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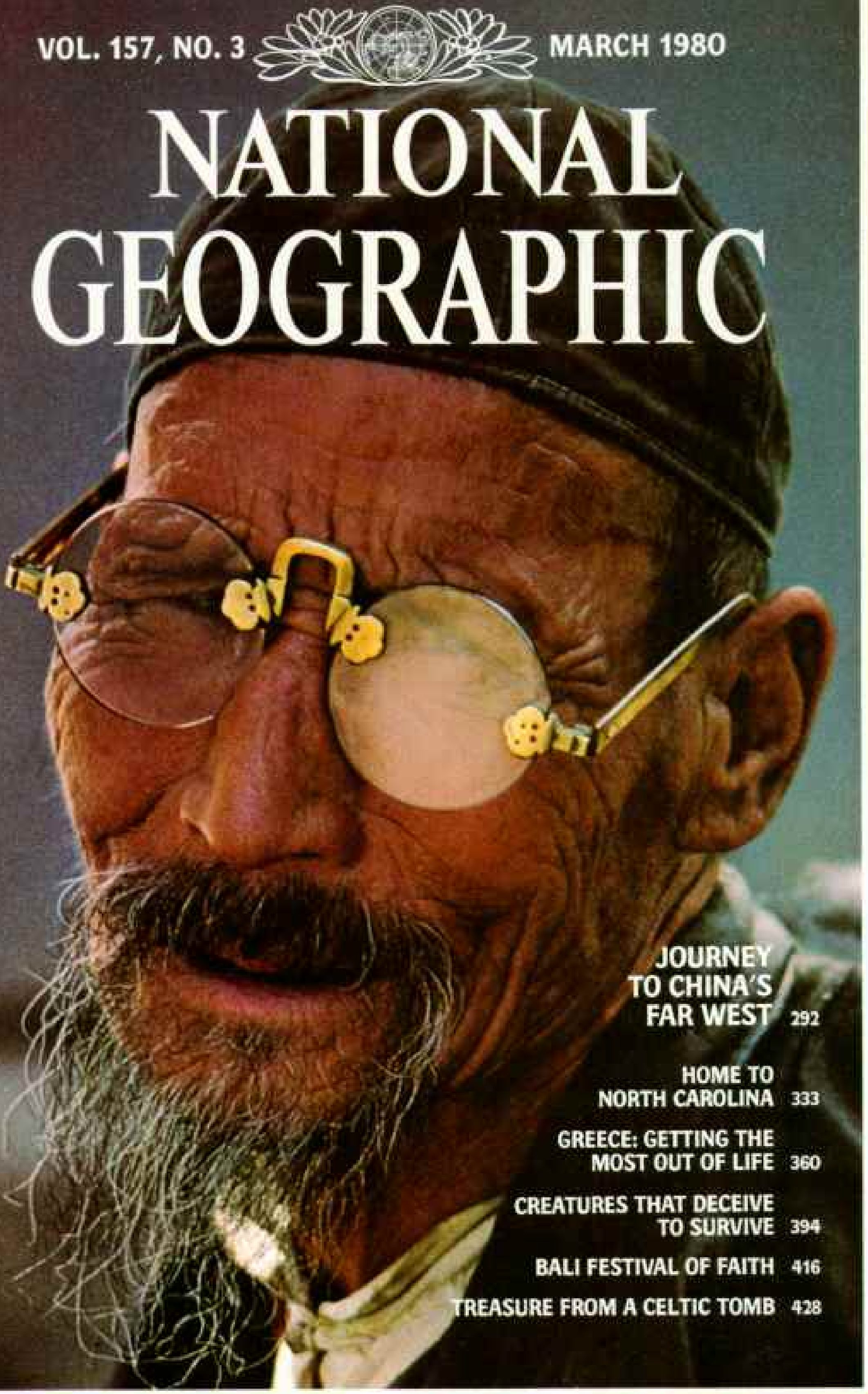

IT HARDLY SEEMS twenty years since I first sailed the Aegean Sea as a young journalist on assignment for NATIONAL GEOGRAPHIC. The memories that one makes in Greece have an indelible quality; they remain vivid and immediate for years.

Like so many others, I had put my Army years behind me and looked forward to a postwar world of material progress, enlarged trade, and the growth of democratic societies in the many new nations that were beginning to emerge in Asia and Africa.

It was a time that held the possibility that the centripetal forces of growth and international development would pull the nations of the world closer together and bind them in a common interest of peace and prosperity.

History, as we know too well, has countervailing forces—tribalism, nationalism, ancient animosities that smolder through the centuries, the urge to group around a strong leader, to follow the man—or the woman—on horseback. Human society has been rent many times in the past two decades by the eruption of such forces.

The prevailing mode of government in most of the new nations formed in the past twenty years has not been democracy but dictatorship—by the military, by strong men, or by political parties of many stripes and hues. Greece herself has experienced internal crisis and external confrontation.

But one of the most important continuing efforts that did succeed in these years was the attempt to harmonize Europe's many diverse economies. The European Common Market, which now includes the European Economic Community, has quietly and decisively created an international force as powerful as the industrial prodigies of the United States and Japan.

When Greece joined the EEC last year, it seemed a good time to renew our reporting that began in 1913 and included, in 1944, a memorable article by the noted scholar Edith Hamilton. Senior staff writer Peter T. White found that the Greeks still have the knack of living on that bittersweet edge of life that comes only from long acquaintance with the often ruined but always persistent hopes of history.

Gilbert M. Grosvenor

NATIONAL GEOGRAPHIC

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COVER: *A bespectacled elder of Lanzhou in northern China has witnessed remarkable changes that socialism and industrialization have brought. Photograph by Bruce Dale.*

Journey to China's Far West

By RICK GORE

Photographs by
BRUCE DALE

BOTH NATIONAL GEOGRAPHIC STAFF

*FOR DECADES China has presented a mask to Western eyes. Now openness is growing as official attitudes relax. When a National Geographic Society team of scientists crossed the breadth of north China last summer, they met peoples like these Uygur (Uighur) oasis dwellers (**right**), a Muslim minority in a nation united under Communist rule. Celebrating the 30th birthday of the People's Republic of China, torchlit relay runners (**overleaf**) follow the route of the 1934-35 Long March made by Mao and his followers when near defeat.*

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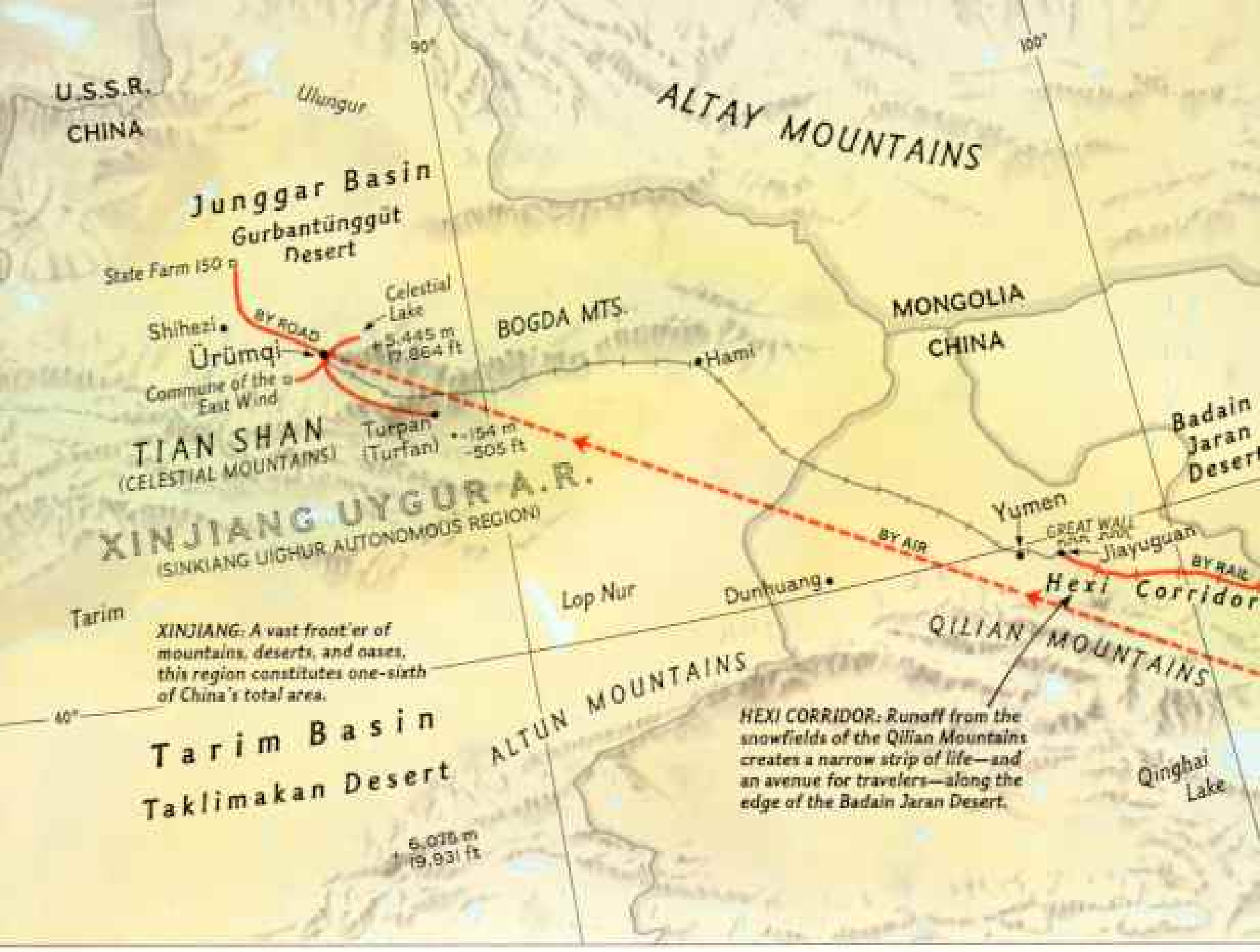


IT IS SHORTLY before midnight on our last night in Beijing (Peking) before setting out by train across north China. The heat and humidity of Beijing's stifling summer have driven us out of our rooms at the Stalinesque-style Friendship Hotel up to the rooftop garden bar, a newly opened concession for the foreigners now pouring into China's capital.

A few French couples dance lethargically beneath colored paper lanterns. A group of more boisterous Africans sit nearby among many empty tables. If, like us, they are pursuing a cold beer, they will be surprised. The Chinese make good beer, but they seldom serve it cold. Warm beverages, they believe, are healthier.

We are members of a desert-study delegation that the National Geographic Society has sent at the invitation of the Chinese Academy of Sciences and its Institutes of Geography and Desert Research.* China, like much of the world, has been struggling with encroaching deserts in recent years. Vast stretches of north China are covered by sand or graveled wastelands called gobi. Most of this territory has been closed to Westerners since Mao Zedong (Mao Tse-tung) established the new China in 1949. Now Chinese desert scientists want to meet with American arid-land specialists.

We are feeling frustrated tonight. We have been scheduled for too many academic meetings, and are worried we will not get enough time in the field.

Burly Thad Box, whose grandfather was the fastest catfish skinner in Llano County, Texas, and who is dean of Utah State's College of Natural Resources, would like to devote days to botanizing—sampling the wild plants of northern China.

Smithsonian Institution desert geologist Dr. Farouk El-Baz, a native of Egypt, wants to see the wondrous dune fields of the Taklimakan Desert, which centuries ago Marco Polo said were inhabited by ghosts.

Big Jack Johnson from the University of Arizona is, I suspect, fantasizing about

*The author reported on desertification around the world in the November 1979 GEOGRAPHIC.

