomb site by friends and relatives. Led by a banner proclaiming the name of the deceased, the procession passes through the countryside (**left**). Bereaved women of the family, garbed in white, the Korean color of mourning, remain behind in accordance with custom (**below**).



Digging into history, archeologists find queenly treasure (**left**), probably from the fifth century, in Kyongju, capital of the ancient kingdom of Silla. A temporary roof sheltered the excavation during the year of toil needed to reach the grave, protected through the centuries by tons of stones. Though the body had long ago mingled with the earth, an elaborate gold crown, necklace, bracelets, and a decorative girdle with dangling pendants still glow with regal splendor (**right**). Scientists study more treasures from the tomb, including silver and gold goblets and glass and ceramic vases (**above**).

Some Koreans condemn the project as disrespectful to national ancestors. "What will our descendants think of us for having done this?" a former university student asked the author. "In your country, would people dig up the tomb of George Washington?"

came to pass through the narrow strait of Myongyang, where long ago a great Korean admiral, Yi Sun-sin, had engineered a most remarkable naval upset.

The year was 1597, a time of yet another devastating Japanese invasion. Yi had 12 ships against 133. He put the enemy to flight —toward a neck of the strait where earlier he had submerged an iron chain. He signaled that the chain be lifted, to just below water level. And the Japanese ships, carried by a powerful current, capsized one by one....

On Cheju it was pheasant-shooting time, and the sport-fishing season, yet the hotels stood nearly empty. A year earlier they had been jammed with Japanese tourists. Since then there had been new strains on Korean-Japanese relations, and Japanese visitors were scarce in South Korea. It was another blow to the economy.

Money Woes Loom Larger

The last time I saw Seoul, winter was coming on. There was rice straw wrapped around young trees in the parks, for protection against the frost. And amid disappointing export figures published almost daily, I heard of economic chills to come.

"The government knows that city people will have to take a substantial cut in their standard of living," said a foreign diplomat. "That'll be hard for those on the edge of the middle class. It'll be even harder for the majority who barely get by."

I saw so many working so hard just to get by. In great blocks, each housing hundreds of little workshops, thousands of men and women cut, sewed, and finished shirts, coats, and trousers. Many worked 13 hours a day, often with only one Sunday off a month. I figured out what their pay amounted to, on an hourly basis. For two out of every five, it came to 20 won, then the equivalent of five cents. A cup of coffee in a tearoom cost 50 won.

That price, fixed by the government, was holding steady. Rice, school fees, the weekly bath at the bathhouse—all were up steeply. But wages weren't rising nearly as much, and a powerfully placed official at the Economic Planning Board explained to me why this was part of a long-range plan:

"The land our farmers have is too small for a decent living, so we must give them industrial jobs. We still have 45 percent of our population in the countryside, but within six years we *(Continued on page 427)*

Treasured isle for tourists, Cheju draws vacationists from the mainland to a popular retreat called Lone Rock (**above**). Last year half a million visitors came to Cheju's beaches, waterfalls, caves, temples, and Mount Halla, the volcano that formed the 700-square-mile island.

Despite December snow flurries, a golfer tees off at a Seoul country club (**right**). When snow blankets the course, balls are painted red. All the club's caddies are women.

The other face of Cheju: latticeworks of stone, humble fields of sweet potatoes, straw-roofed homes snuggling against the earth. In the island's shallow soil, the farmer's seed lies protected from ocean gales by rock walls; his life within remains

little touched by currents of change brought by outsiders. A network of ropes holds down the roof over his head, and hard work helps him grow enough to feed his family and put a little money in his pocket. Traditionally, women of the island were the breadwinners, while the men stayed home to tend the children. Her years of toil done, a mother rests in the shop where her daughter sells pineapples grown in vinyl greenhouses, one of the few innovations to take root in their part of Cheju.

Propaganda war has flared for decades between the two Koreas. At Panmunjom, in the middle of the DMZ—the Demilitarized Zone—a delegation of North Koreans at the 356th meeting of the Military Armistice Commission display what they charge is a camera-equipped U.S. espionage plane (**right**). On the other side of the conference table, a U.S. Navy officer, representing the United Nations Command, noted the allegation, which was later denied.

Joining the spy-versus-spy battle, Seoul's City Hall Plaza exhibits a collection of photographs (**below**) showing one of several tunnels dug under the DMZ by North Koreans, apparently to infiltrate troops or agents into the South.

President Park has constantly exhorted his people to stand ready to repel any aggression—doubly so since the fall of South Viet Nam and Cambodia. As this article went to press, South Korea announced plans to supplement its 600,000-man standing army and 2.7-million-person "homeland reserve" by forming not only a student defense corps composed of all high school and college males but also a non-student civilian defense corps of some three million male and female volunteers ranging in age from 17 to 50. Though Park warned against relying too heavily on U.S. military support, 40,000 Americans were stationed in his country, including these, only a few yards from the DMZ (**below, right**).

want that to go down to 35 percent, then to 10 or 20 percent in twenty to thirty years. If we let wages rise too soon, before the excess labor from the farms can be absorbed, we'll have enormous unemployment, because the higher the cost of labor, the less employers will invest in new job-creating enterprises."

This was another point the dissident politicians, students, and clergymen kept dwelling on: The low-wage policies fostering South Korean industrialization, they said, also fostered social injustice.

I took a walk in the Secret Garden of the Yi Dynasty kings, but the sky turned gray, there was a deluge, and I ducked into the examination hall at the lotus pond.

Here aspiring scholars had sweated. To top scorers went the top government positions. Here King Sukchong, who wrote that music dissolves 10,000 woes, sought respite from the feuding cliques of his 17th-century court.

Hail fell, and the ground was white. A boy and a girl came running in. I could tell from their insignia that she was from Ewha, he from the Confucian university. Both schools had closed, because of demonstrations.

In the gray sky a little blue spot widened. He and she walked off arm in arm, demonstrating—what? Survival in difficult times?

Probing the Commonplace for Meaning

This had become a habit with me, to draw inferences from all around—a reflection of Taoism, perhaps, that part of the Korean mind that sees lessons everywhere in nature. As a friend had put it, "The rocks, the trees, they all teach!"

He and I were enjoying the glorious setting of the temple at Mount Songni (pages 402-403), a favorite excursion goal, with big attractions: an eighth-century iron caldron that held rice enough for a thousand monks; a 20th-century concrete Buddha image higher than the tallest pines. In the building of the giant guardians, four 30-foot figures, garishly painted, glared fiercely. And I wondered, if I were a riot policeman, wouldn't I see myself in the role of those fearsome giants?

Narrow paths led up from this place to hermitages high among the rocks, but most visitors went just a little way, to the main hall, to the three most important images. And what did the three images convey?

My friend said the Rosana Buddha, on the left, represents natural law. Sakyamuni, on the right, symbolizes the ever-changing world. The central image was Birojana Buddha—the Buddha of self-preservation.

The teaching seemed to be: If you have strong convictions, follow them, but there's nothing wrong with just trying to survive. And I thought, how could one *not* sympathize with everyone caught up in Korea's drama?

Nation Girds for Stormy Days Ahead

After I left South Korea, the pressure on everyone there—economic and political—increased. The government took what steps it could, little and big.

Disposable wooden chopsticks, for example, were ordered reduced in size from nine inches to seven, to conserve resources. And President Park decreed another referendum on the constitution: This time only 73 percent supported it, and a million fewer turned out.

The universities opened again. Most of the dissident prisoners—though still labeled criminals—were released, including the bishop and a noted young poet.

The poet was rearrested after he continued to assert that the charges against him as well as others had been fabrications. Clergymen, including His Eminence Stephen Cardinal Kim, vowed to continue speaking out "for human rights and social justice."

One day the assembly abruptly amended the criminal code, making it a serious offense to criticize the government to a foreigner. I was taken aback. If I returned, and some Koreans repeated some of the things they had told me, they could be jailed for seven years.

As I finished writing, the North Korean threat as perceived by the South Korean Government mounted to new heights, and President Park issued a new emergency measure. Now the prison sentence for criticism could be anything from one year to life.

I'll be watching the newspapers. □

Flowers and "grease guns" of the Women's Army Corps mark Armed Forces Day in Seoul. As pressure built in East Asia, Koreans north and south inevitably pondered the paradox of their sundered land. Politically bitter enemies, citizens on both sides of the DMZ share common roots, and an inextricably intertwined destiny. Noted an ancient Confucian sage: "Heaven sees as the people see; Heaven hears as the people hear"—meaning the will of the people will be done.

MIGHT MAKES RIGHT

Among Alaska's Brown Bears

ARTICLE AND PHOTOGRAPHS BY
ALLAN L. EGBERT and
MICHAEL H. LUQUE

THE STRAW-COLORED MOTHER was hurrying upstream, on our side of the river, forcing two spaniel-size cubs into a gallop to keep pace. Mike Luque, my co-researcher in a study of brown bears in their Alaskan homeland, saw them first.

"Do you recognize her?" Mike asked.

Through my spotting scope, the female looked disconcertingly familiar—dingy coat, harried gait, and foam-flecked jowls.

"Can't be certain, but she looks like the one," I answered, feeling a twinge of concern.

This June day we were ensconced in our favorite observation place beside the McNeil River, at the base of the Alaska Peninsula (map, page 431). A month earlier I had hiked ten miles down the coast to observe some of the sixty to eighty brown bears that soon would gather to fish for salmon at McNeil River. That had been the first time, in four summers spent among one of the densest concentrations of bears on earth, that either of us was charged—and it was a straw-colored female with two cubs that had rushed me. She had stopped finally—about thirty yards away—but not before subjecting me to the five most frightening seconds of my life.

Now it was happening again. The mother bear spotted us, clipboards and shotguns in hand, and paused. Then, like a tautly coiled spring suddenly released, she became a hurtling tan blur, uttering a throaty, guttural roar as she lunged toward us.

Suddenly she skidded to a stop, reversed course, and raced back to her squalling cubs. But then she turned and came again. Forty-five yards away she broke off for good, gathered up her family, and led them off. Her angry roar gave way to staccato huffs as she vanished into an alder thicket.

Thoroughly shaken, I turned to Mike. His face bore an uneasy grin.

"She was the one," I said.

Browns Grow Bigger Than Grizzlies

Mostly because of the brown bear's elusiveness and remote habitat, scientists have only recently begun to piece together the life story of *Ursus arctos,* which vies with the polar bear of Arctic regions for the title of world's largest land carnivore.

Three species of bears occur in North America: the polar bear; the small and numerous black bear; and the group we know both as brown and grizzly bears. Bears along the coasts of Alaska and British Columbia are known as "browns," and those inland as "grizzlies." Anatomically they are indistinguishable, except that the brown bear often grows much larger. Male grizzlies around Mount McKinley are considered big at 600 pounds; males on the coast often weigh twice that—probably because of more abundant and varied foods—and may tower ten feet on hind legs.

Under the supervision of Dr. Allen Stokes of Utah State University, I joined a research group at McNeil River in July 1971 to study brown bear behavior and ecology for my doctoral degree. Mike Luque, a Utah State schoolmate, teamed up with me later. Aided by the National Geographic Society and with support *(Continued on page 433)*

Like lost children, yearling brown bear cubs look around for their mother. A four-year study by the authors has revealed new secrets of the social life of these enormous land carnivores. ALLAN L. EGBERT

BOTH BY MICHAEL H. LUQUE

Catch-it-yourself fish market, rapids on the McNeil River bustle with brown bears during the salmon run in summer. As many as sixty to eighty of the usually evasive and solitary animals dine along a 100-yard stretch of the sanctuary. The bigger the bear, the better the fishing hole—since size rules in bruin society. The animal on the far bank holds the prime spot. A female at upper left awaits a vacant vantage point.

Mike Luque (**left**) mans an observation post near the rapids. Twice a mother with cubs charged the researchers, but they never fired their guns during an intensive study supported in part by the National Geographic Society.

"Who's this eating at my table?" Goldie nurses not only her own two cubs, but two uninvited playmates whose mother is fishing nearby. Sows bear one to four blind, naked, one-pound cubs in winter dens; youngsters are on their own by the third summer.

from Alaska's Department of Fish and Game, we returned during three subsequent summers to continue our studies.*

What distinguishes the observation site at McNeil River—otherwise just an average salmon stream—is McNeil Falls, a stretch of turbulent rapids that surge over rocky ledges a mile above its mouth. In these swift and narrow waters the confined salmon—arriving each summer to spawn—are vulnerable to the bears. Here during July and August the burly animals wait like ticket takers at the gates of a stadium to pluck the struggling fish from the water (pages 430-31).

Frantic Yell Routs a Nosy Female

Alaska in 1967 set aside McNeil River and its tributaries to protect the bears and their habitat from hunters and encroaching civilization. Now called McNeil River State Game Sanctuary, and accessible solely by small plane or boat, the area provides a place where photographers, naturalists, and scientists can view brown bears at close range.

Early in the season—we normally arrived at McNeil River each year in June—we were the only human occupants. Several bears already were grazing on tidal flats a few hundred feet from our camp, which we set up beside the estuary of McNeil Cove.

From the flimsy security of our tents we could hear the bears padding quietly along the beach after dark. Mike awoke one morning to find himself face to face with an adolescent female, poking her head through the tent flap. His blood-curdling yell sent her packing. But the bears seldom invaded camp unless tempted by food. We stored our supplies in an elevated cache, but incompletely burned garbage continued to be a problem.

Each morning Mike and I hiked two miles upstream to a cavelike rock undercut beside the rapids. This was our prime observation point. Bears constantly passed nearby, but the ledge guarded our backs from animals stumbling on us from the rear.

With bears all around, we moved with caution. A recurrent myth about brown bears is their poor vision. Actually, they are acute at detecting movement, even at long distances.

*Other agencies and institutions supported the research: the National Science Foundation, Boone and Crockett Club, U. S. Fish and Wildlife Service, National Park Service, Society of the Sigma Xi, Carnegie Museum's Allegheny Foundation Fund for Studies in Animal Behavior, and the American Museum of Natural History's Theodore Roosevelt Memorial Fund.

Another widespread belief holds that bears are notoriously unpredictable. We found, however, that the bears at McNeil River behaved according to strict rules based on size and social rank. But each bear possessed a distinct personality; different bears might react in different ways to similar circumstances.

Knowing each animal as an individual was basic to our studies. Scars or misshapen ears distinguished many adults. But in young, fast-growing bears, natural markings usually were unreliable. So we helped immobilize a number of them with tranquilizer-tipped darts and tagged them (following pages).

Other studies indicate that brown bears are normally loners and wanderers. An adult male may roam from one location to another fifty miles or more away; the boars cover twice—perhaps three times—as much country as sows. These wide-ranging travels seem to hinge on the vagaries of food availability or, in the case of the boars, on the pursuit of sows during breeding season.

Perhaps in extension of their gypsy instinct, brown bears, unlike many large carnivores, do not appear to be territorial in an exclusive sense. The home ranges of different bears overlap broadly. While we once counted 20 brown bears—including three sows with six cubs—grazing on the sedge of a 40-acre tidal flat, it was clearly the abundance of food that had brought them this close together.

Even in the crowded and competitive situation at the falls they tended to keep distance between one another. And time and again we documented one fundamental rule of bear behavior—the larger the bear, the wider the berth its fellows gave it. A St. Bernard-size subadult (2 to 3 years old) will flee a 450-pound adult female just as that same female will avoid a big male.

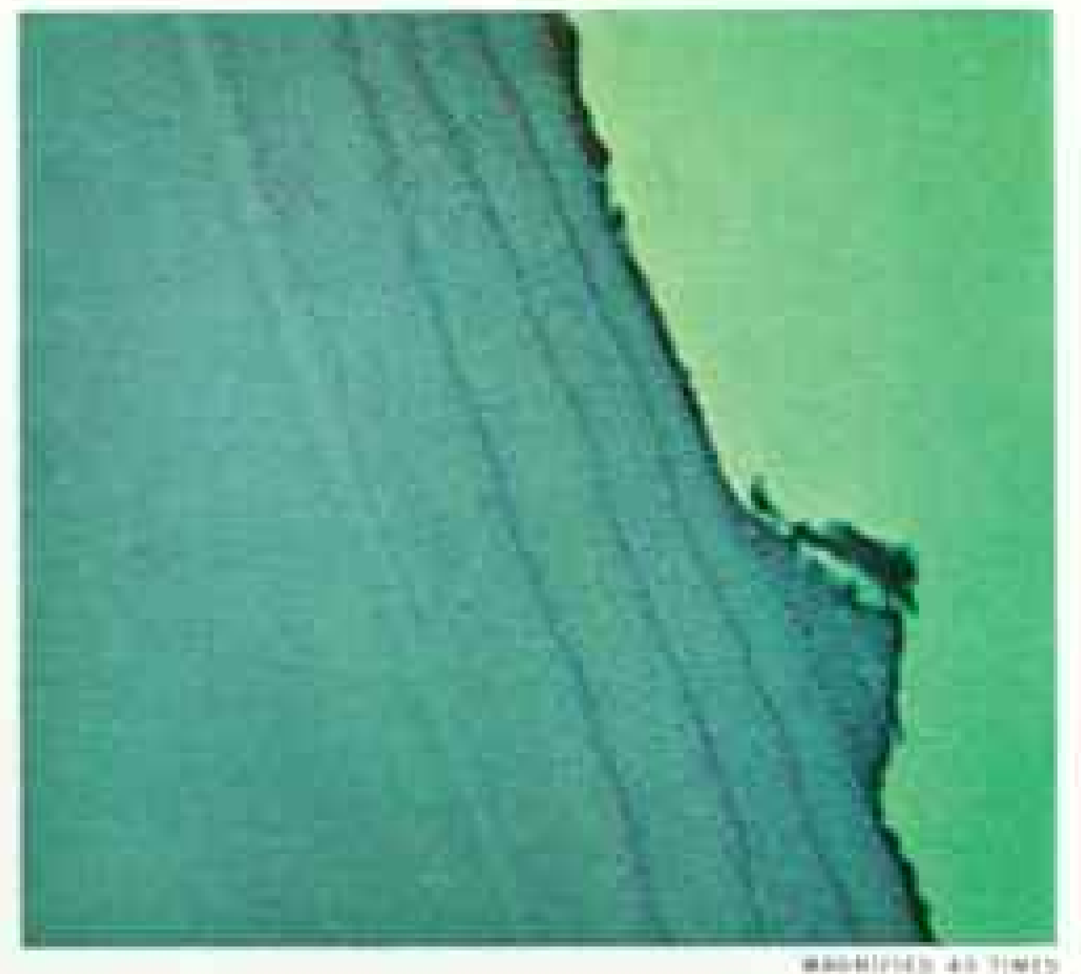
Beware the Courting Boar

One midday we were trudging to our camp carrying drinking water when we saw a little 2-year-old running full tilt toward us. We put down the buckets and retreated. The small bear streaked past our pails without breaking stride, foamy mouth panting and ears pressed back. We looked for the cause of its alarm. About 300 yards away an adult was ambling toward its favorite grazing spot. No other creature was in sight.

It was a vaguely comic spectacle, but a more solemn incident convinced us there is good reason for *(Continued on page 438)*

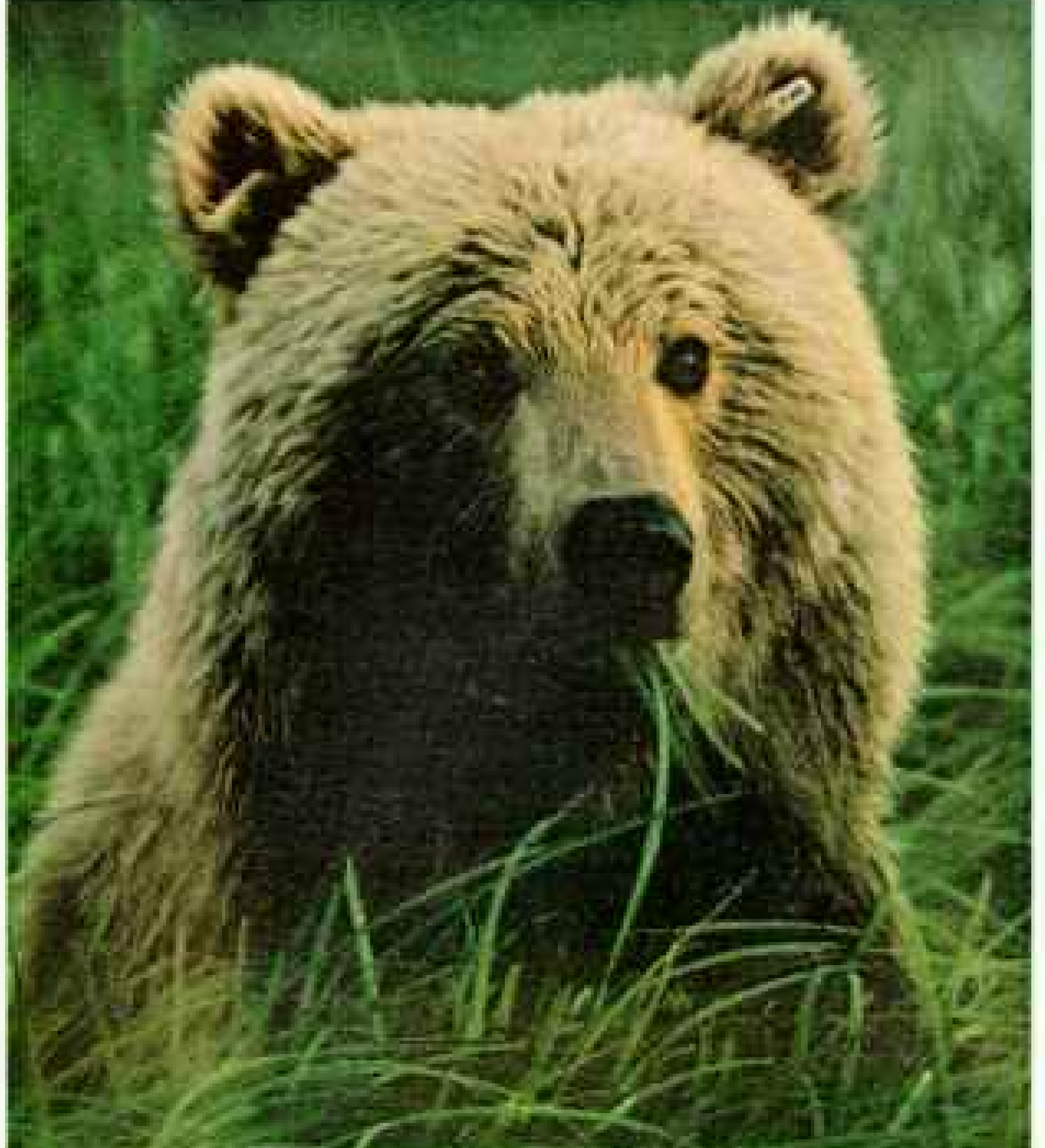
Brute force brought low, a 900-pound male immobilized by a harmless drug submits to biologist Chuck Irvine of the Alaska Department of Fish and Game (**below**). He attaches a radio transmitter to the boar's neck; the animal's back was bloodied in a battle with a rival. Radio tracking has revealed that a male may forage fifty miles afield, at least twice as far as a female.