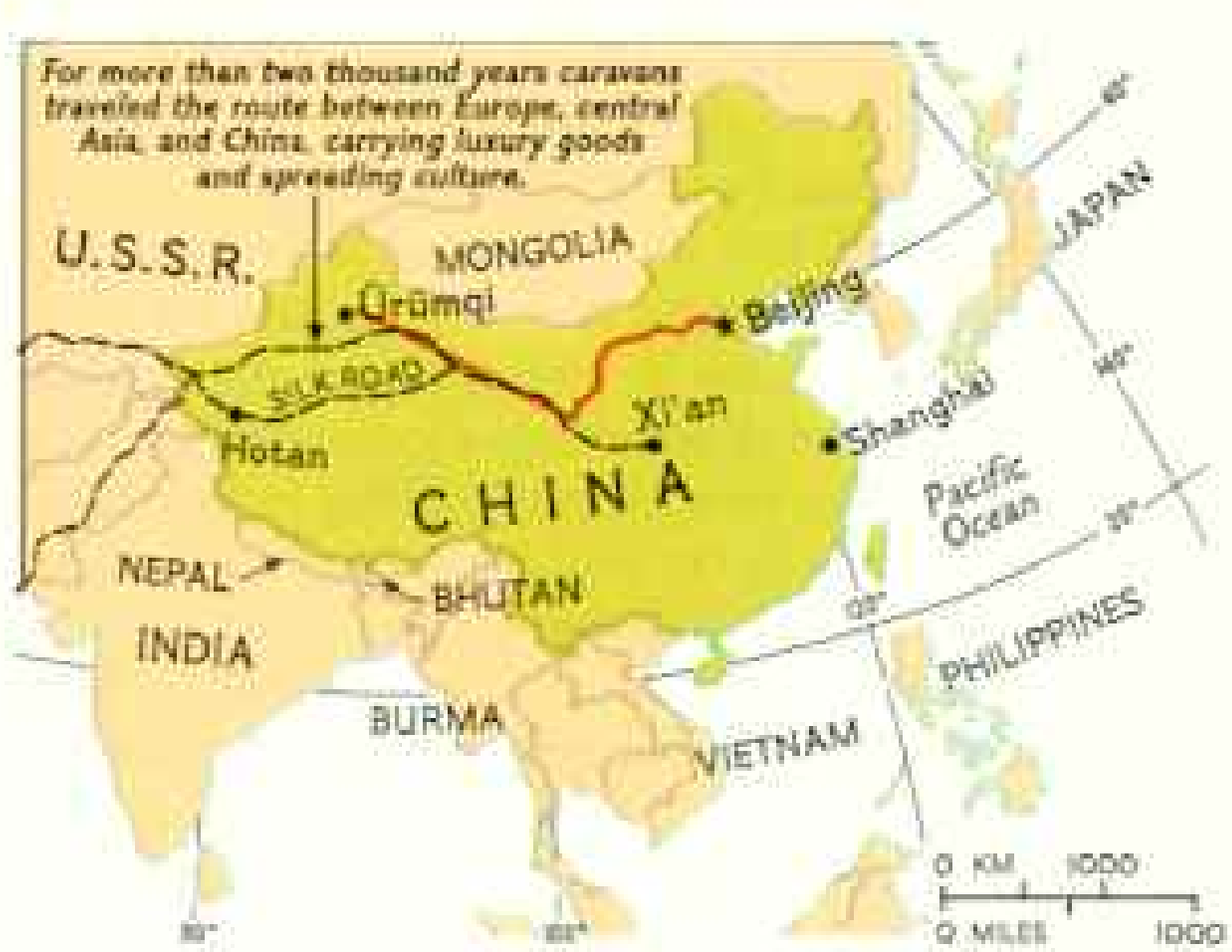
planting seeds from the wax-producing jojoba plant, a pet project of his, across those dunes to make them economically useful.

Bob Ford, a cultural ecologist from California's Loma Linda University, would like to spend most of his time in Chinese villages, learning how people relate to the land.

Chinese-speaking Jeffery Riegel, of the University of California at Berkeley, specializes in the Han Dynasty, the first Chinese to civilize and cultivate the desert stretches of the ancient Silk Road; he would be happy just to prowl every ruin we will pass along that great connecting link and traffic artery between East and West.

As journalists, photographer Bruce Dale and I want to do all of the above and more—and know there is not nearly enough time.

Only Larry Ma, a Chinese-American geographer from the University of Akron and



NOTE: The GEOGRAPHIC has begun using the Pinyin system of transcribing Chinese, a system officially adopted by China and much of the Western press. For well-known place-names and historical figures, the more familiar spellings may also appear.

West from Beijing *(Peking), the visiting Americans crossed and recrossed the Great Wall on the old borderlands of traditional China. Beyond, the Xinjiang (Sinkiang) frontier still reflects its ancient role as a meeting place of Chinese civilization and central Asia's nomadic peoples. Here members of a dozen ethnic groups outnumber the nationally predominant Han Chinese.*

our group's official translator, is at ease. He knows that our route will be remarkable and that whatever we see will be a discovery.

ALREADY, in between receptions and lectures, we have begun to discover Beijing.

"Long live the great, glorious, and absolutely correct Communist Party" reads a red billboard on Chang'an Avenue, Beijing's broad main street. The sign seems out of date. The often shrill political rigidity of Mao's China has ebbed.

Along Democracy Wall people stand several layers deep to read posters that accuse certain government officials of corruption and harangue others for not releasing dissidents. Ragged people from the countryside draw crowds as they vehemently proclaim personal grievances.

We are watching freedom of speech blossom this summer. Soon dissenters would stage marches and even sit-ins. Unfortunately, this dissent would begin to move too fast for China's leaders. In the fall one of the detained dissidents would be tried and given a harsh sentence, and in December Democracy Wall would be shut down.

Nevertheless, the tide toward more personal freedom in China seems relentless. Jeff Riegel, who visited Beijing nine months earlier, remarks how relaxed the people now seem and how the drab Mao jackets are giving way to lighter and brighter clothes.

Love is also in bloom in Beijing. Public displays of affection have long been discouraged. Yet now hand holding is common, and in the parks couples display their affection even more earnestly.

At the theater a new play opens, surprisingly with a young couple dancing and singing about love. The couple's love affair and lives, however, are soon ruined by agents of the Gang of Four. This radical clique, led by Mao Zedong's wife, was held responsible for encouraging multitudes of teenage Red Guards to storm across China in the late 1960s, attacking almost every institution. During this Cultural Revolution, strict Maoist values were praised. Education, science, and industry were thrown into a dark age from which they are just emerging.

For instance, our group's guide, Dr. Zhao Sungqiao, one of the most distinguished desert scientists in China, spent more than a year at heavy labor in a rural camp.

The widely despised Gang of Four, now under arrest and in disgrace, has become the scapegoat for most of China's problems, from the encroaching deserts to broken toilets. Even Mao Zedong is being decanonized. At the theater, whenever an actor brandishes Mao's famous little red book, it provokes instant laughter.

The popular late Premier Zhou Enlai is eclipsing Mao. Zhou protected many people during the worst days of the Cultural Revolution. On China's memorial day shortly after Zhou's death in 1976, people spontaneously began laying thousands of wreaths in Beijing's massive Tian An Men Square. Gang of Four supporters kept removing them, provoking the worst rioting the new China has known. When the furor subsided—and after Mao's death—Chairman Hua Guofeng and Vice Premier Deng Xiaoping, both moderates, emerged as leaders of a pragmatic China bent on modernizing at full speed.

WE DISCOVER more than a new political reality in China. Walking away from Tian An Men Square, we leave the somber Great Hall of the People behind. The streets narrow and buildings turn into 19th-century brick and stucco. Looking into the courtyard of one crumbling house, we see a sign proclaiming it to be the Grand Garden of the King.

Trolleys and bright buses are replaced by rattling horse-drawn carts, and we find ourselves on narrow streets with such names as Green Bamboo and Fetch the Oil Lamp. Even on winding back streets bicycles whiz by in amazing numbers.

It is dusk, and on this steamy evening the smells seem to change with each step we take. Robust aromas wafting from the noodle stands, Beijing's fast-food restaurants, converge with the scent of incense from an open window and then the stench of rotting melons and garbage that people have placed in orderly piles on the sidewalk to be picked up overnight.

It is our last night in Beijing, and we encourage each other. So what if the Chinese won't take us out to camp among the great dunes of the Taklimakan. So we will lecture

Catching the fancy *of a young passerby, toys displayed in a Beijing department store signal new government attitudes toward material goods. In a turn from rigid ideological goals, moderate policies—including incentives for individual initiative—aim to catapult China into the ranks of developed nations by the year 2000.*

a lot. So the beer *is* warm. Maybe we will learn a few things about China anyway.

The next morning as Train Number 43 carries us out toward the Great Wall and climbs the craggy green mountains so beloved by Chinese painters, I notice many fields of corn. I ask Dr. Zhao when this import from America was first brought to China. "Four hundred years ago," he says.

"Oh, then it's been here a long time."

"No."

Four hundred years—twice the age of the United States—is brief to the Chinese. Our nation's history spans less time than most major Chinese dynasties. How curious our urgency and impatience must seem to them.

Around noon we enter the famous loess-lands. Suddenly the earth turns yellow. Loess means a very fine wind-borne silt. China's loess deposits, which were probably blown in from deserts to the north and west, are the world's greatest. Much of north-central China has been blanketed with loess layers as deep as 300 feet. With rains loess can be very fertile. In drought, however, the livelihoods of millions can blow away with clouds of yellow dust.

The fine loess particles, when compacted, bond together almost like cement. And so we see the housing change from the rock and

Shouldering the main load *of commerce, railroads bind China's far-flung regions. Coal, the nation's most abundant fuel, powers steam-driven engines (**above right**).*

Completion of a rail link to northwest China in the early 1960s overcame vast desert distances. Remembering the month-long pre-train journey east from Xinjiang, one man told the author, "You do not know how difficult it used to be to travel in China."

*Most travelers today have a choice between "hard seat" and "hard bed" cars—wooden seats (**above left**) or bunks. Foreigners and high-level Chinese may ride in more comfortable "soft" accommodations. Few citizens have enough money for travel. "At night," the author noted, "we saw people climbing on and off coal cars."*

*Working in a booth aboard the train, 30-year-old Fu Gueimin (**right**) broadcasts over a public-address system during most of the day. The program includes political news, history, and Chinese and Western music—including tunes from* The Sound of Music.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brick near Beijing to the "rammed earth" architecture typical of north and west China. Since Neolithic times people have simply built wooden frames, filled them with layers of loess, and pounded the dirt. When the frame is removed, a durable wall remains.

Also, caves can be cut easily into loess, and the hillsides across China are pocked with entrances to dwellings that have been dug even in recent times.

As Train Number 43 grinds on, we stop at countless coal towns and farming depots. On hilltops we see watchtowers built by forgotten emperors to spot marauding horsemen from the north.

All along the tracks we see the faces of the good earth and watch its lean bodies work the fields, child next to grandparent. These people have evolved with this land, terraced and shaped it, suffered with its floods and parchings, prospered with its bounty. The land is beautiful and lush in this harvest season, but without these humans, cutting, thrashing, and stacking hay, driving their donkey carts toward their villages, it would seem barren. How many billions of people have farmed this yellow soil in the same manner? Beijing fades in our minds as the real China, the greatest agrarian country in the world, unfolds (map, pages 298-9).

Late in the day we pass once more through the winding Great Wall into the undulating grasslands of Inner Mongolia. The faces we see now are Mongol. Horses become the dominant animals.

The Great Wall was originally built to keep the Mongols' nomadic predecessors out of imperial China. But the invasions also went the other way, particularly in the past 300 years. When periods of good rains have made these semiarid steppes attractive to Chinese farmers, Chinese governments have opened up what was regarded as the "Mongolian wasteland" to settled agriculture. Already overgrazed for centuries, much more land was deforested and in drought years turned into sandy barrens.

Before "liberation" in Inner Mongolia it was said that if you wanted to hang yourself, you would have to walk a hundred miles to find a tree. No longer. Since 1949 the masses have planted enormous numbers of trees all over China, and much desert land has been salvaged. Still, serious problems continue, and as night falls and we head for the great northern loop of the Yellow River, we begin

to see the dunes brought on by man's abuse.

"We have so many people to feed," Dr. Zhao tells us. "That is a great difficulty. We are overusing our land. Our population growth rate is down to 1.2 percent, but still we have 19 million babies every year."

As dawn breaks, we are in desert at last, paralleling the Yellow River as it curves through what most of the world thinks of as the Gobi desert.

Actually gobi is a Mongolian word. It means gravel and rock debris and denotes all the deserts and semideserts of the vast Inner Mongolian plateau, which stretches across north China.

The Chinese break the so-called Gobi into lesser deserts—the Ulan Buh, Tengger, Badain Jaran. All have active sand dunes in addition to their predominant gravel. In the far western Xinjiang (Sinkiang) region the Gobi merges with China's other great desert, the Taklimakan, a 900-mile-long sea of huge sand dunes that for centuries tormented travelers along the Silk Road. Taklimakan in the folklore of Xinjiang's Uygur (Uighur) people means, "Once you get in, you can never get out."

Like the Nile, the Yellow River enables man to farm the desert along its banks. But in places we see large shifting dunes pushing into the river, and sometimes actually forcing it to change course.