Marking another bruin (**left**), biologists tattoo an identifying number on its lip. Forceps extract a premolar (**near right**) that, cut in paper-thin slices, tells age like the rings of a tree. Broad speckled bands deposited in the summer growing season and dark narrow strips from winter hibernation (**far right**) add up to 3½ years. Such monitoring helps Alaska regulate hunting, thus keeping the brown bear population thriving.



MAGNIFIED 40 TIMES

L. R. GLENN (BELOW); ALLAN L. EGBERT



Belly-flopping fisherman dives for dinner. Incredibly, the technique works; six leaps in 15 minutes landed two salmon, pinned to the riverbed by paws. Another adolescent brings a salmon ashore in his jaws (**right**). Mothers give no fishing instructions, leaving their young to develop styles of their own.

As the salmon run ends, bears disperse in search of berries and grasses to fatten themselves further for hibernation. Emerging from their dens in spring, they feed on roots and the beached carcasses of walrus, seal, and whale. When marsh plants sprout, a female (**left**) grazes on another favorite food—sedge, a plant rich in protein.

ALL BY ALLAN L. EGBERT

such a display of terror. A petroleum exploration crew found the carcass of a small bear and carried it by helicopter across McNeil Cove to our camp. Game biologist Jim Faro confirmed the female's age—2½ years. Jim's autopsy showed that she had died from a powerful bite inflicted on her throat. Her esophagus was crushed and her windpipe bore tooth perforations. And her upper shoulders had been eaten away. We could only guess that she had been killed by one of at least seven adult boars we had observed courting females in heat in that area.

Only the Toughest Cubs Make It

In few creatures is the weight range so extreme from birth to adulthood: Newborn brown bear cubs weigh about a pound; a mature male may tip the scale at as much as 1,400 pounds.

Born naked and helpless in January, when the females are snug in winter dens, most of the litter of one to four cubs will survive until April or May, when they emerge. Then their real problems begin. Until weaned, cubs follow the females everywhere, braving torrential river crossings and occasional attacks by other bears. Despite their mothers' fierce protection, they suffer frightful attrition. During our stay at McNeil River, nearly 40 percent of the cubs did not live to see their second summer; we could not pinpoint the precise reasons for such alarming mortality.

Alaska Peninsula cubs usually stay with the sows for 2½ years. By the third spring after giving birth, the adult females are again ready to breed. The young, perhaps partly from fear of the male suitors, then drift away on their own.

Springtime—after the brown bears have emerged from their dens—seems to be a critical period in their annual cycle. Usually they face frugal times and lose weight until summer's onset; some may perish, especially if they entered winter dens the previous autumn in poor condition.

Bears are classified as meat eaters, in the same league as mountain lions and wolves. But, like humans, they will consume almost anything edible. When the ground is still snow-patched, south-facing slopes resemble plowed fields where brown bears, newly emerged from their winter dens, have excavated for roots and tubers. They also laboriously dig out ground squirrel burrows—even fox dens—usually in vain.

Caribou and moose together with their newborn calves become early-spring prey for the bears, which also become carrion eaters. They seem to relish the putrified carcasses of seal, walrus, and whale that wash ashore. In June 1974 I counted five brown bears around a beached whale.

In late spring brown bears switch to the succulent growth of new vegetation—grasses, sedges, and roots. Seeing bears grazing placidly on tidal flats, we could easily at a distance have mistaken them for cattle. We sampled *Carex lyngbyei*, the sedge preferred by the bears, and found that it has a pleasant, slightly nutty flavor. Analysis showed that its protein content may exceed 25 percent in late June and early July.

With the long days of summer, nature serves up the year's main course for the feasting bears: hordes of salmon entering the streams to spawn. Chum salmon begin to arrive the first week of July. Soon salmon are swimming into the river mouths by hundreds and then thousands. Knowledgeable brown bears hear the splashing fish and move to vantage points along the shore.

Look Out! Here Comes Charlie Brown

Salmon, assuredly, were the key to brown bear social relationships at McNeil Falls. When fish were scarce and bears hungry, the animals squabbled fiercely over fishing sites and over captured fish. As salmon became abundant, aggression waned.

At 1,200 pounds, Charlie Brown was the largest, most awesome adult male to visit the river in recent years. Once we watched as Charlie shuffled down the riverbank to surprise Light, a 5-year-old male, at the best fishing hole at the falls.

"Turn around, Light, turn around!" Mike muttered under his breath. Finally Light happened to glance over his shoulder. With the big boar only 30 feet away, the younger

Humble as a street beggar, adolescent Red salvages a dead salmon from the McNeil. Youngsters often scavenge streams for fish left by dominant bears. But as the huge boars spend relatively little time at the falls, the others have ample opportunity to fish and grow fat, particularly when salmon are plentiful. ALLAN L. EGBERT

Biting and clawing, a mother called Lanky, left, attacks a younger female who strayed too close to her cubs. The brief fight—surprising a low-flying sea gull—ended when the intruder retreated.

Safeguarded by wise game management, and with huge wildlife preserves created for their special benefit, these Alaskan bears look to a far brighter future than their cousins in the Lower Forty-Eight.

bear had but one escape route. Half stumbling, half leaping, Light fell into the rapids. As Charlie occupied his rightful place, Light bounced and careened along the rocky bottom until swept uninjured into an eddy.

In catching salmon at the McNeil River rapids, the brown bears vary from incredibly skilled to pathetically inept. Fishing techniques differ, but usually an experienced animal pins the slippery quarry to the river's rock bottom with its forepaws. A fraction of a second later, the salmon is struggling futilely in crunching jaws.

Angry Sow Stands Her Ground

One day Dark, a gangling growing male, chased off a 2-year-old that tried to usurp his fishing place. Returning, Dark found his fishing site occupied by a female with three cubs. Big Momma under the most easygoing circumstances was pretty irritable. With three cubs to care for, she was fused dynamite. Dark tried to bluff his way back to his stand. But Big Momma wheeled with a wrathful roar. Dark bounded away, but not before the female neatly sliced a patch of skin the size of a human palm from his rump.

"Look at that gash!" exclaimed Mike.

Volatile females with offspring instigated about half of all the combat we observed, but usually a single swat was the only blow struck. Fighting, in fact, is not a normal preoccupation of brown bears. Only 124 of more than 4,000 encounters we observed involved striking or biting. The bears seem to reach the pragmatic conclusion that to inflict pain on one's fellow invites retaliation. Meaningless combat is thus avoided.

There was, however, one overriding exception. While other bears, lulled by familiarity and easy feeding, learned to accept their fellows, sows with cubs or yearlings remained unreconstructed tyrants. They are totally intolerant of intruders; their aggressiveness has evolved to protect their offspring. Eyewitness reports of bears killing cubs are surprisingly common, and judging by the females' antagonism for fully grown boars, we suspect the latter are the usual culprits.

As the season advanced during a heavy salmon run, disputes over fishing locations ceased. Glutted bears brushed by each other, at times even pausing to sniff amicably.

Playing is not unusual for brown bears, especially among the young. But when we saw two tagged 650-pound males, one 7 years old and the other 8, scuffling boisterously in a pool 50 feet from us, we were amazed. We knew they were not litter mates.

As with the first couple on the ballroom floor, their high-spirited roughhousing soon was imitated by others, especially subadults

MICHAEL H. LOGUE

and adolescents. For nearly three weeks, in those warm, bountiful summer days, social play was the prime activity among the McNeil River younger bears.

If juvenile bears had the most fun, the big males ruled as the unchallenged despots. Their appearance could trigger an exodus of the junior crowd verging on panic. These massive animals, with scarred heads and shoulders and with the battered, torn ears of prizefighters, were awesome. During the height of the salmon run, they usually paid little heed to underlings. Their attention focused on sating gargantuan appetites.

But during the earlier breeding season, from late May to mid-July, the big boars became frothing, ill-tempered behemoths. A female newly in heat is unreceptive at first—perhaps frightened by the attentions of a male at least twice her size. Her rebuffs, and the ever-present possibility that an interloper may steal her away, cause her suitor continually to threaten any bear unlucky enough to cross his path.

Some Bears Tolerate Humans, But . . .

The unusual tolerance of the McNeil River brown bears toward people has evolved over years of exposure to visitors. No such acceptance has built up elsewhere in Alaska. In 1974 a wildlife photographer was killed by a brown bear near Cold Bay when he made the mistake of pitching his tent near a bear trail on the bank of a salmon stream.

Another attack came to our attention when a call over the Fish and Game Department's radio told us that Dick Jensen, a resident of Naknek, a fishing village on the coast of Bristol Bay, had been brutally assaulted by a mother bear as he walked through town—passing by the sow and her two cubs, which were eating out of a roadside garbage barrel.

Some years, settlements along the Alaska Peninsula are plagued by bear invasions. Usually the animals are attracted by garbage dumps or odors of salmon wafting from canneries. Emboldened, they may raid garbage cans and even break into homes.

Mike visited Naknek a year after the near-fatal attack on Dick Jensen. "We have to act sensibly when bears are around," Magistrate Red Harrop told Mike. "Don't take shortcuts through the alders, and don't go for walks at night."

Others shared the view of Vern Jones, superintendent of a Naknek salmon cannery, who was forced to erect an electric fence to discourage bears from breaking into his cookhouse. "The only good bear is a dead bear!" Vern said flatly.

Conflicts between man and bear will continue as long as bears associate people with food—or until bears are eliminated in the vicinity of towns. Unfortunately, elimination usually means shooting. Perhaps as many as 18 bears were killed by outraged townsfolk in the weeks following the assault on Jensen.

Study Shows Browns Are Increasing

Surprisingly, the greatest threat to the brown bear is not the man with the gun. Biologist Lee Glenn of the Department of Fish and Game and his associates Lee Miller and Chuck Irvine are concluding a study of brown bears near Black Lake on the Alaska Peninsula. Immobilizing their subjects with drug-filled darts fired from a helicopter, Lee has marked and collected data on more than 500 bears over the past six years.

Even though bears in Lee's study area are heavily hunted, they have—amazingly—actually increased in number. This favorable situation seems tied to the sportsmen's cropping of large males. Few of these patriarchs remain to threaten (or force into marginal habitats) the subadults, which consequently survive in increasing numbers.

Hunting regulations prohibit killing females with young, and big males are preferred as trophies. Lee estimates, as a result, that females outnumber males by more than three to one in his study area.

Future Keyed to Habitat

If Lee Glenn's statistics are a reliable indicator, brown bears may be as numerous in some regions now as they have ever been. Overall, Alaska's coastal brown bear populations seem healthy, numbering perhaps 7,000 to 8,000 individuals.

This bright picture could, unfortunately, change. Alaska's human population has increased by 30 percent over the past decade. Demand is unrelenting for growth and development. Lee cites two reasons for concern: The recently enacted Alaska Native Claims Settlement Act may increase the prospect that cattle, sheep, and domestic reindeer will come to the peninsula. Scientists repeatedly point out that brown bears "take it in the neck" in conflicts with stockmen.

"My greatest concern is the loss of habitat," Lee told us. "We can regulate hunting, but if the environment is drastically altered over a broad area, there's not much we can do."

Thankfully, there is little danger that these magnificent animals will become extinct in the near future. Alaska is huge, and brown bears, shaped by evolution to be opportunists, are adaptable and resilient. But how widely they will roam in future years depends on how much unspoiled habitat we leave to them. Man and brown bears do not have a happy history of coexistence. □

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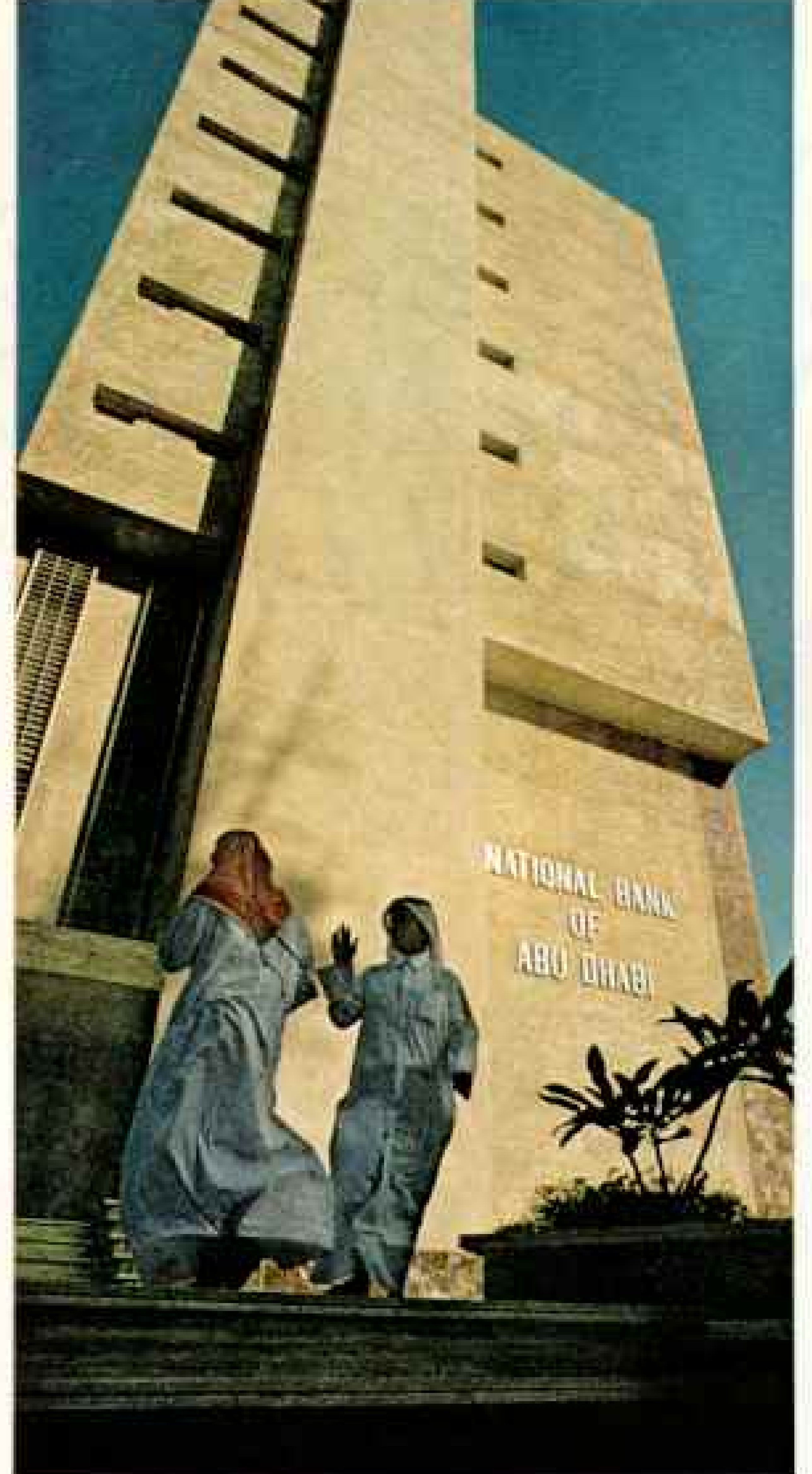

WINFIELD PARKS (LEFT); JOHN PUTMAN

The Arabs come into their own

RIDING A MAGIC CARPET of petrodollars, the Arabs have abruptly become international policymakers—and breakers—of the first rank. As Arabian banks such as this one in Abu Dhabi fill with oil wealth, world attention swings to Persian Gulf lands. Araby's spectacular arrival at the forefront of the global economic scene, as recorded by writer John Putman and photographer Win Parks (**above**), will appear in next month's GEOGRAPHIC. Nominate a friend to share such on-the-spot coverage.

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Enterprise: A Neglected Freedom?

Agriculture, Manufactures, Commerce, and Navigation, the four Pillars of our Prosperity, are the most thriving when left to individual Enterprise.

Th: Jefferson

There are more Instances of the abridgment of the freedom of the people by gradual and silent Encroachments of those in power than by violent and sudden usurpations.

James Madison

Individual enterprise, as Thomas Jefferson noted, was the foundation for the pillars of American prosperity two centuries ago. In fact, it was largely the enterprise of individuals and organizations seeking private gain, or profit, that spurred the founding of the colonies in the century before the break with England.

Every school child knows that the Revolution was a struggle for freedom. What is often overlooked is that one of the basic liberties for which the colonies fought was the freedom of enterprise—the freedom to develop without the economic constraints imposed by England.

In the two hundred years of America's growth, freedom of enterprise has been tightly interwoven with our other basic freedoms. It has provided a unique climate for invention, for innovation and for competition that has allowed our people to achieve an unparalleled living standard. In short, it was and is the most effective, efficient economic system ever devised.

Now, however, we hear increasing calls for constraints on our economic freedom. Calls for more government controls, more government regulations, more government restrictions. Many are directed at the energy business, but they have implications for all business, indeed for all Americans.

Ironically, the people who seek to inhibit economic freedom are often the ones who cry the loudest for other kinds of liberties. They do not accept the fact that all our freedoms are woven into the same cloth, and that if one is weakened, the others will be weakened also.

Now, at this special time in our history, Americans should remember that our freedoms are inseparable. Freedom of enterprise is essential to our economic growth and well being, to create more and better jobs, more energy, more security—and the capital that they demand. Furthermore, this same freedom of enterprise can generate the funds needed to continue the impressive social progress achieved in recent years.

The more we study history, the more we will respect the wisdom of the men who founded this country. They knew that freedom was both priceless and fragile. And they told us to treat it with great care. That is America's heritage and challenge.

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A collection of these official international stamp tributes to America . . . issued during its Bicentennial period . . . will be a fascinating collecting experience . . . for you and members of your family.

The Westport Collectors Society has agents closely monitoring the international philatelic scene to obtain — wherever possible — First Day Covers for international stamp issues commemorating America's Bicentennial.

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☆ ☆ ☆ ☆ ☆ CONVENIENT ACQUISITION PLAN ☆ ☆ ☆ ☆ ☆

You can obtain these official tributes to America's Bicentennial for just *$2.50 each.*

1. Sign up to acquire these issues by registering with the coupon on this page. The Society will then arrange to have a First Day Cover for each issue personally addressed and delivered to you for your collection.
2. The cost of each personalized cover will be just $2.50 mounted on a specially designed display page. These display pages provide fascinating insights into the history of the issuing country.
3. These international Bicentennial covers will be sent to you at the rate of two covers per month at a total monthly cost of just $5.00.
4. You may cancel your participation at any time. There is no obligation to continue any longer than you choose to do so.

Thus, for just $5.00 per month you will be able to acquire a unique *family heirloom* of enduring significance ... one that may never be duplicated ... to be enjoyed now and treasured by future generations of your family.

HANDSOME COLLECTOR ALBUM

A handsome collector album with your name hand-embossed on the cover will be made available to participants at a very modest cost. This album is specially designed to hold the Society's display pages and makes it possible for you to keep each international First Day Cover in "mint" condition.

SUBSCRIPTION APPLICATION

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Westport, Connecticut 06880

Enclosed is $5.00* for First Day Covers of the first two international issues in observance of the American Bicentennial, complete with descriptive display pages.

I want my covers: ☐ Personalized exactly as shown below ☐ Unaddressed

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I understand you will continue to send me two additional international Bicentennial covers per month at a cost of just $2.50 each. I may discontinue my participation in this program at any time simply by notifying you.

Make checks payable to Westport Collectors Soc. (or just W.C.S.)

*Conn. residents pay $5.35 to include sales tax.

N95

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Self-service is cheaper: dial direct.

If you don't have to involve the operator, the rate is lower on Long Distance calls. (For example, with the new one-minute dial-direct interstate rate, you can now make several calls for less money than one person-to-person call.) We know you want to keep your phone bill down. **We hear you.**

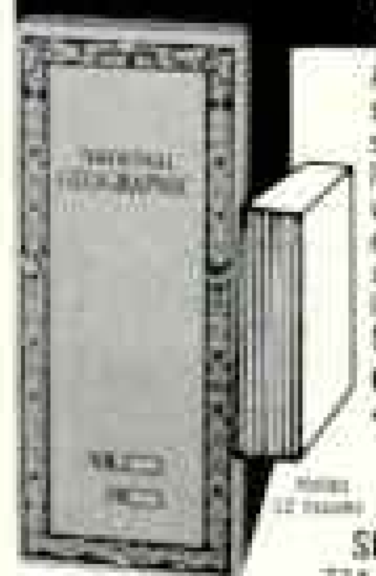
Write ahead for a vacation into the past.