TRAIN NUMBER 43 is beginning to feel like home. Three of us leave our wood-paneled compartments and head through the "hard seat" cars. We find a broadcast studio, in which a young woman plays Chinese music, interspersed occasionally with Rodgers and Hammerstein. She also reads history and heavy doses of political news (page 303). In our compartments we can turn the speakers off. Hard-seat passengers cannot. No one seems to mind—or even notice—the broadcasts.

A porter pushes a meal cart and serves ample helpings of a rice-and-egg dish. The cars are clean. They are full, but I've felt more squashed riding Amtrak. All through the train we get stares, followed by smiles.

Dining-car cashier Su Yuguo tries to explain how his abacus, or suan pan, works. He is a whiz, and knows it. When photographer Bruce Dale shows him a Japanese calculator, he writes out "445 x 65" in Arabic numerals. The *(Continued on page 310)*

Traditions of the soil, *little changed since earliest times, can still be seen in this nation of a billion people—a quarter of the earth's inhabitants. A farmer's ox-drawn plow* **(left)** *could have been copied from one shown on a painted brick* **(above)** *found in a 1,500-year-old tomb not far from his field. While the government points with pride to increasing mechanization in agriculture, human and animal power still produce most of China's food.*


全世界无产者联合起来！

*"**We were overwhelmed,**" says the author, when thousands turned out in Zhongwei **(above)** to greet the first American visitors in at least thirty years. A sign reads "Proletarians of the world unite," but ideology is no longer a barrier to curiosity.*

*A new cordiality toward Americans was typified when a Chinese came to Jeffery Riegel's aid by blowing an insect out of his eye **(right)**—"A genuinely friendly gesture," says Riegel.*

Such contact was unthinkable during the Cultural Revolution, a period of turmoil beginning in 1966 that shattered the nation's social structure in a drive for renewed Maoist purity. Science and most other avenues of development came to a halt.

*Now research is once again encouraged. At the Lanzhou Institute of Desert Research, founded in 1978, scientists use a model tree to study wind protection in a "smoke-wind tunnel" **(left)**, a tool in efforts to tame China's huge deserts.*

Stemming a tide of sand, a grid of straw checks dunes advancing on a

rail line in the Tengger Desert—a battle won in the fight against aridity.

Crossing over *into the future, China emphasizes Four Modernizations: agriculture, industry, national defense, and science and technology. Here in industrial Lanzhou on the Yellow River, horsepower moves on both hooves and wheels.*

challenge is on. Bruce's calculator wins in a flash. Several contests later, Su figures out how to turn the tables: "56,785 x 26,354" he writes. The calculator can't handle that many numbers. Leisurely, Su triumphs.

One of the delights of train travel through China is the food. Chef Shi Kunlan tells us he had to study cooking for three years at a special school run by the railroad.

"First they teach you to wash vegetables," Shi says. "After that you study ingredients, then general health and how to keep a kitchen clean. Then you learn how to chop. We work hard to learn how to control stove temperatures just right. Different ingredients must be cooked at different heats in the wok. Some foods you have to cook a second time —very hot—to get them crispy on the outside but still soft within."

WE GET OFF the train in the town of Zhongwei in the largely Muslim Ningxia autonomous region. It is a stronghold of the Hui people, one of the many minorities, which total some 60 million people in China. About 30,000 people live in Zhongwei, and even though it is raining, it seems that they are all out clapping and cheering our motorcade. We are the first Americans to visit in at least thirty years. When we walk through the town, thousands pour out of their houses and throng in the streets, pushing and shoving to get a glimpse of us (pages 306-307).

Next morning we drive to Shapotou on the edge of the Tengger Desert. Behind us churns the Yellow River, looking viscous with its load of ocher silt. Ahead lies one of the world's leading sand-control successes.

Over a period of two years Chinese manpower literally moved mountains of sand for twenty miles of railroad track to be laid. Then laborers, sometimes numbering in the thousands and often working in the below-freezing winter gales that scour the region, laid a checkerboard pattern of hay thatch, which looks like a fishnet thrown across miles of dunes along the railbed (preceding pages). The thatch breaks the wind and has let the Chinese stabilize the dunes further with drought-tolerant plants. The rails still have to be swept after a big dust storm, but the dunes have never swallowed any part of these critical tracks across north China.

Meanwhile, Thad Box has a chance to ask

a local scientist about the plant *Cannabis sativa*—which can be considered as either hemp or marijuana—that he has seen growing profusely all along our route. One patch, Thad noted, "would be enough to make all Beijing happy." At first the scientist denies that people smoke it, but we have sometimes smelled it on the train. "It may be a big problem in south China, but not here," he says. "Oh, come on. You teach at a college," says Thad. The scientist smiles. "Well, the official policy is that it is not smoked."

We reboard the train and head for Lanzhou, an ancient Silk Road stop that since 1949 has been turned into a heavy industrial city of 2,000,000.

Lanzhou's petrochemical factories pour out a thick veil of lung-threatening fumes. Most of our group quickly develop sore throats, headaches, sinus problems, and

a compulsion to get back to the desert.

Lanzhou is the home of the Institute of Desert Research, one of our hosts. We are to spend five days there in academic exchanges. But when we arrive, we get the bad news that heavy rains have cut rail lines and sent flash floods down on a pivotal point on our itinerary—the oasis of Dunhuang.

Dunhuang was a watering hole on the fringe of the Taklimakan, where travelers either prepared for or recuperated from their horrible crossing. Nearby lies one of the least known wonders of the world, the Caves of the Thousand Buddhas. For centuries pilgrims from all over central Asia endured great hardship to visit this labyrinth of sculptures and frescoes, painted by Buddhist monks mostly during the Tang Dynasty (A.D. 618-906).

The flood-disrupted rail line goes as far as Jiayuguan, westernmost fortress on the Great Wall. For logistic reasons, it is decided we will depart almost at once on the thirty-hour train trip to Jiayuguan, spend the day, and return to Lanzhou for our lectures. Then we will fly to Ürümqi to begin our travels in Xinjiang.

As we ride the Hexi Corridor, along the route of the ancient Silk Road, we can look out one window and see the wild, snow-capped Qilian Mountains, with 17,000-foot peaks. Out the other, as we near Jiayuguan, we see our first stretches of gobi. There is little to be said for it. Colorless flat gravel lacks the romance of dunes, or even the grotesqueness of badlands. It is monotony. For that reason it deserves the dread and fear it has provoked across the ages.

It was into this land some 2,000 years ago that Han emperors sent soldier-farmers to secure their frontiers. By building irrigation systems to tap mountain snows, the Han watered the desert and established self-sufficient towns. They brought with them their precious silkworms, set up mulberry plantations, and prospered.

Bundled against winter rains, *hay shocks take shape at harvest's end. Farming occupies four out of five Chinese, yet only 11 percent of China is arable—a situation demanding intensive labor and high yields.*

At the edge of beyond, *the fortress at Jiayuguan faces the terrible emptiness of the western deserts. Here ends the portion of the Great Wall built by the Ming Dynasty in the late 14th century. From here exiles bade China farewell, and*

caravans wound along the Silk Road, a route that long predates the fortress. In the ninth century a poet wrote of a leave-taking at Jiayuguan: "One more cup of wine for our remaining happiness. There will be chilling parting dreams tonight."

The mulberry trees near Jiayuguan died of neglect about 1200, after the silk route shifted north. Prosperity vanished, and for the ensuing centuries life along the western Hexi Corridor has been harsh. The local people say their land has three "too manys" and three "too littles": "Too many winds and too little rain; too much sand and too little grass; too many stones and too little soil."

FINALLY we reach the fortress Jiayuguan, with its colorful drum towers rising above rammed-earth walls. Jiayuguan's grace and dignity are startling in this barren land of meager architecture. The rubble that was the Great Wall runs up to Jiayuguan's eastern flank (preceding pages). To the west lies central Asia.

For centuries, China—and therefore the civilized world—ended at Jiayuguan. "We had a saying," Dr. Zhao tells me. "When you leave Jiayuguan, you leave the land of men and enter the land of ghosts. When you leave this gate, your eyes will never be dry."

When I walk through Jiayuguan's exit, a long black corridor known as the Gate of the Bravest People in the World, I can understand a traveler's tears. Before partial restoration, it used to be carved with anguished graffiti, very often of disgraced officials or criminals being banished into the wilderness. Outside the gate endless plains of dark gobi shimmer in the heat. It would not take long, wandering in that desolation, for the ghosts to descend.

I turn back and see civilized China again. Smoke billows from a giant steel complex in modern Jiayuguan. In order to develop iron deposits found nearby, China's planners have turned this long-dormant village into a town of 100,000 people.

A doctor and his wife tell me they were sent to Jiayuguan from Beijing in 1966. "It was hard to get used to being out here, but we have little choice," they say. "Doctors are needed here. Of course, we would like to go elsewhere. We have petitioned the government to let us move. We have distinguished contacts trying to arrange a transfer, but it's an open question whether we shall ever be able to leave. Some people like it here. It doesn't rain much."

We return to Lanzhou and are heartened by the reception the scientists at the Institute of Desert Research give us. Their facilities are not the most modern, but they are deservedly proud that they are rebounding so energetically from the persecutions of the Cultural Revolution. The members of our group are bombarded with questions about research methods, remote-sensing satellites, and American equipment. Many contacts for future communications are made.

Since we are not desert specialists, Bruce and I are let loose to wander Lanzhou.

Yang Yanlin, our 24-year-old translator, tells us he is lucky. He has his own room at the institute. At factories most people live three or four to a room. Although older factory workers can earn as much as $65 a month, Yang takes home about $35. He spends $12 of that amount for food, $6 for cigarettes and clothes. He gives some to his parents and saves the rest. Maybe in five years, he figures, he will have a hundred dollars to buy a bicycle.

We climb a hill into White Pagoda Park. In the thick, sultry air we hear music and head toward a pavilion overlooking the Yellow River. Young couples are dancing to very old records and an accordion. They invite us to join them.

My Chinese is just good enough to learn that this is their day off, and even though dancing is officially frowned upon, they intend to go on all day. Our feet are studied, and after Bruce twirls his partner, everyone is twirling. We have tea and smile a lot at each other.

About a year ago, a young man tells us, there was a feeling among the people that their lives were "just too rough." Little recreation, few movies or plays. When the government gave signs it was loosening up in late 1978 and began making contact with the rest of the world, freedoms such as dancing

Chinese by nationality, *the Uygur people of the Xinjiang region hold fast to Islam and their Turkic language. Yet the Han Chinese influence grows: This basketball player's shirt bears his team's name, Vanguard, in both Chinese characters and the official Pinyin transcription system.*

became infectious. "It seemed to get completely out of hand," he says. "People were dancing when they should have been working. The government cracked down for a while. But they are listening to the masses now. The quality of life is higher."

That evening in central Lanzhou, we find the streets thronged with excited people. Countless children in festive school uniforms carry flowers and bang drums and cymbals. We see flares in the distance. Soon about a hundred young people in blue sweat suits jog by, carrying torches.

They are Lanzhou's team in a national relay being run along the route of the Communist army's 1934-35 Long March from near Shanghai to the mountain stronghold of Yan'an. The relay will continue from town to town and then head for Beijing, to arrive in time to celebrate the thirtieth anniversary of the founding of the People's Republic of China (pages 295-7).

At Lanzhou's East Is Red Square, we wait for the runners to return from a circuit of the city. Once more people gather around us. Party officials on the dais point at the disturbance we are creating. Soon one approaches us. "These are two American news reporters who think this is an important event," explains Yang. "Tell them to move on," says the official. "There are too many people here. A few of our young people are not good. They might try to take money from foreign friends."

Until now theft had hardly been a worry. The Chinese press has recognized increasing hoodlumism and crime in the cities, but foreigners supposedly have little to fear; the punishment for crimes against them has been extremely harsh. To a traveler, honesty seems ingrained in the new China. We felt perfectly secure in leaving money and passports lying in our rooms.

Since the most obvious thing about Lanzhou is its bad air, we went to its biggest polluter, the Lanzhou Chemical Industry Company. Zhang Liancheng, the general manager, knows the problem is serious. "We need to learn from industrial countries better ways to control pollution."

Before leaving Lanzhou for Xinjiang, we visit a barbershop for a touch of luxury—a shave and a hair wash. Bruce also wants to photograph a Chinese haircut. Jeff Riegel, with his long, full head of hair, is voted most photogenic and is impressed off to the barbershop, muttering about what his stylist in Berkeley will say.