For information, color folder, or reservations for an unforgettable vacation in the world of eighteenth-century Virginia, write Box B, Williamsburg, Va. 23185, (804) 229-1000. Or call New York, 246-6800; Washington, FE 8-8828; ask Philadelphia operator for Enterprise 6805; Baltimore, Enterprise 9-8855.

High-prowed Viking ships adorn coins of a realm that dominated most of the known world a thousand years ago. Warriors' shields rim a longship (lower), scourge of the seas. The stockier *knarr* carried cargo. Lusting for gold and glory, Norsemen went *viking* —plundering—from Ireland to Asia Minor. The Rus, Swedish merchant-colonists, left their name on a vast land—Russia. Vikings led by Eric the Red sailed westward, to Greenland. Eric's son Leif discovered "choice" land beyond and called it Vinland. On the present-day Island of Newfoundland, Norsemen stepped ashore five centuries before Columbus. When their settlement was unearthed, a saga unfolded. Readers shared the thrill of discovery—as they often do—in the pages of NATIONAL GEOGRAPHIC.

National Geographic File

Holds 12 issues—keeps all copies neat, clean, in one place



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The American Issues Forum presents your Calendar for the Bicentennial.

In this Bicentennial year, the American Issues Forum invites you to consider the fundamental issues of our country—what it is, how it got that way, where it is headed.

In the weeks and months ahead, the following pages will be your guide to a nationwide discussion of these issues on television, radio, and in the press. Across the nation, in every state and community, thousands of groups and organizations will be joining in. Americans discussing America. Examining issues month by month, week by week, throughout this Bicentennial year.

The Forum is a national program for the Bicentennial, presenting these issues in a Calendar, one for each month and each week, from September 1975 to May 1976. This is *your* Calendar. Remove it from this magazine and keep it—so that you and your family can join in this nationwide dialogue in the Bicentennial year.

The American Issues Forum was developed by the National Endowment for the Humanities with the cosponsorship of the American Revolution Bicentennial Administration.

The publication of this National Calendar has been made possible by a grant from EXXON CORPORATION.

"A Nation of Nations"

"We, the people. . . ." So begins our Constitution. America is really a group of peoples. Most nations are organized around a single people; but America is based on a dream of freedom and well-being that was embraced by men and women of many tongues and traditions. Where did they come from? What led them to these shores? Courage or fear? Free choice or coercion? Hope or despair? What sort of people were they, to be able to overcome hardship and create a new nation? What kept them together despite their differences, through revolution and civil war, depression and world wars? What keeps us together now?

My neighbors—what makes them different from me, yet similar to me? Are our differences fading as the memory of other lands and other traditions fades? What do I mean when I call myself "an American"? What do I want out of being an American?

August 31:
The Founding Peoples

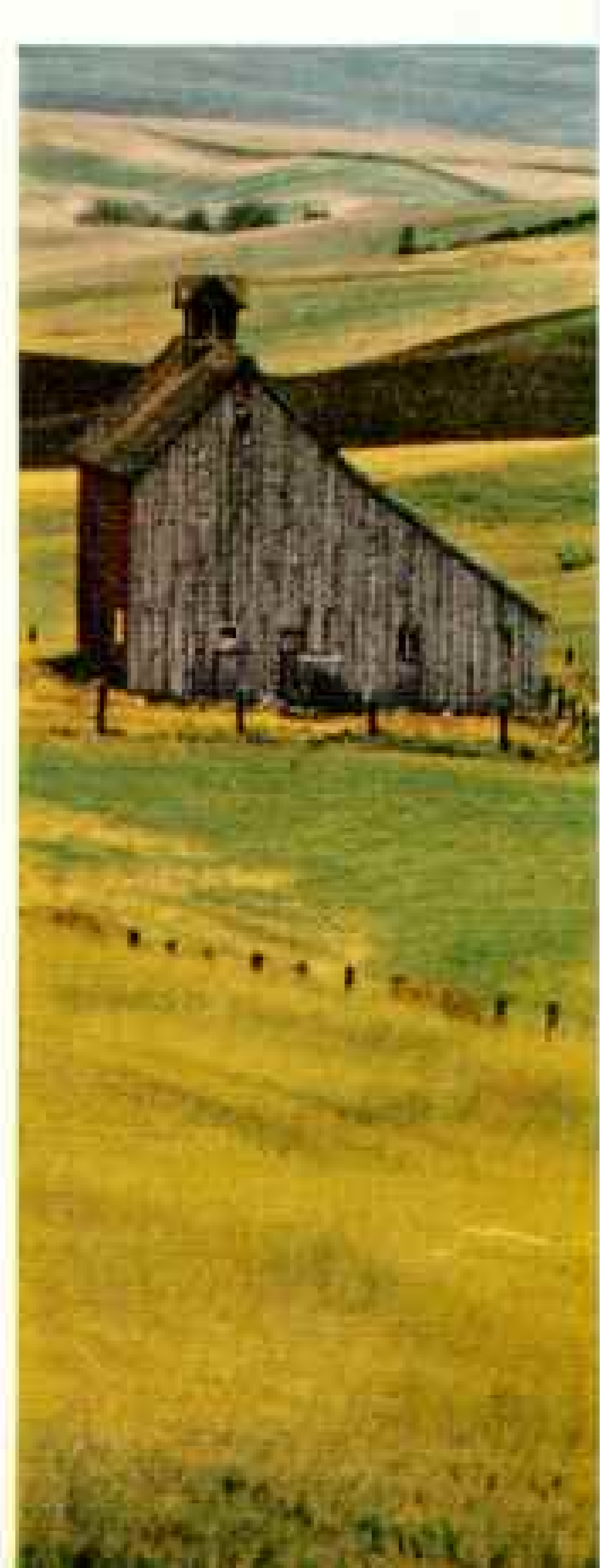
September 7:
Two Centuries of Immigrants

September 14:
Out of Many, One

September 21:
We Pledge Allegiance . . .

"The Land of

America is a place—a land to be settled, owned, rented, mined, seeded, plowed under, asphalted over, built upon, played on, lived in. Beginning with thin slivers of civilization along the coasts, it now spans a continent, embraces an archipelago in the mid-Pacific, reaches into the Arctic Circle, thrusts into the Caribbean. Our wealth as a nation derives from the land, our use of it has given us the world's most productive system of agriculture and industry. How have we shaped this land and how has it shaped us? What explains our regional cultures, the growth of our cities and suburbs? Have we used the land well or wastefully? Of course we must use the land



Plenty"

for cities and suburbs, to sustain life and make it worth living. To what extent can we have the best both of growth and harmony with nature? Who decides . . . who really owns the land?

September 28:
A Shrinking Frontier?

October 5:
The Sprawling City

October 12:
Use and Abuse of the Land of Plenty

October 19:
Who Owns the Land?

"Certain Unalienable Rights"

"We hold these Truths to be self-evident, that all Men are created equal, that they are endowed by their Creator with certain unalienable Rights . . ." But what are they, and why, throughout our history, has it proved so hard to define and defend these rights? Some of our most fundamental freedoms were not initially written into the Constitution, and even today the exercise of our basic freedoms is a matter of debate, regularly contested in our courts. Are our ideals diluted in practice? Are some of us more equal than others? If liberty and duty, rights and responsibilities go hand in hand, how unfettered can freedom be?

October 26:
Freedom of Speech, Assembly and Religion

November 2:
Freedom of the Press

November 9:
Freedom from Search and Seizure

November 16:
Equal Protection Under the Law

"A More Perfect Union"

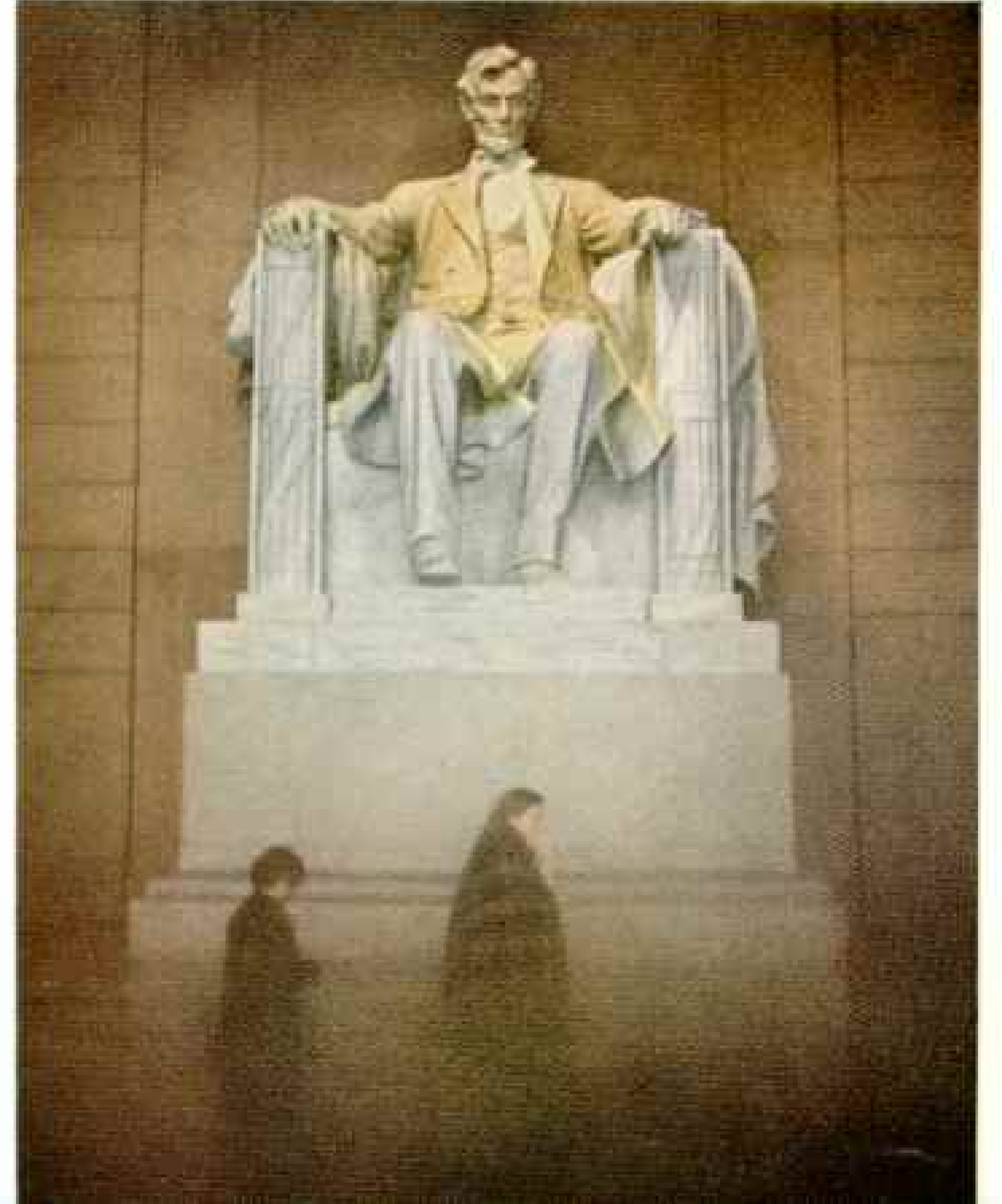
America, too, is a political life—rare, risky, even fragile: a democracy, where every citizen has an equal voice in the affairs of the country. What is unique about *our* form of democracy? Our Constitution called for "a more perfect Union" among the newly independent states, instituting a "federalism" which combined the advantages of liberty *and* stability. "Power checks power" was the maxim the founders followed, crafting a delicate balance among the executive, legislative and judicial branches. How well has it worked? How about our theory of judicial review of the Constitution? Our political system? Now that everyone has a vote, how much does the vote of a single individual matter? The Constitution calls for a "representative government" with power vested in the people who delegate this power to elected officials. If their performance does not please the people, what can they do?