The gray-blue barbershop is a busy place, with wooden ceiling fans and about twenty

In an oasis of shade, *Uygur children tend their brother beneath a grape arbor in the Turpan Depression. One of the lowest spots on land, it plunges to 505 feet below sea level, and in summer is a caldron of blast-furnace heat.*

chairs. People are packed onto wooden benches, waiting to be called. Women go upstairs, men stay down. The barbers do not seem to know what to do with Western hairstyles. Jeff told his to take only the smallest amount off, but I can see in my mirror what Jeff cannot yet see. The back of his head will take some time to recover.

Meanwhile, I undergo a Chinese shave. The barber puts on a surgical mask. I presume he doesn't want to spread germs. Every inch of my face—hairline, eyelids, nose, even my earlobes—is scraped clean with what feels like a thousand-year-old razor blade. After a shampoo my hair is singed dry with a blower and waved in the style worn by Zhou Enlai. I take that as a compliment.

We board a propjet for our four-hour flight to Ürümqi. The seats are built for Chinese, of course, and Jack Johnson and Thad Box, who are constructed like football players, have trouble. "He can't sit! He can't sit!" says one excited Chinese watching Jack. "That's the problem with these foreigners. They are just too big!"

Xinjiang, which is larger than Alaska, occupies one-sixth of China. Its name means "new frontier" in Mandarin, the chief

language of China's dominant Han people. Ninety-four percent of all Chinese are Han. Still, with a population of about a billion, China has enough ethnic peoples to equal the populations of New York, Illinois, Ohio, and California. In Xinjiang, China's back door to the Soviet Union, the Han are outnumbered. In this region of 11 million live a dozen ethnic groups. Most, like the 5.5 million Uygur (wee-gor) and the 800,000 Kazaks, are Muslim and of Turkic origin.

THROUGHOUT HISTORY the Han Chinese have regarded the people of Xinjiang as barbarians. Even though the Han constituted only 5 percent of Xinjiang's population before liberation, they ruled the province either through force or manipulation of its ethnic groups. But in the 1950s the Han began to change their ratio in Xinjiang. They sent colonists en masse into the region, both to ease population pressures in the east and to stabilize and fortify their sensitive borders with the Soviet Union. Also, many former Red Guards were rusticated to Xinjiang after 1968 to defuse their energies. More than four million Han now live in Xinjiang.

Predictably, this influx aroused resentment and has sparked occasional violence among the minorities. So did the Cultural Revolution's eager push to wipe out old customs and cultures. Today the Chinese Government is making serious efforts to placate and promote its minorities. Ethnic languages are being fostered. Minority children are often given special educational privileges. Young minority couples are allowed to marry earlier than the ages sanctioned for the Han Chinese—usually 23 for women and 26 for men. They are also exempt from birth-control pressures that encourage Han couples to have only one child.

Arzigal, director of the Ürümqi Carpet Factory, exemplifies China's minorities policy, similar to affirmative action in the

Carved niches *in the cliffs of Jiaohe, a ruined city in the Turpan Depression, may have held Buddhist shrines. The city flourished as a Silk Road outpost from about A. D. 200 until sudden abandonment before the year 1000.*

United States. She is a "diligent worker," we are told. She is young, female, and, in a factory that is 80 percent Han, she is Uygur. Therefore, the party selected her to be the 300-worker factory's titular head.

"Most of our patterns come from Hotan [Khotan] in the Taklimakan Desert," says Arzigal. "There the people begin learning their skill when they are 7 years old."

However, the Han workers in Arzigal's factory learn to weave in only three months.

Yang Zhongfen, who has been working here for four years, says it takes her about a month on her large handloom to weave one square meter of carpet.

Does she like what she does? "I wanted to be in the PLA [People's Liberation Army], but the government told me to be a worker. So I said I would love to be a worker." Then, she adds with a grin, "Once you have your job, you love your job."

LIKE LANZHOU, Ürümqi has become an industrial city, growing from 80,000 in the 1940s to about a million. Nondescript new buildings and factories have obscured whatever charm or architectural interest the city may have had.

Not so with the Turpan (Turfan) oasis, which lies five hours away by road in one of the world's deepest and hottest depressions.

To reach Turpan, we cross through oblivion. As we descend through dark, naked scarps, the wind picks up. The heat in our minibus climbs to 100 degrees F. Choking dust envelops us. There is no longer any

horizon. Gray gobi merges into gravel skies. A donkey cart appears out of the dust, its driver asleep on his back.

Eventually we see row after row of big pockmarks in the desert. These are the holes through which men of Turpan descend to clean their karez, or underground canals, dug to bring in irrigation water from the nearby Tian Shan (Celestial Mountains). About 950 karez converge on Turpan. Some of these canals go back to Han Dynasty days, when the concept first arrived in Turpan via the Silk Road from Persia. There they are called qanats. Qanats or karez, it is these underground lifelines that make possible the colorful, almost biblical Turpan culture that now explodes out of the black-and-white gobi world.

ARE WE STILL in China? These faces I would expect to see in Samarkand. These clothes in Kabul. I could swear I have seen that old man with his long beard, holding his staff and riding a donkey on the road to Jerusalem. The dancing troupe, with its handsome acrobatic men and its gleeful, exuberantly dressed women twirling banners, might well be celebrating the harvest in Uzbekistan. Their comedian had to have come from Armenia.

Turpan seems so isolated. Yet for many centuries, when caravan commerce thrived, this melon- and grape-growing oasis was one of the cultural crossroads of the world. The ancient Han ruled Turpan. So did numerous central Asian peoples who migrated through and got lost in history.

Transplanted in the desert *from China's crowded east, Han Chinese families* ***(left)*** *work at state farms on former wastelands and help swell the population along the sensitive border with the Soviet Union. Native Kazaks* ***(above)*** *share a nomadic ancestry with the closely akin Uygur and cling to a pastoral way of life.*

In a green season, *Kazak women tend camp in the Tian Shan (Celestial Mountains). Traditional felt yurts house them when they move their herds of sheep, goats, and horses to high pastures.*

Amid the ruins of the fortress town of Gaochang we see a Buddhist temple dating from the fourth century, when the faith of India began spreading feverishly across China. Then, when Islam arrived, the temple was converted into a mosque.

Today's faith is Communism. But walking through Astana, one of Turpan's oldest villages, we seem far removed from dogma of any kind.

Grape arbors shade most homes, keeping them comfortable in the 110°F heat. Everywhere people munch Turpan's sweet melons to slake their thirst. Bells clang on the carts taking women and children to market. An irrigation channel gurgles along the road as it carries its cool mountain water.

In front of one home a woman named Ruzihan, who says she is 101 years old, sits on a blanket spread with rice. Her family is having guests for dinner, and she is plucking gravel from the grain. Next to her under the grape arbor is a bed, where she naps during the heat of the day.

Beneath the arbor of an elderly farmer we sit on bright Hotan carpets and admire the ripe grapes overhead. "Our weather is such that we can let them dangle all summer and eat them at will," he says.

His wife brings a plate of bread, cheese,

Beaming approval, *53-year-old Allabedi welcomes the Communist order that has improved material life while still allowing his Kazak people a measure of their wandering freedom.*

and handsomely curled fried wheat noodles called *sangza*. The bread is hard, so the farmer shows me that it should be dipped in tea. I ask his name. "Aziz," he replies. "Do Uygur people have only one name?" I ask. "We just use first names in everyday life. There is no need to do otherwise."

Aziz and his wife, Imsahan, invite us inside their home. Their bed is a hard earthen slab, about ten feet by twelve, covered with a rough hair blanket and several multicolored quilts. An elegant old tapestry covers the wall. Beside it hang a lutelike instrument called a *dutar* and a portrait of Chairman Hua. On a table sit an alarm clock and a portable radio. They have another room, which holds their sewing machine and serves as a parlor. When I ask how Communism has affected their lives, they simply say: "Before, we were poverty stricken. We were unable to get things."

One thing Communism clearly has brought to Turpan is more trees. We are shown extensive forests, or shelterbelts, which since liberation have helped fend off the ferocious winds that blast Turpan between March and May. The combination of sixty-mile-an-hour gusts, subfreezing cold, and sand easily kills unprotected grapevines in spring. The shelterbelts, however, have helped Turpan's grape industry expand into what was bare dune and gobi.

PERHAPS no one has been enjoying Turpan as much as Farouk. Because he is among fellow Muslims, he has been wearing his flowing white Egyptian galabia. This robe has been a big hit with all the people we've met, and during our three-hour afternoon siesta we can hear him outside the rest house setting young Uygur girls giggling in admiration. But then Farouk deserves compensation. He brought along hundreds of soil-sample bags, and we have scarcely seen a dune.

Earlier, in Muslim Ningxia, Farouk also got special treatment when he wore his galabia. He was placed at a separate table with no pork and no beer.

Back in Ürümqi he stops to take a picture of a mosque and is warmly greeted by an imam who speaks perfect Arabic. The imam invites him back the next evening for what Farouk thinks is going to be a discussion of the state of Islam in Xinjiang. Instead, it is a three-hour, late-night prayer session, with prolonged, painful bowings and kneelings. Farouk, however, does see that the mosque is filled only with old men. Since the Cultural Revolution, the imam tells him, young people know little about religion.

In Ürümqi it is decided finally that a trip into the dune fields of the Taklimakan would be too difficult to arrange. Our comfort, we are told, is the primary concern. We proceed north instead on an all-day spine-jarring road trip to State Farm 150, a huge region reclaimed from the Gurbantünggüt, a second-rate desert as deserts go, and populated almost exclusively with Han Chinese.

State Farm 150 began as a military project, some 150 miles from the border with the Soviet Union. Its settlers were comparable to the soldier-farmers that the early Han emperors sent out to colonize their frontier.

It is a grid of barrack-style housing and fields, mainly of melons, cotton, and grain. It has about 17,000 settlers, who are divided into companies and then into production brigades.

There is a restrained atmosphere about State Farm 150. Only here have the children been shy of us. When I ask a group of men if ten years ago they thought they'd ever see an American here, they laugh and shake their heads. When I interview young women in a melon field, a foreman monitors. Wang Xinhua, 19, says she was sent here two years ago from the closest city, Shihezi, "to learn from the peasants." China's policy is to rusticate many of its young people, or send them away from the overcrowded cities where there are job shortages. However, as a birth-control incentive, the Chinese exempt from rustication children from families with only one child. Especially good students are sometimes exempt as well.

Wang does not expect to leave State Farm 150 anytime soon. "If the state asks me to go, I will of course. But I like it here."

Do they ever have dances? Wang giggles no. "We play basketball and Ping-Pong and engage in cultural activities. We have political meetings once a week." Are they fun? She looks at her foreman and decides not to answer directly. "We study documents of the party and read its newspapers."

Somehow we find ourselves alone with several original settlers of State Farm 150.

"We were all volunteers back then," says Wei Guoan. "We were young and enthusiastic about defending and developing the border. It was an exciting time. Nobody was out here but the foxes and the yellow goats. The work was difficult. We had little machinery to help."

"We had no housing," adds He Yunqi. "We dug pits and covered them with twigs and mud. Five or six people lived in each. Most were single. Families came later."

Do the Russians ever try to cross over and steal your melons? Laughter. "They wouldn't dare."

Often the Chinese seem embarrassed by the backward state of their agriculture. Near Jiayuguan they did not want us to photograph a farmer plowing behind an ox, a common sight across China (page 304). On Farm 150 they are intensely proud of their tractors, which they work day and night.

Returning to Ürümqi, we pass about thirty farm workers. "I think one tractor could do better than all those people," says scientist Liang Kuangyi. "But then what would all those people do?" I ask. Liang ponders a moment. "Quite right," he says.

IN THE MOUNTAINS and high pastures around Ürümqi we meet a third Xinjiang life-style, that of the pastoral Kazak people.

On the way our minibus breaks down once more. So far in Xinjiang we have had three flat tires, a broken distributor, a ruptured brake cylinder, a dead battery, two broken fan belts, and a sparking short circuit under the dashboard. Yet the Chinese driver-mechanics are a wonder. No problem throws them for long. They carry a ready supply of tools and parts. This time the water pump is broken. They pull it out and proceed to make from scrap metal the part they need to fix it. "In the U. S.," notes car buff Jack Johnson, "a mechanic would insist on putting in a whole new pump."

We resume our climb into the Tian Shan, and the air grows cool. We pass rapids with torrents of white water racing down steep canyons. Cottonwoods and spruce appear, as do yurts, the domed, tentlike homes of the Kazaks. Cowboys on horseback, wearing green Mao caps and bearing rifles to protect against predators, drive cattle to pasture. Wolves are a problem here; snow leopards are the second most worrisome species, we are told.

When we reach Celestial Lake, a reservoir of pristine snowmelt from the surrounding peaks, we meet a young mountaineering team from Beijing. They wear elaborate climbing gear, and one carries a $2,000 German camera, the strongest indication we have seen yet that, along with its masses, China still has its favored citizens.

After a two-hour hike, Bob, Jeff, and I

While men are away *in the high country, a Kazak mother stays with her children (**overleaf**) in a lower camp. Minorities may raise large families, but Han Chinese are penalized for having more than two children.*

reach a small group of yurts. On the gate of a fence that pens in some sheep and goats a sign reads: "The person who doesn't close this door is a dog-bear." A herder, Kamel, greets us excitedly and takes us into his yurt.

"We have many other places we live," says Kamel in halting Chinese. "Before the snows come, we will move twenty kilometers down the mountain."

Kamel's husky wife brings bread and cups of scalded goat milk. "*Ish!*" she orders. We assume that means drink up. The brew is bitter and goes down best in tiny sips.

"We are considered to be part of a commune," Kamel continues. "I'm not really sure what that means. I think there are about a thousand people in it altogether."

He and six other men in his brigade manage a herd of 300 animals. He can keep ten for his own use. The others are sold and the profits shared by the commune.

Several days later, wandering the mountainbound Commune of the East Wind, we come across some yurts where women are cooking fry bread over a pit fire (pages 324-5). Their features look like those of American Indians. We could be in a Blackfoot camp in Montana a hundred years ago.

The older children and men are days away in the mountains tending livestock. Bruce produces an aluminum-foil skillet of Jiffypop popcorn. The children's eyes pop along with the corn as the skillet top expands over the pit fire. No one will eat this strange food until I have a few handfuls. Then the children try it. Slowly the mothers—and finally even the chickens—join in with gusto.

A few miles away we come to some log-and-mud cabins and meet a Kazak named Allabedi walking down the road carrying a scythe (page 326). Allabedi is 53 years old. He says he is on his way to cut hay to earn extra work points. At the end of the year, when the 7,000-member commune figures out its profits, it will distribute them in money and animals on the basis of work points. People use the cash to buy such things as finer clothes, coal, and cigarettes.

"Collectives are very good," says Allabedi. "We have been able to keep our pastoral life, but now everyone, including children, can get money.

"Before liberation everything belonged to the rich. We worked hard for them without

getting much back. We went hungry so often. We had not enough clothing. We used to live in caves. Now we have come outside into real houses.

"We are happy," he says, emphatically. "We work—but not too hard. When we are sick, there are doctors to treat us. I didn't go to school, but my daughter studies physics at Xinjiang University. Last year Chairman Hua was here. This is the best of times!"

THE BEST OF TIMES. No one else in China had put it quite that way, and many, especially the country's young dissidents, might strike a less euphoric note. Modernization poses huge problems, and the big, aging bureaucracy that must solve them suffers from too much incompetence and a lingering fear that the days of persecution might yet return.

But all across China we sensed optimism. We felt it in the exuberance of the scientists who have been given back their self-respect. It rode the trains and walked village streets, leaping out from eyes that were seeing Americans—symbols that change is coming to China—for the first time.

It was certainly in the faces I saw at Mass at the 75-year-old Nan Tang Cathedral the Sunday after we returned to Beijing (lower left). The government had just announced that the city's 6,000 Catholics could now have a bishop.

"We have been saying Mass continually, but the people were too scared to come," says Father Laurence She Yukan.

The party still keeps a rein on the church, and that is probably why China's Catholics do not acknowledge the Pope as their head. The Mass, oddly enough, is in Latin.

Nan Tang Cathedral is crowded. Many churchgoers look younger than the revolution. I watch one intense youth, his eyes closed, his fingers clutching a rosary, and wonder how the faith ever stayed alive.

IT IS SHORTLY after dusk on our last night in China. The heat and humidity of Beijing's stifling summer are still oppressive. But I don't mind. Throughout China we have seen the human spirit reviving. Hot as it is, it feels like the first week of spring. And, at the Beijing Hotel we finally find a cold beer. □

The fires of faith *burned low but never died when religions were attacked during the Cultural Revolution. Attendance was nil at Beijing's Catholic Nan Tang Cathedral* ***(left)****. Red Guards, shock troops of the radical upheaval, once entered the sanctuary, but they left without damaging it.*

In recent times worshipers have resurfaced. Father Laurence She Yukan, here garbed in a gold robe, weathered the storm to preside over a flock that again feels free enough to attend Mass, take Communion, and go to confession ***(right)****.*

The twists and turns of China's course baffle even many Chinese, and the land's vast sweep defies an easy grasp. Yet one thing came clear to the Americans on their visit: China's newly revealed face is trying to smile.

Home to North Carolina

By NEIL MORGAN

Photographs by BILL WEEMS

ALONG the Cape Fear River, shad fishermen were setting nets beneath oaks that trailed Spanish moss into murky water.

An oil barge, working upriver from Wilmington, rose slowly in a lock.

A smiling young black man came by, his baby son curled about his neck. "Jes' sightseein'?" he asked. "Need any he'p? You're not from 'roun' heah, are you?"

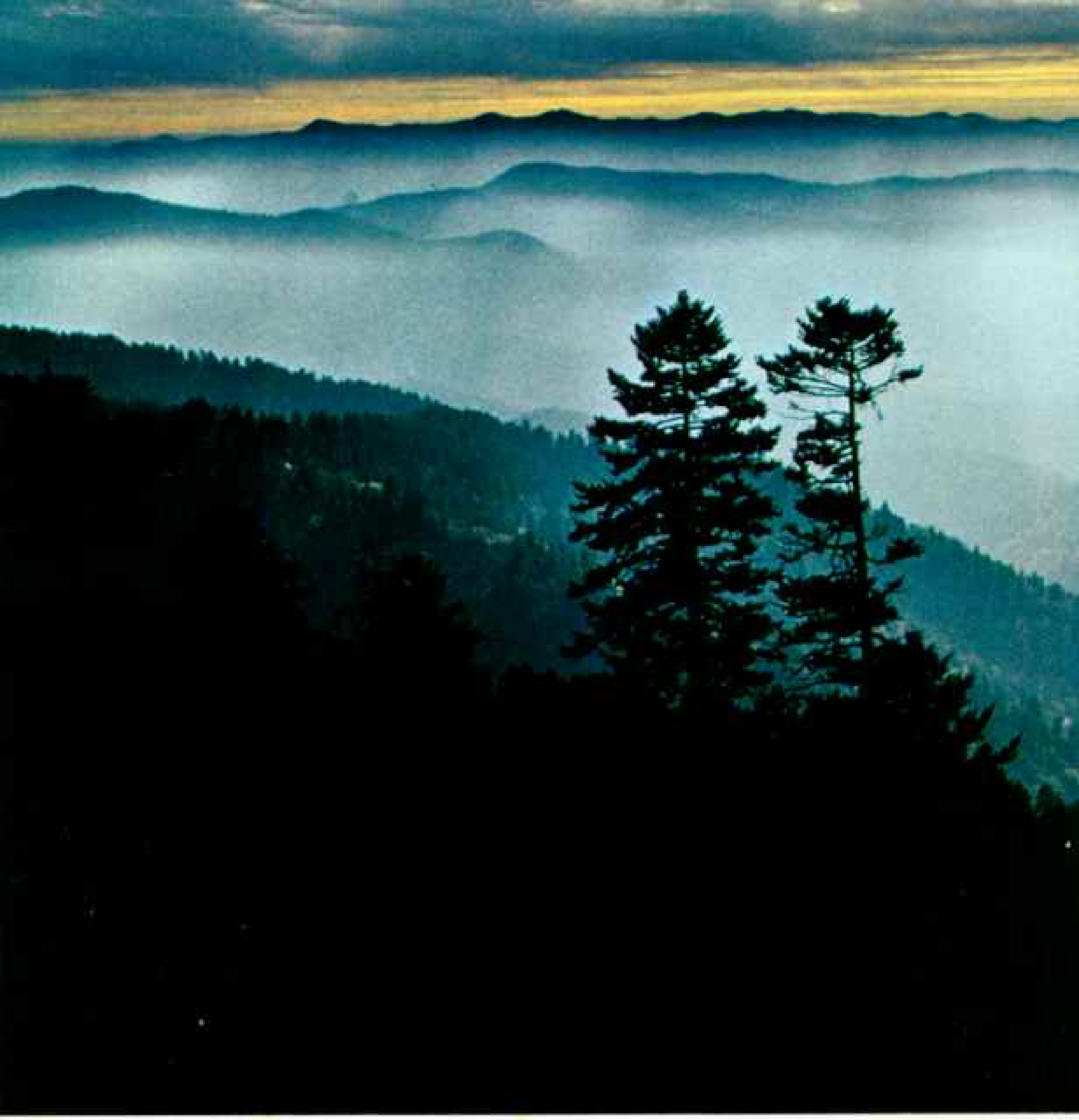
"Not for a long time," I said, deep in remembrance. As a boy I lived in North Carolina towns where my father was the Baptist pastor, and we moved often. It was my summers on the coastal plain near here at Ashwood farm, my mother's birthplace, that stirred loyalties to land and community.

"Is Lacy McLean still around?" I asked, recalling the childhood friend who taught me to crop tobacco leaves and to hook catfish and avoid their stings. He was a great-grandson of my great-grandfather's slave.

"Lacy McLean?" the young man repeated. "Lacy got real sick, thought he'd been voodooed. Lacy's dead."

Stunned, and angry with myself for having been too far away to know or help, I drove along the narrow, white sand roads that Lacy

Free spirits *of North Carolina's largest city, Charlotte Experimental Theatre dancers entertain at noon in Independence Square. Progressive images abound in a state still underscored by faith, a love for the land, and neighborly warmth.*



Cathedral dawn breaks over the Great Smokies near Clingmans Dome, crown

and I had ridden on muleback. At the church called Carver's Creek, where I last sang hymns on a summer Sunday forty years before, I felt cheered. Fresh paint and new pews gave evidence of care. For two centuries Carver's Creek has been a simple citadel of rural Methodism in North Carolina, a state where churchgoing and hard work, reverence for learning and land and the past, and a persuasive gentleness of manner have helped to overcome poverty and injustice.

It took a hearty welcome from a slight, 80-year-old widow to jolt me back into the present. From a country store I telephoned Carrie Stevens.

"You come over this minute!" It was the same exuberant command she gave when I was a child, anxious to play with her children. "Just give me time to scrub my face. I've been cleaning the attic."

Pecan trees still bordered the lane to her brick house. Coffee and pecan pie awaited,

of the Appalachian Trail—partial boundary between North Carolina and Tennessee.

and hugs as if there had been no intervening yesterdays. On a wall a certificate read MASTER FARM FAMILY AWARD, 1948.

"So many of your generation left!" she said. "But they're comin' back!"

Still a Small-town State

With hereditary love for the soil, families like hers have clung to their farms while factories have risen beside them with surprising grace. North Carolina remains a small-town state where an obsessive loyalty to the idea of being North Carolinian unites about 5.5 million people from the sands of Cape Hatteras to the Great Smoky Mountains. Still one of the most rural states, it is becoming one of the most industrialized.

I had come back from California for springtime, in search of the familiar, in awe of the new. Science and industry have modernized the central Piedmont Plateau and its cities (the largest is Charlotte, with about

North Carolina

Stubborn independence has marked the Tar Heel State (so named for its production of tar, turpentine, and pitch) since it became the first colony to break with Britain. It was next to last to ratify the Constitution and last to secede from the Union, yet lost more men in the Civil War than any other southern state.

AREA: 52,586 square miles.
POPULATION: (1978 est.) 5,577,000.
MAJOR CITIES: Charlotte (342,000), Greensboro (163,000), Raleigh (141,900), capital.

MOUNTAINS Mount Mitchell, highest point in the eastern United States, crowns the North Carolina Appalachians. These hills are the ancestral home of the Cherokee, driven west on the Trail of Tears in the late 1830s. About 5,000 remain.

PIEDMONT In the heart of rolling, wooded hills, a swath of industry and manufacturing from Charlotte to Raleigh symbolizes the New South. North lies the heart of the tobacco industry.

DRAWN BY ISRAEL BADAY
COMPILED BY DOROTHY A. NICHOLSON AND HAROLD A. HARRIS
NATIONAL GEOGRAPHIC ART DIVISION

340,000 people). But along the Cape Fear River, as on most of the wide coastal plain, change has been subtle.