November 23:
"In Congress Assembled . . .":
A Representative Legislature

November 30:
A President:
An Elected Executive

December 7:
"The Government":
The Growth of Bureaucracy

December 14:
"By Consent of the States . . ."



"Working in

America is a workplace. To settle an untamed land, to push its borders across a continent, to build cities and factories and farms where there had been only wilderness, to establish one of the world's most prosperous nations—all that took incredibly hard work; but it also took slavery and exploitation. What is the American "work ethic"? Opportunity drew millions to America who saw hard work as the way to success. Yet, increasingly, our aim has been to gain more productivity for less toil. At the beginning of the Republic, people were closely tied to the end result of their work, but today we often do not even see the end result. Do we take less pride

America"

in our work because of this? Are we still concerned with what we do or how well we do it? How have we divided up the fruits of labor? What do we do when we're not working? What becomes of us when we are unable to work? Or when we retire? How have we tried to make possible a life which is both productive and leisured?

January 11:
The American Work Ethic

January 18:
Organization of the Labor Force

January 25:
The Welfare State:
Providing a Livelihood

February 1:
Enjoying the Fruits of Labor

"The Business of America"

America is a marketplace. The American Revolution gave us economic as well as political independence. Entrepreneurs were able to transform the energies and resources of the new nation into the greatest wonder of the economic world. Americans seem to have a gift for business; a genius for marrying technology and marketing. The American free enterprise system—organizing production so that energies are channeled into a "profit" that serves the community as a whole—has often been seen as a progressive and modernizing force. What are our stereotypes about business? Does commercialism distort our values? How have business and trade affected our attitudes toward freedom and democracy, our philosophy of government, the way we live? Is government regulation necessary? Is it true, as Calvin Coolidge put it half a century ago, that "the business of America is business"?

February 8:
Private Enterprise in the Marketplace

February 15:
Empire Building:
Cornering the Market

February 22:
Subsidizing and Regulating:
Controlling the Economy

February 29:
Selling the Consumer

"America in the World"

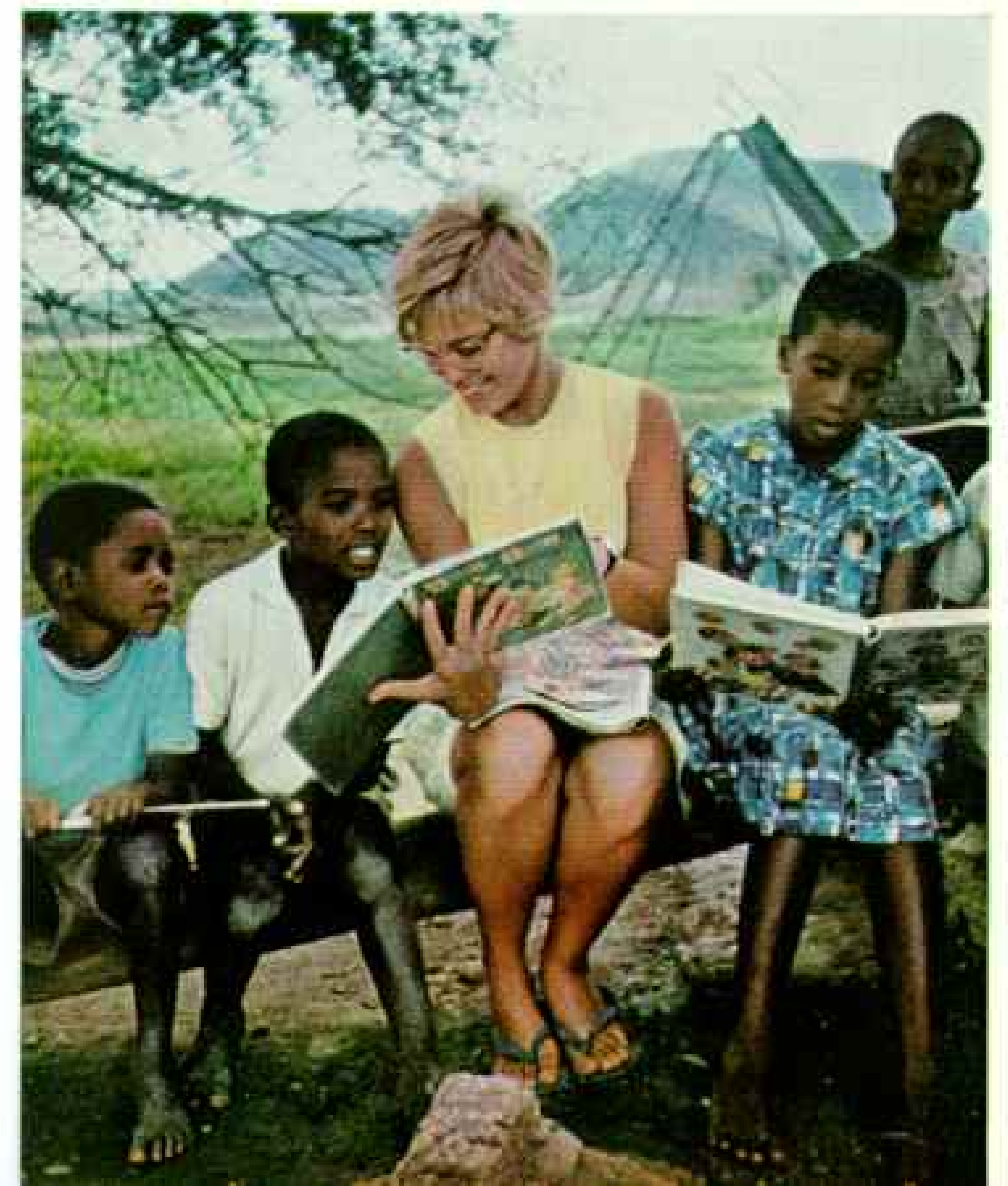
The conduct of foreign affairs presents contrasts as dramatic as any in our national experience. When Washington led the Continental Army, and when he became President, the United States was struggling to establish its independence in the face of larger Great Powers. Now, the United States has itself become a Great Power with far-flung economic and military activities. Yet the main issues concerning American foreign policy remain unchanged: our posture in foreign affairs, and the proper mix of the military, humanitarian, economic, and diplomatic elements. Born of a war for independence, we were long disposed toward self-sufficiency and isolationism. Today, dedicated to the goal of freedom for all, we have a powerful sense of mission to other peoples; and, as a land of immense natural resources and wealth, our power is felt in almost every corner of the world. Rapid communication has reduced the size of the world. Has it also reduced our sovereignty? How well have we used our power? When and how have we abused it?

March 7:
The "American Dream" Among Nations

March 14:
The Economic Dimension

March 21:
A Power in the World

March 28:
A Nation Among Nations



"Growing Up

A unique mixing of peoples and religions, a virgin land, lofty ideals, a new republican form of government—these gave promise that a new kind of individual, the American, would emerge to work and trade and take a place in the world. Certain social forces and institutions molded our society and our people. What sort of person did these forces create? *Is* there an "American character?" What part have our families, our schools, our churches, and our communities—now in the midst of tremendous change —played over the years in developing that character? Will the American character, whatever it may be, also change tremendously? Is the

in America"

American—optimistic, convinced that just about anything is possible—changing as vistas narrow and frontiers close down? What is it that keeps us moving all the time: a restless search for new frontiers, a hunger for challenge? Where have we, as Americans, planted our deep moral roots?

April 4:
The American Family

April 11:
Education for Work and Life

April 18:
"In God We Trust"

April 25:
A Sense of Belonging

"Life, Liberty, and the Pursuit of Happiness"

The American Dream. . . ! Archibald MacLeish said "America was promises." And its promises have always motivated us—self-fulfillment, freedom and independence, a decent living. The promise of pleasure, of a life beyond mere drudgery, of being new, young, in the forefront of an adventure, on top of things. The "unalienable Rights" of "Life, Liberty, and the Pursuit of Happiness." These dreams, these purposes, brought millions to America's shores, and inspired newcomers to expand the country's industry, its trade, its borders, its wealth, its influence. Individualism, success, happiness, involvement: are these worthwhile goals? Or are they too self-centered, too trivial, too little concerned with the real problems of mankind? Are they only promises, goals only rarely attained? Taken together, do they comprise a kind of American profile, a national characteristic . . . or a caricature? Is the dream still valid? Or was it never real?

May 2:
The Rugged Individualist

May 9:
The Dream of Success

May 16:
The Pursuit of Pleasure

May 23:
The Fruits of Wisdom

The *American* Issues Forum is your program for the Bicentennial.

☑ Start or join local discussion groups on the Forum topics at your church, library, union local, service club, company, civic association, or community center.

☑ Watch your television and radio listings for previewing of Forum programs.

☑ Look for the "Courses By Newspaper," syndicated Forum columns, and other features in your local newspapers.

☑ Follow educational programs on the Forum running in your school and in the extension division of your local college or university.

☑ Check your local library, your State or City Bicentennial Commission, or your State Humanities Committee for news of Forum programs.

The publication of this National Calendar has been made possible by a grant from Exxon Corporation.

The heroes of your childhood haven't vanished. They've become grandfathers.

This is dedicated to everyone who, growing up in the 1950's, lived, ate, slept and dreamt baseball.

Life was simpler then. Between the baseball cards and the hours spent watching the local heroes on TV, you managed to organize your life very neatly. Everything fell in either of two categories: (1) baseball and (2) everything else. And there was no reason to believe things would ever change.

Incredible as it seems, that was almost two decades ago.

And over the years, something strange happened: the future arrived.

You can't postpone the future.

If all that time can slip by so fast, imagine how quickly the *next* several years will pass.

That's why we'd like to urge you to get ready for them.

And that's where Metropolitan Life can help.

We don't just insure your life. We help insure your future.

You're probably hoping to send your children to college. We can provide insurance that can help make it possible.

Or maybe you'd like to build the vacation home you've always promised yourself. Your Metropolitan insurance can help.

Or maybe, instead of retiring, you'll decide to start a second career or your own business. We help make that possible, too.

In fact, two out of every three dollars we pay out in benefits go to *living* policyholders—to help pay for their future.

He who hesitates pays higher premiums.

At Metropolitan Life, we insure over forty million people. We've been helping people prepare for the future for 107 years. But while much has changed over that time, one fact about personal life insurance is always the same:

The sooner you begin, the less it costs every year.

See your Metropolitan representative. Soon.

Because the future gets closer every minute.

Metropolitan
Where the future is now

"We must use our forests for wood."
"We must save our forests for future generations."
Which must it be? Save our forests or cut the trees for wood? Fortunately, we can do both.
Nothing quite matches the serenity and natural beauty of a living forest. Home of a multitude of unique and interesting plants and animals, they provide year-round recreation for man. Their leaves and roots protect the soil, keep the watershed from eroding, guard fields, towns and cities down stream from floods. We need to protect our woodlands and preserve them for future generations.
But we also need wood. For thousands of products we depend on. We need 20 billion board feet of lumber and plywood every year for residential construction. We need 67 million tons of paper products annually.
And, as America grows, its need for wood increases. The U.S. Forestry Service estimates that demand will double within 30 years. Where will this wood come from?
Can we cut more trees and still preserve our forests?
The answer is yes. Modern forestry has proven the point. By planting more trees than it harvests. By growing them faster than nature alone can do.
As a result, industry-owned lands produce 50% more fibre per acre per year than public lands.
Responsible forest management. It can produce the same high yields of wood on public and privately-owned lands. In fact, it's a reasonable approach to the problem of saving our forests and using our trees.
Caterpillar cares about good forestry because we make machines that work in the woods. We know that with proper care and environmental concern, American forests can provide both beauty and bounty for generations to come.
There are no simple solutions. Only intelligent choices.
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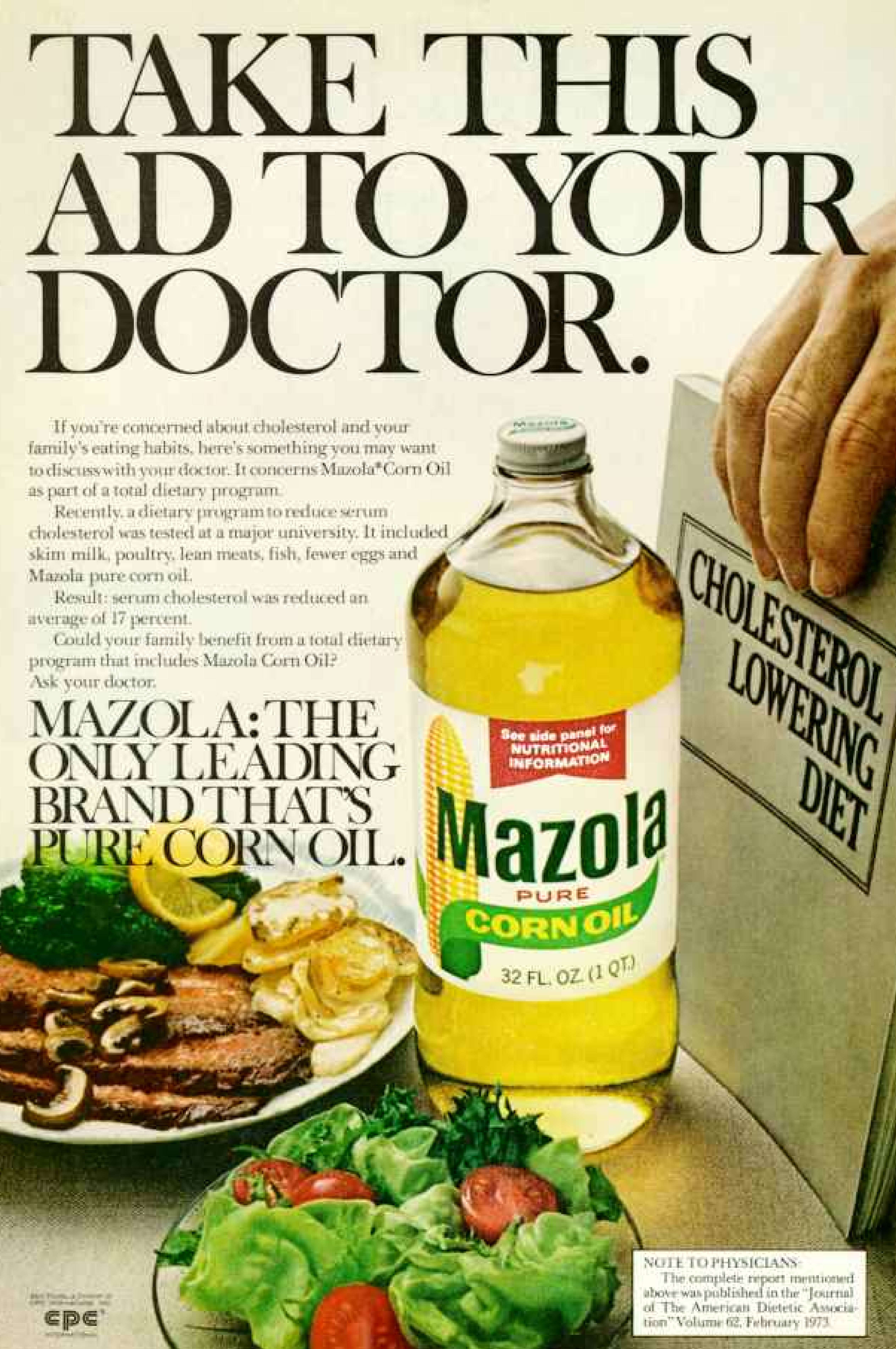
TAKE THIS AD TO YOUR DOCTOR.
If you're concerned about cholesterol and your family's eating habits, here's something you may want to discuss with your doctor. It concerns Mazola* Corn Oil as part of a total dietary program.
Recently, a dietary program to reduce serum cholesterol was tested at a major university. It included skim milk, poultry, lean meats, fish, fewer eggs and Mazola pure corn oil.
Result: serum cholesterol was reduced an average of 17 percent.
Could your family benefit from a total dietary program that includes Mazola Corn Oil? Ask your doctor.
MAZOLA: THE ONLY LEADING BRAND THAT'S PURE CORN OIL.
See side panel for NUTRITIONAL INFORMATION
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CHOLESTEROL LOWERING DIET
NOTE TO PHYSICIANS:
The complete report mentioned above was published in the "Journal of The American Dietetic Association" Volume 62, February 1973.
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You're going too far to settle for less.

Waikiki Beach is the center of Hawaiian fun and excitement. And Sheraton has four luxury resort hotels right on Waikiki Beach. A fifth Sheraton is a half block away.

Sheraton offers a wide range of accommodations to suit your budget — from beautiful mountain-view rooms at the Princess Kaiulani for just $20.00* double occupancy, to sumptuous oceanfront Tower rooms at the Royal Hawaiian for $52.00.*

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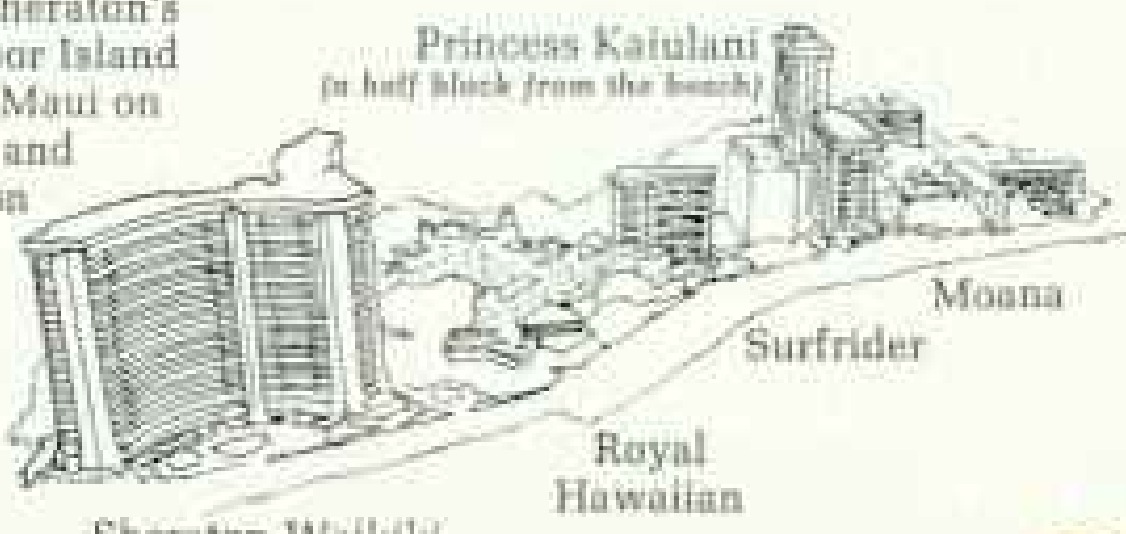
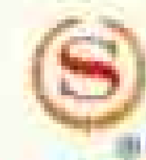
And don't miss Sheraton's delightful Neighbor Island hotels: Sheraton-Maui on Kaanapali Beach and Sheraton-Kauai on Poipu Beach.

** Rates slightly higher February & March.*



Stay at one Sheraton, play and charge at all five.



Sheraton Hotels in Hawaii

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In 1901, while searching for oil in the La Brea Tar Pits near Los Angeles, W. W. Orcutt, of Union Oil, discovered the bones of prehistoric animals.

This year more than 40,000 people will have their lives lengthened by the implantation of a small valve in their hearts. The valve is made of a unique, super strong, carbon-coated graphite. The graphite is produced by a subsidiary of Union Oil Company of California.

Bob Carlson's initial interest was in finding a new, super strong material that could stand up to the heat and pressure of reentry of space vehicles.

Carlson and his team developed an exceptional—indeed a super—graphite. In the process, dozens of other valuable uses were discovered for this amazing material, everything from improving laser beams to making artificial heart valves.

Today Bob is Vice President of Poco Graphite, a subsidiary of Union's wholly owned Collier Carbon and Chemical Corporation.