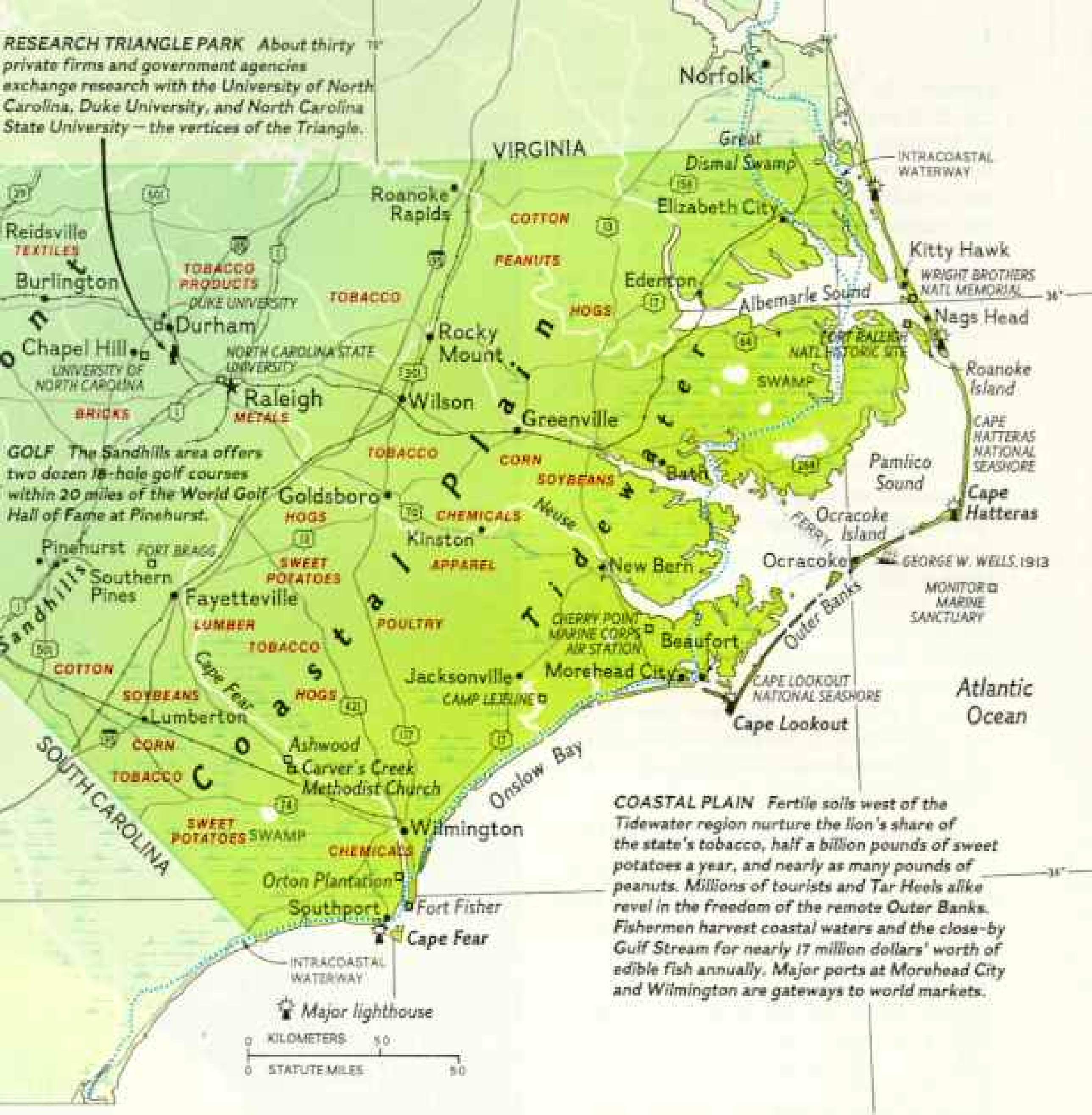
Still, as we walked about his tobacco farm, Carrie's son Edgar made me feel like Rip Van Winkle. The mules of my boyhood have been replaced by tractors and harvesters. Log tobacco barns, like twin-eaved pagodas, give way to labor-efficient bulk barns, where the big green leaves are stacked for curing, no longer tediously tied to sticks and racked on poles. Three farmhands help work the 55 acres of tobacco; they earn the minimum wage.

"Sharecropping is about gone," Edgar said. "But tobacco is still the money crop."

In Raleigh, Jim Graham, the state agricultural commissioner, agreed. "There's no acre east of Raleigh that won't raise more dollars from tobacco than anythin' else. That's what built our great universities and right much everythin' else you see here."

He leaned toward his spittoon, mournful eyes peering over horn-rimmed glasses.

"If you listen to Washington talk," he said, "it ain't even safe to breathe, much less to smoke. We're strugglin' to diversify, but in this state tobacco is as hallowed as plowed



ground. Poultry! Hogs! They're way up! Tobacco is down in thirty years from more than half to about a third of our farm income. Still, it's more'n a billion dollars a year."

New Industry Booms

Governor Jim Hunt, who grew up on a tobacco farm, offered sandwiches and ice tea in his office in the 1840 capitol. "This state has brought in billions in new industry," he said. "We offer mild climate, and just plain friendliness. Fine beaches and mountains. We have the lowest factory wages of any state, true, but our cost of living is low. Our salvation is that no big cities drain off our people and intensify social problems."

In weeks of driving, I was seldom out of sight of a farmhouse or mobile home set back in trees. Country living appeals to newcomers too, and the rural nonfarm population exceeds that of farms. Along country roads, glass factory walls mirror dogwood and sky and tobacco fields framed in pine. Trim signs read IBM, Squibb, Du Pont. The edges of towns are blurred. Suburban spaciousness imperceptibly becomes rural.

This pleasing scatteration results from an odd pattern of settlement by independent

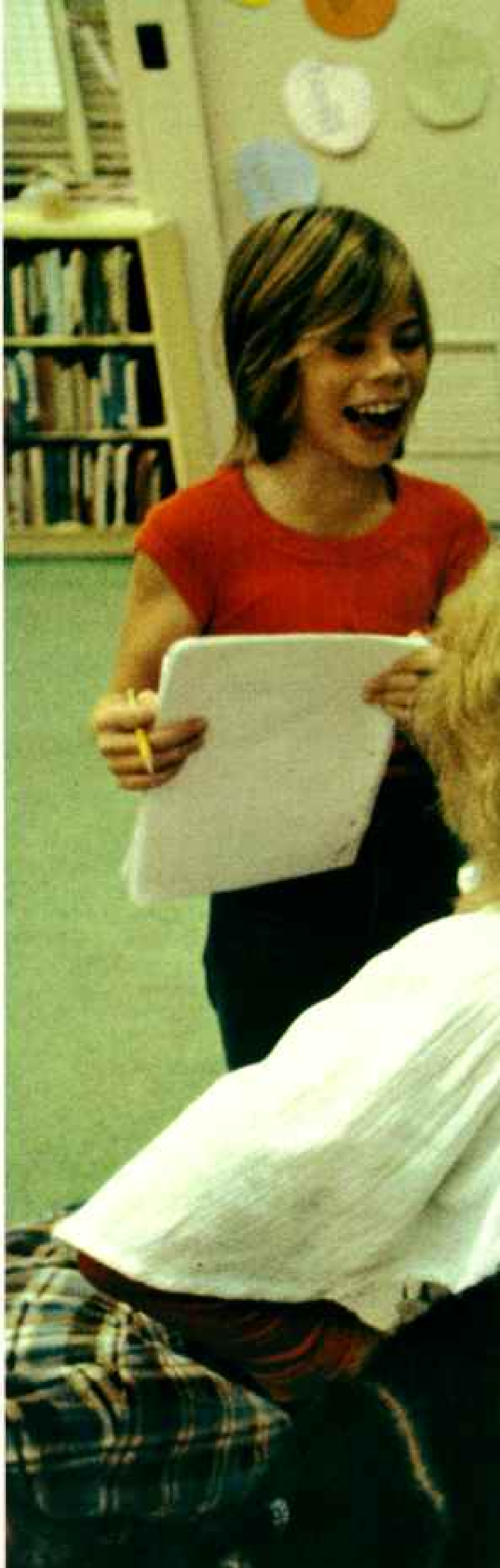
farmers. In the late 1600s, Anglo-Saxon colonials began drifting south from seaports in Virginia and north from Charleston, South Carolina. A century later, Germans and Scotch-Irish settlers were flowing down the wagon road from Pennsylvania to buy cheap farmland. Plantation life flourished along coastal rivers but ended with the Civil War; a showplace survivor is Orton, built about 1735 near Wilmington and spared because it became a Union Army hospital.

In Reconstruction years impoverished and defensive Tar Heels (the state nickname derives from early trade in pitch, turpentine, and tar) united against the aristocratic pretensions of Virginians and South Carolinians, taking refuge in what they called their "vale of humility between two mountains of conceit." Their stubborn independence was by then defined. This had been the first colony to authorize separation from Britain, but, because of insistence on guarantees of civil liberties, one of the last to ratify the Constitution. Because slavery was less entrenched, it became the last state to join the Confederacy; yet it sustained more Civil War casualties than any other.

Memories of Storms and Shipwrecks

There was scant settlement from the sea because of the fearsome coast; shoals have claimed hundreds of ships and lives. A narrow offshore barrier of shifting sand islands, the Outer Banks, has long troubled seafarers. Sir Walter Raleigh chose this approach for his ill-fated colonizing attempts in the 1580s, and Tar Heels now prepare to observe America's 400th birthday. Virginia Dare, the first child of English parents born in America, was part of a colony that had vanished by the time supply ships arrived at Roanoke Island in 1590. The riddle of the Lost Colony is posed each summer in outdoor drama at the site of Fort Raleigh, in view of Kill Devil Hill near Kitty Hawk, where the Wright brothers first flew.

Cape Hatteras is the arrowhead tip of



*"**With poetry,** I want to change the world." Charleen Swansea, director of "Poetry in the Schools," a special program in Charlotte, prods students to find metaphors for objects like an Osage orange. A brain?*

NATIONAL GEOGRAPHIC PHOTOGRAPHER DAVID ALAN HARVEY

the Outer Banks, where hard-bitten fishermen and sturdy vacationists inhabit stark villages separated by lonely miles of national seashore.

"Out here," a teenage waitress said as we watched a trawler return at sunset to Pamlico Sound, "is like livin' in a poem."

Wave erosion threatens to undercut the lighthouses at Cape Hatteras and Cape Lookout. As they battle the sea at their front and the wind-racked tides at their back, old-timers recite dates of storms and shipwrecks, recalled fondly for salvaged bonanzas of bananas or shoes, books or lumber.

"Our folk'll even break up a prayer meetin' for a shipwreck," Henry Ballance told me on Ocracoke. The islanders' lilting speech is more akin to Cornwall than Carolina: High tide becomes "hoigh toide." "We had a feller named Thomas Wallace Howard, took home books that floated up on the beach. He didn't know *b* from bull's-foot before he read them, but afterward he were postmaster for more'n forty year."

In his snug cottage, sheltered by cypress and loblolly pine, 86-year-old William Scarborough took down from his living-room wall a picture of the *George W. Wells*, a six-masted schooner lost in a 1913 hurricane.

"She were the largest sailin' ship ever wrecked on this coast," he said. "Framed in this whole house with her deck plankin'."

Old South Ports Restored

Small mainland ports along sound and river linked settlers with the world. They remain as the Old South of North Carolina: proud, insular, leisurely, torpidly humid in midsummer, their cypresses rising from swamps in beguiling silhouettes. Since I left the state in 1945, these towns have moved from shabby gentility to become custodians of tradition. The fine old houses in Bath, the state's first colonial town (1706), were once in ragtag decline. Now Bath is refurbished and pristine. At Wilmington's riverfront port, restorations allow comparison with Charleston and Savannah.

New Bern's Tryon Palace, home of the colonial governor and later the first state capitol, did not begin to rise from rubble until 1952. Today it is one of America's most elegant restorations, and my guide was so like my mother that I "ma'amed" her, strove not to slip on mossy brick, and obediently took time for "just a peep" at every relic.

Such towns seem more splendid for the absence of tourist promotion. After visiting the 1767 Georgian courthouse in Edenton, I wandered the main street without finding a tearoom or coffee shop; even motels are scarce.