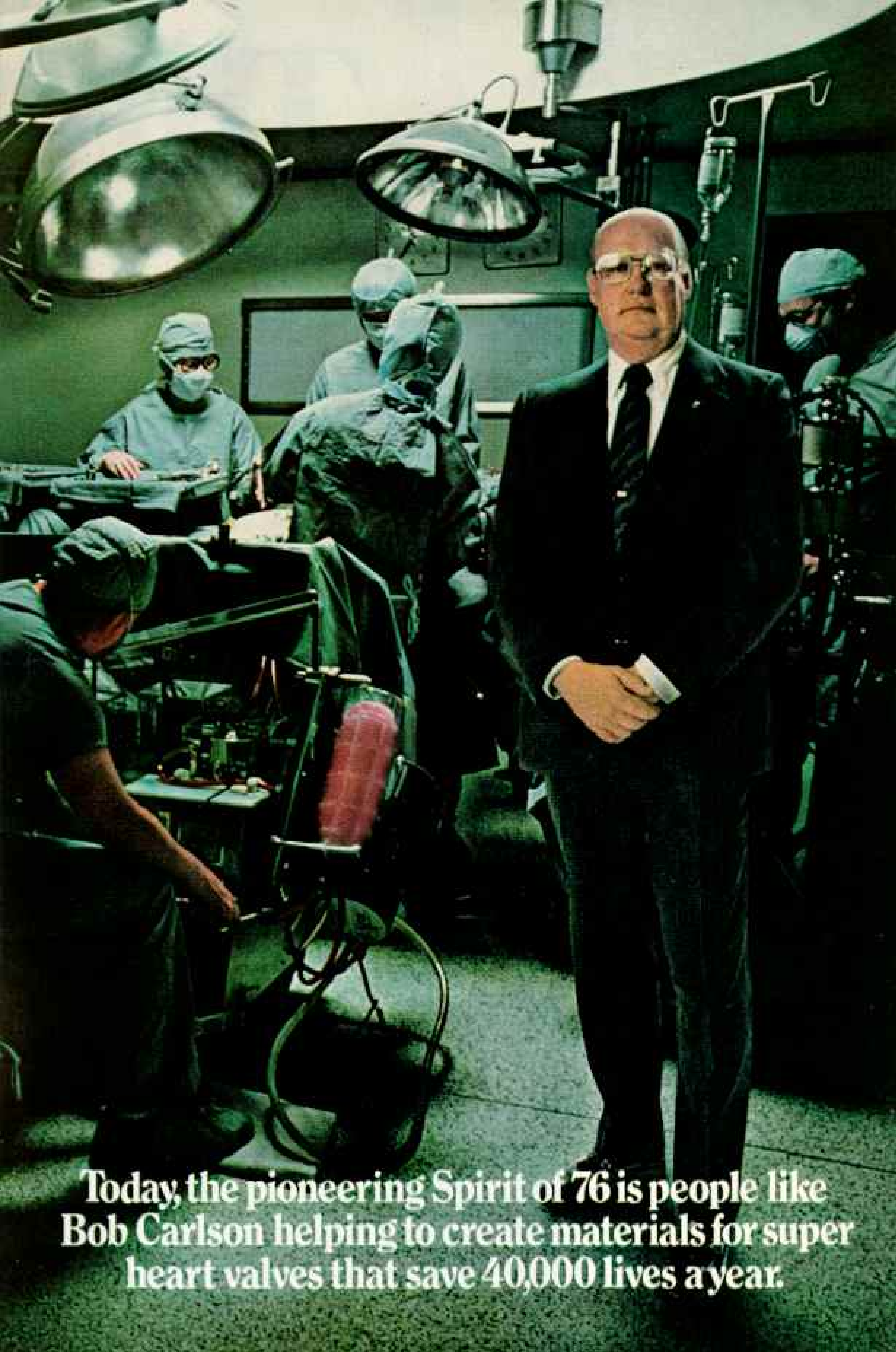
Important discoveries that develop multiple uses are nothing new in scientific research. At Union Oil we think we gain more from our research and development because we use it effectively.

There are several oil companies bigger than Union Oil, but few that work harder to get the best and fullest use of our country's resources. What makes Union Oil different? Perhaps it's our spirit. The pioneering Spirit of 76. It wasn't just then. It's now.

Union Oil Company of California.

UNION 76

The pioneering Spirit of 76 lives at Union Oil.


Today, the pioneering Spirit of 76 is people like
Bob Carlson helping to create materials for super
heart valves that save 40,000 lives a year.

This
come up to Canada and

A world of tours, trips and travel packages.

This fall, just over the longest friendliest border in the world, in Canada, you'll find a whole world of travel and vacation choices for you. Vacations that you can plan and put together yourself. And packages that your travel agent or carrier can help you work out.

So, whether you're travelling on your own, or touring with a group, come on up to Canada. We'll show you more than just a neighbourly country ... we'll show you the world.

The world in all its colours.

We'll show you a world where the colour of life in the fall is every bit as spectacular as the colour of nature herself.

Here, you'll lose yourself in the world's friendliest cities. And wander through bustling European street markets, overwhelmed by the sights and sounds of a potpourri of people bartering for fresh squid and live trout. Here, you'll become part of a boisterous German beer festival, as you hoist a cold, frothy beer mug and learn to sing 'Ein Prosit' or how to dance a polka.

Here, you'll have to blink your eyes to make sure you're not in the middle of Scotland, as you listen to the mellow wheeze of bagpipes, or wander the campus of a unique Gaelic college.

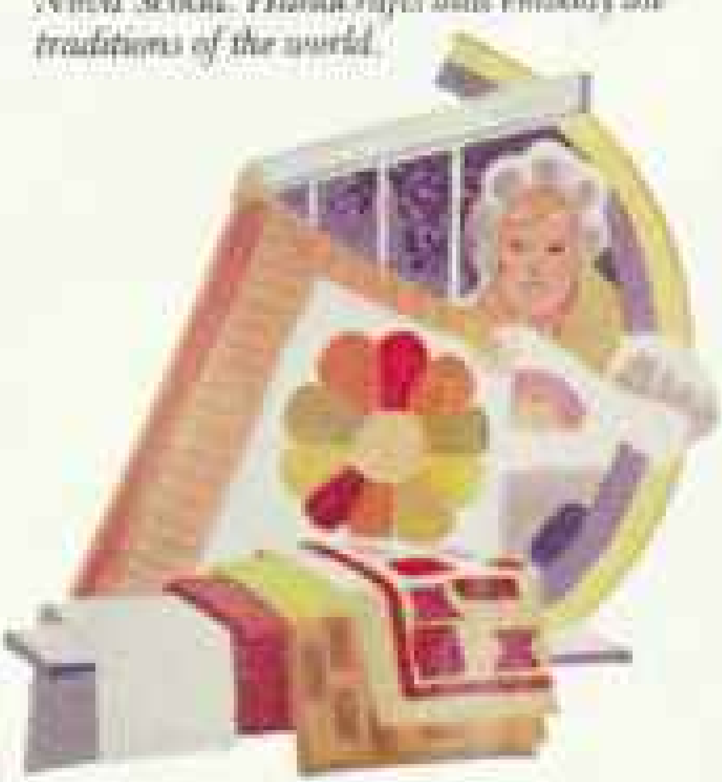
The world performing.

This fall, all the world's on Canada's stages.

With world-famous Canadian performing companies and international stars entertaining you with the words, works and wisdom of Shakespeare, Shaw, Ibsen, Pinter and Albee. Or dancing to Tchaikovsky. Or performing Chopin, Bach, Mozart or Ravel.

Or singing Bacharach and telling you jokes in a fashionable, world class hotel or nightclub.

Nova Scotia. Handcrafts that embody the traditions of the world.



Quebec. Cuisine as fine as the world has to offer. 1

New Brunswick. A world of history to romance and enchant you. 2

fall, we'll show you the world.

A world of fine shopping.

Here, you'll shop for exquisite English china in our shops and malls. Handcrafts, weaving, antiques and collector's items. Or Eskimo art that's treasured by collectors the world over.

And masterfully crafted wooden carvings, shaped by French Canadians who have passed the art down from generation to generation.

A world of peace and quiet.

If it's the world you want to get away from, we have a world for that, as well. A world of beautiful weather.

Here, you'll stretch your legs and hike to untouched wilderness. Or get on a horse and head for the high country where the only wildlife is nature's own. Or relax with a game of golf on some of the world's best golf courses. And if your score isn't that dazzling, it doesn't seem to matter that much because the scenery is.

If you want your peace and quiet laced with action, you'll wind up in the wilderness fishing for Arctic Char or Grayling. And you'll take home fish stories that are true stories.

And everywhere, country and city, you'll find a rich world of history to romance and enchant you.

A world of friendly accommodation and beautiful weather.

When we show you the world, we show it to you in style. Beautiful hotels, motels and inns with excellent rooms and superb, courteous service. Plus magnificent resorts, with a relaxed uncrowded atmosphere in the fall. And it seems as though every room is a room with a view of the beautiful scenery.

And here you'll dine on international cuisine, as fine as any you'll find . . . anywhere. There's all this, and so much more. Just over the longest, friendliest border in the world. In Canada.

Come on up. We'll show you the world.

Saskatchewan. Spectacular golf courses dressed in spectacular fall colours.

3 *Ontario. The colour and excitement of a European street market.*

4 *Alberta. Uncrowded resorts nestled in the mountains.*

Canada

Come on up and we'll show you the world.

Whether it's a long, long weekend or an all-inclusive vacation, your travel agent or carrier can help you plan and put together a world of your own, this fall, in Canada.

HOW TO SAVE MONEY ON YOUR PHONE BILL #4

Take advantage of the new 1-minute interstate rates.

After 11 p.m. weekdays, all day Saturday and Sunday until 5 p.m., a one-minute dial-direct call to any other state in the U.S. (except Alaska and Hawaii) now costs only 22¢ or less plus tax. And each additional minute is only 16¢ or less. We know you want to keep your phone bill down. **We hear you.**

Treasures from the tomb reveal Chan Chan's past

Carbon-impregnated black ceramic vessel bears witness to an ancient kingdom as rich as a pharaoh's. Chan Chan, pre-Columbian capital of Chimor on the coastal desert of northern Peru, has yielded treasures for 500 years. Conquering Incas looted it in the 15th century. Conquistadores mined it for gold artifacts. Pedro Pizarro found a doorway slabbed with silver. *Huaqueros*—grave robbers—have been tunneling into the ruins ever since. A maze of mud-brick walls enclosed nine spacious compounds. These served successive monarchs as palaces in life, as shrines in death. Huge adobe platforms honeycombed with chambers entombed kings, hoards of treasure, and human skeletons "stacked like cordwood"—bones of young women. They were apparently sacrificed to tend royal needs in the afterlife. Threatened by squatters, Chan Chan might have remained an enigma had not archeologists sponsored by the Society completely mapped and extensively excavated the city, puzzling out its past. Digging for facts rewards readers every month in the pages of NATIONAL GEOGRAPHIC.

Free Catalog . . .

NATIONAL GEOGRAPHIC SOCIETY
WASHINGTON, D. C. 20036

You don't have to live near the wilderness to live near the wilderness.

In many people there is a primal need to shake off the veneer of urban life and conventional patterns. They long to return to wild country time and time again. Their daydreams are filled with forest and stream, desert and canyon, wild game and campfire. Does this ever happen to you?

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