Between towns on the eastern plain, muddy tire tracks make wide arcs on black asphalt at dirt-road junctions. Spicy country ham is served on biscuits with grits, and barbecue—pit-smoked chopped pork with vinegar and pepper—is strictly a noun. At

Like a finger of doom, *Cape Hatteras* ***(left)*** *points toward some 2,000 vessels lost on the Outer Banks, a rim of barrier islands. To limit waterfront development, Cape Hatteras and Cape Lookout National Seashores protect 125 miles of the banks, a magnet for surf casters like Col. C. J. Rinker* ***(above)****.*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dusk, rocking chairs still creak on screened porches. Churches are social centers. In a state liquor store, the clerk sang two stanzas of "Rock of Ages" as he sold me a fifth of bourbon.

This coastal plain is one of three distinct geographic regions. It rises to the central Piedmont; mountains soar in the west. Each region cries out its pride of place. In the foothills town of Morganton, I found Sam Ervin in his law office on a Saturday morning.

"C'm'on in," he bellowed at my knock. He pushed away a yellow pad. "You give me cause to put aside my book writin'."

I set a tape recorder on his desk and asked permission to use it. The bushy eyebrows that telegraphed his piercing questions in the Senate investigation of the Watergate scandal bobbed up and down.

"I knew a feller used one of those things once," he said. "Sure got him in a mess of trouble. But long as you and I are talkin' about North Carolina, it's as safe as talkin' about the Garden of Eden."

In retirement, Sam Ervin lives about 200 feet from where he was born 83 years ago. "Never thought of livin' anywhere else," he said. "These are hardworkin' people who look before they leap. There's hardship, but a lot of love. It's a state of individuals. You're more apt to develop into yourself."

But can one state be so different from its neighbors?

"Course it can," the senator said, a mischievous grin creasing his face. "We don't put on airs like our Virginia friends. We're not so emotional as the South Carolinians. I'd say, too, we're a bit more rational than people in Tennessee."

Ties to the Tar Heel soil are fervent in the serene, rolling mountains. Not far from Mount Mitchell, at 6,684 feet the highest peak in the eastern U. S., I met a gray-haired woman on her knees, pulling up galax, an evergreen sold for floral decoration.

"My mother pulled galax until she was 75 and broke her hip," Lucille Griffin said. "I've done it all my life. From Micaville to Buck Creek, there's not many people didn't he'p raise their family pullin' galax."

She gazed off toward the soft haze of the Blue Ridge. "When you're in the city with the fume and stink and you run out of money, you're in bad shape," she said. "Up here you can always go up the mountain and earn enough to buy groceries."

Mountainfolk Hard to Dislodge

One brisk and golden day I drove tiny roads through Mitchell County over tumbling creeks, past the hamlets of Loafers Glory and Relief, and into a tight-walled hollow below the Appalachian Trail and the Tennessee border. In a cottage beside Pigeonroost Creek I found Blaine Ray, a retired U. S. Forest Service fire lookout and an authority on local shrubs and trees. His voice grew reverent when he spoke of nearby Roan Mountain:

"You cain't see it 'cause we're so deep in this holler, but over thar is Roan. Virgin forest of rhododendron, 600 acres of it, all purple in June and some of it 16 foot tall."

Even here, however, new industry sustains the luxury of isolation.

"Folks on this creek drive to work at Baxter Labs in Marion, 35 mile away," he said. "Some over the hills to Tennessee, 120-mile round trip. But they won't move out. When you get off work, you come home."

I had found Pigeonroost and Blaine Ray with the help of a U. S. Forest Service map, not the untalkative mountaineers.

"Somebody like you come up one of these hollers twenty year ago," Ray grinned, "an' nobody'd want nothin' to do with you. They still don't talk much to strangers. Outsiders buy land and first off they put up fences and signs for No Trespassing, no this or that, and ol' mountain boys take it personal. They get a notion to go fishin' or huntin' and come against a fence, they break it down, go on through. Always have."

No one has loved these mountains longer than the Cherokee Indians. When the Army marched the tribe to Indian Territory on

Weathered *as his ancient pickup truck—held together with baling wire—Raymond Davis offers his produce to both individual shoppers and supermarkets at the State Farmer's Market in Raleigh, the capital. More than half the state's people live outside cities, and many willingly commute long distances to jobs.*

the deadly Trail of Tears in 1838-39, some escaped removal. About 5,000 eastern Cherokee live on a scenic reservation that abuts Great Smoky Mountains National Park. In summer, visitors are drawn by pageant, crafts, and fishing, and most Cherokee keep busy. In winter, unemployment soars to 40 percent. That was one problem on the agenda when I sat in on a tribal council meeting at the town of Cherokee.

Chairman Dan McCoy, youthful and brooding, told how the tribe had protested construction of Tellico Dam, a nearby project of the Tennessee Valley Authority.

"The TVA wouldn't listen when we said our ancestors' graves would be flooded," he said. "But after they'd spent 116 million dollars, the Supreme Court stopped the dam because of a little fish, the famous endangered snail darter! Now they're going on anyhow." He shook his head grimly.

Billboards and tourist traps appear in these mountains, even close by the immaculate Blue Ridge Parkway.

"The problems of growth are new to us," Mayor Wade Wilmoth said in the sprawling town of Boone, a five-county trade center. "We're working on zoning enforcement. Problem here used to be no jobs, no business. All we *had* was environment!"

Elsewhere resorts and church retreats are tucked tidily into the mountain landscape. At Linville, old-line Tar Heel families cherish summer houses shingled in chestnut bark. Thousands gather on Grandfather Mountain in June for Singing on the Mountain, which its aristocratic sponsor, Hugh Morton, calls a "king-size preachin', Sunday school picnic, family reunion, and gospel singin' rolled into one."

As I crisscrossed the state, I tuned in Bill Friday, president of the 16-campus University of North Carolina, broadcasting in his role as public-television host. When we met in Chapel Hill, he seemed an old friend.

"There are no strangers in this state, and that's its genius," he said in a quiet, engaging drawl. "People smile. You assume people have a common interest."

The Chapel Hill campus was the first state university to open its doors, in 1795. Its campus soon became the state's common meeting ground, its wellspring of pride, its cradle of leadership. Nearby Duke

The best brains *of the Duke University Medical Center surround the sterile world of a child born with virtually no defenses against disease (**facing page**). Within a triangle formed by Duke, the University of North Carolina, and North Carolina State University lies a forested 5,500-acre scientific center called Research Triangle Park, encompassing 30 agencies and firms including Burroughs Wellcome Co. (**top**).*

*Dedication brought Dr. Joseph A. Berry (**above**) to Northampton County, one of the state's poorest, though prestigious degrees could have taken him anywhere.*

"**Two things a tractor's good for.** *It can put up a little hay for you. And it can turn over on a hillside and kill you." So John Dale* (**above**) *sticks to his mules, Ruth and Kate, for most of the plowing on his steep, rocky thirty acres in the state's west end, where he grows corn, potatoes, oats, and tobacco. A tractor works just fine on the eastern flatlands* (**right**)*, prime country for sweet potatoes, corn, soybeans, and peanuts. North Carolina raises more sweet potatoes than any other state, and ranks third in peanuts.*

University at Durham is renowned, but only 15 percent of its students are North Carolinians. Wake Forest, my alma mater, and Davidson rank near Duke academically, but church ties narrow their bases of influence. North Carolina State's excellence was built in agriculture, science, and engineering.

But Chapel Hill has deeper ties in service to the state. Medical students train as country doctors. I watched one of the daybreak takeoffs of the University of North Carolina's "Medical Air Force"—five twin-engine Aztecs that carry professors, interns, and nurses a million passenger miles a year to nine centers across the state.

At the university library I met curator H. G. Jones in the imposing rooms of the privately endowed North Carolina Collection. Here and at extensive state archives at Raleigh, Tar Heel history is documented with unusual thoroughness.

Country lawyer comes home *to Morganton, where Sam Ervin now lives 200 feet from his original home. For twenty years the U. S. Senate heard him champion the Constitution, his career capped by chairmanship of the Watergate hearings.*

"It has," Mr. Jones said, "something to do with our sense of loss from the Civil War, and the need to reassure ourselves that we've come a long way."

The playwright Paul Green, living on a farm near Chapel Hill, and author and editor Jonathan Daniels were underclassmen at the University of North Carolina in 1920, when H. L. Mencken stung the South with charges of cultural sterility ("the Sahara of the Bozart"). Both men still write as if to disprove the vitriolic Mencken.

The late Thomas Wolfe and Robert Ruark were Tar Heel-born novelists. Reynolds Price, who teaches at Duke, draws on his native Warren County in fiction as William Faulkner drew on his mythical Yoknapatawpha County, Mississippi. TV anchorman David Brinkley is heard on tape by visitors to Thalian Hall, a restored theater in Wilmington. Charles Kuralt and Tom Wicker are among many notable Tar Heel journalists.

Vermont Royster, retired editor of the *Wall Street Journal*, is a Chapel Hill graduate who returned to teach. "Somebody in my family," he told me, "has been teaching at Chapel Hill for more than a century."

For Tar Heels, the National Humanities Center has become a symbol of academic excellence. Dedicated in 1979, it provides fifty visiting scholars work space central to the libraries and campuses of three nearby universities—Duke, UNC at Chapel Hill, and North Carolina State at Raleigh. It is among the prides of the Research Triangle Park, which has changed the course of North Carolina history.

Triangle Park is a two-by-six-mile pine forest that in twenty years has become the largest planned research park in the nation. University researchers share exotic hardware with government and corporate staffs: IBM, Monsanto, the U. S. Army, Burroughs Wellcome, the Environmental Protection Agency, and others.

Archie K. Davis, 69, a man of courtly manner, scholarly bent, and steel will, is president of the nonprofit foundation that manages Triangle Park. Since retiring as chairman of Wachovia Bank & Trust Company, one of the Southeast's largest banking institutions, he has pursued his doctorate in American history. I met him in the restored

18th-century village of Old Salem on Easter morning. In step with 400 other Moravian musicians on the way to sunrise service, he was blowing "Sleepers Awake" on his E-flat horn.

Days later he and executive vice president Ned Huffman led me on a tour. "This soil's too poor for farming," Ned said, "rocks everywhere. But it's less than half an hour's drive from three universities whose best graduates no longer leave our state to find jobs. We'd been agrarian: tobacco, textiles, furniture, brick, all from the land. We had to do more to keep our best."

About 16,000 persons work in the park. Half are natives. One in five is a research professional. They ride the crest of Sunbelt zeal. Joel Fleishman, a Tar Heel-born law professor who returned from Yale to Duke, explained: "People work in the park at the frontiers of their fields. It's hard to find that in a more idyllic setting, and without high costs or urban crisis."

Many Triangle Park workers live in Raleigh, the capital, a sprawling, easygoing group of neighborhoods reflecting the suburban rurality of the state. The sleek state legislative pavilion, designed by Edward Durell Stone, is a symbol of the new. The capitol, whose worn stone corridors echoed during my visit with madrigals sung by Peace College girls, is pre-Civil War. It looks out on Fayetteville Street, which once seemed to me as bustling as Manhattan, but became a flowered pedestrian mall too late to halt the exit of commerce to outlying shopping centers. Only Briggs Hardware, a stark 1860s emporium of red brick, still does business as I remember, every footstep evoking anguished creakings in the wooden floor.

Racial Differences Fading

As in many cities, there are depressing demarcations between black and white communities in Raleigh, but they are fading. "Often I drive along Shelley Road in an attractive neighborhood," editor Claude Sitton of the *News and Observer* said. "Four black families have moved into a five-block area there in the last three years, and I've heard no complaints."

Coming home to North Carolina has become popular with black and white, scientist and blue-collar worker. From World War II through the 1960s, more people moved out than moved in. One in four Tar Heels is black, but more than half who left were black.

"The blacks come back because they're Southerners and this is home," Mr. Sitton said. "Many are still low on the economic ladder. But they find lower living costs, less crowding than in big cities, more openness, low-cost recreation, and, above all, the sense of place, of family, of belonging."

Raleigh's John Baker, a former Pittsburgh Steelers team captain, defeated five white candidates in 1978 to become sheriff of Wake County. He is the first black sheriff in the state. To him the reversal of the black exodus is common sense: "I always wanted to come home. Now the jobs are here, and laws to uphold our rights."

Sociologist Howard Lee, now serving as state secretary of natural resources and community development, is hopeful.

"In 1969 I was elected as the first black mayor of Chapel Hill," he told me. "I served three terms. At first I felt caught between radical white and black. But that mood is largely gone in North Carolina."

He pleads in speeches for churches to join more actively in the fight for black equality. So does the Reverend William Finlator, a courageous white Baptist minister in Raleigh, who was a young ally of my preacher father, S. L. Morgan, in helping lead the state into relatively calm desegregation.

"Though North Carolina has a liberal image," Mr. Finlator told me, "it is this state that had the Wilmington 10. Blacks still get stiffer prison sentences. It'll take more than money to make our schools equal. It'll take fairness."

In his office on Duke's Gothic campus, President Terry Sanford, a former governor, also voiced his concern. He spoke of the "rare sense of community" in the state. "We have made great social leaps," he said, "without losing the gentleness that is lacking in much of America. But poor people of both races are still left out. We must get everyone into the community."

After lunch-counter sit-ins in 1960, civic leaders united to combat segregation, U. S. District Judge James B. McMillan of Charlotte remembers well. Raised on a cotton farm, the 63-year-old jurist made legal


I THOU SHALT HAVE NO OTHER GODS BEFORE ME.
II THOU SHALT NOT MAKE UNTO THEE ANY GRAVEN IMAGE.
III THOU SHALT NOT TAKE THE NAME OF THE LORD THY GOD IN VAIN.
IV REMEMBER THE SABBATH DAY TO KEEP IT HOLY.
V HONOR THY FATHER AND THY MOTHER.
EXODUS
MAJOR PROPHETS
VI THOU SHALT NOT KILL
VII THOU SHALT NOT COMMIT ADULTERY.
VIII THOU SHALT NOT STEAL
IX THOU SHALT NOT BEAR FALSE WITNESS AGAINST THY NEIGHBOR
X THOU SHALT NOT COVET.
20 : 3 - 17
MINOR PROPHETS

Telling it on the mountain: *In six-foot-high concrete letters, the Tomlinson branch of the Church of God inscribed its faith atop Ten Commandments Mountain near Murphy (**left**).*

*Traveling from West Virginia, the Reverend R. A. West, the "Jesus man," prays over those who heed his call in a tent revival in Charlotte (**above**). The city is headquarters for the PTL Club (formerly for Praise the Lord, now for People That Love), a nationally syndicated Christian television talk show with an annual budget of about forty million dollars.*

Evangelism and fundamentalism, bedrock anchors in Billy Graham's home state, exert a political force to be reckoned with. Its leaders have won deregulation of Christian schools by the state, except for health and safety rules.

history with his ruling to desegregate Charlotte schools through busing. It was the first busing case affirmed by the U. S. Supreme Court, and busing continues in Charlotte.

"North Carolina schools have fewer racial problems than most," he said. "There's more everyday communication between races here than in big cities. The people in this state have made an amazingly constructive and peaceful adjustment to change."

Charlotte, the Stepsister

Charlotte, the state's largest city, is not typical. "By their own admission, they're No. 1," others say wryly. In a Democratic state, the city often votes Republican; thus it lacks clout in the statehouse. Near the South Carolina border, its news media cover "the Carolinas," although most Tar Heels disavow any close bond with their neighbor.

"Our city has long been preoccupied with commerce and industry," said C. A. "Pete" McKnight, retired editor of the *Charlotte Observer*. "Neither wealth nor old family bestows prestige here, only public service."

Such service has come from John Montgomery Belk. His family controls the Belk retail-store group that dominates many markets in the Southeast. He was mayor of Charlotte from 1969 to 1977, overseeing a surge of civic effort that transformed much of the inner city. Plants or offices of 41 of the top 50 U. S. corporations have been set up here or within surrounding Mecklenburg County. Belk ticks off reasons: "Good government and low taxes, a productive work force, and transport and distribution capability to major population centers."

Near Charlotte I felt close to the Tar Heel rural soul as I zoomed around the Motor Speedway with H. A. "Humpy" Wheeler, its general manager. As one of the major stock-car tracks on the southern circuit, it draws more fans in May and October than California's Rose Bowl on New Year's Day.

"It's the only big sport born in the South," he shouted as we slowed in the 24-degree bank on the back turn. "The car is many people's way out of the country. There's a lot of transference up there in the grandstand. The guy on the night shift at the towel mill is thinking: 'I talk like Cale Yarborough, and I drive a car just like his.'"

Towel mills and the rest of the state's manufacturing industries center along a 185-mile crescent from Charlotte to High Point and Winston-Salem, Greensboro, Durham, and Raleigh. New textile and tobacco factories sit sleekly on landscaped acres. Furniture is crafted in hundreds of small factories along a 140-mile "furniture highway," whose focus each spring and autumn is High Point's Southern Furniture Market Center, the nation's largest.

On the chaotic day before the Spring Mart opened, furniture was being dollied through wide hallways, and showroom flowers unloaded from an 18-wheel truck-trailer. Henry A. Foscue, market president, whose career has been linked with the state's rise to become the nation's largest furniture producer, discussed the mart's preparations.

"About 38,000 folks from outside the state are comin' in," he said. "Buyers jus' cover us up. They come from 45 nations. Car agencies move in rentals. Hotels are swamped. People open their homes as rentals, make a little money and a heap o' friends."

The furniture industry initially was lured here by hardwood forests, abundant labor, and nearby textile mills.

"The buyers gave us input in design," Foscue said. "We fed 'em corn likker, golfed 'em, drove 'em around to see the dogwood. They say a Macy's buyer will go to hell for a bargain. Our little plants upgraded their ol' clunk lines, and pretty soon the best lines in America were here. The market itself finally moved from Chicago."

One-fourth of the nation's textile industry is in North Carolina. Nearly half of all factory workers are employed in 1,200 textile plants and 550 apparel plants scattered through 82 of the state's 100 counties. Despite modernizatioh to comply with health and safety laws, there is a long history of

Judged top squad *in the nation in 1978, the University of North Carolina cheerleaders work out before a gridiron battle with Clemson. In 1795 the Chapel Hill campus opened as the nation's first state university. Today its scholastic programs excel in liberal arts and health education.*

DAVID ALAN HARVEY

brown-lung disease, contracted from cotton dust. For decades, labor unions have sought beachheads in the industry, with little success. The state's low labor unionization, 7 percent, both frustrates union organizers and attracts industries.

Across from a Baptist church in Burlington, where my father was a pastor before I was born, I visited the first factories built (in 1923) by Burlington Industries, now the largest textile manufacturer in the world. With hundreds of looms clacking in tumultuous unison, Burlington's mills produce almost half of the nation's mattress ticking.

Eloise Ayers, as poised as a corporate secretary, sat at a computer console translating Manhattan designers' patterns from watercolor sketches to computer cards that control each stitch of the looms. As at most plants, three shifts keep machines busy around the clock, five days a week. About 400 trucks shuttle yarns and textiles across the state among Burlington plants.

Panty hose were first marketed by Glen Raven Mills. Cone Mills is the world's largest corduroy producer. Fieldcrest and Cannon are famed for towels. At Gastonia, Ti-Caro sells billions of yards of red-orange thread yearly for jeans.

Tobacco Means Money

At Winston-Salem, the sweet smell of cured tobacco hangs over the city. It is world headquarters of R. J. Reynolds Industries, Inc., a tobacco colossus that has diversified to become one of the thirty largest U. S. corporations. North Carolina produces more than half of the nation's cigarettes, and Reynolds is the leader. From just one of its 12 plants, 400 million cigarettes fill 12 freight cars each day. Visitor tours seem unending. "But now some people come to argue," my guide said, rolling her eyes, "and some jes' to preach about cancer."

A century ago tobacco lifted North Carolina from Reconstruction despair and gave it the tax base to surpass many southern states in education and health. When James Buchanan "Buck" Duke became a partner with his father in a Durham tobacco company in 1874 (it later became the American Tobacco Co.), it was the start of the only southern dynasty comparable to that of John D. Rockefeller. With machine-made cigarettes, the company moved to a 90 percent monopoly of U. S. manufacture.

R. J. Reynolds, a fellow Tar Heel, challenged Duke at the turn of the century, and in 1911 the U. S. Supreme Court broke Duke's empire into four companies that still manufacture cigarettes.

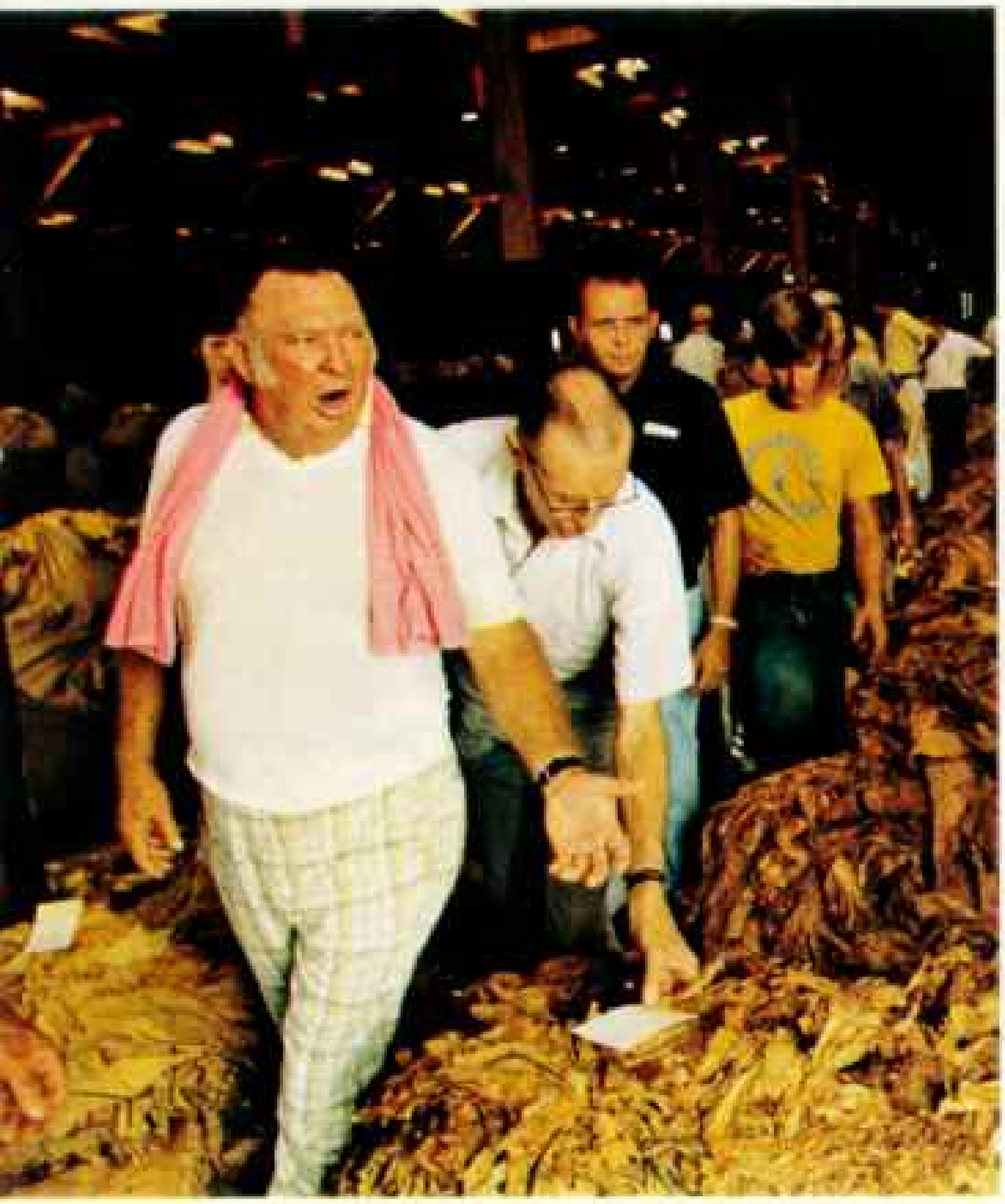
Fortunes made in the state often flow back into its cultural life. The campuses of Duke and Wake Forest were built with tobacco-company money. In 1964 Winston-Salem citizens pledged 900,000 dollars to make their city the site of the North Carolina School of the Arts, a branch of the state university that some legislators still call "that toe-dancing school." About 650 students from 12 to 22 years old pursue degrees there.

On Easter Monday, a state holiday, its three auditoriums—in a renovated school and church—rang with Stravinsky and Purcell. "The only problem with the students," vice-chancellor Martin Sokoloff said, "is overmotivation. Kids climb through windows to get into practice rooms."

The urge to catch up creates cultural activists. At Boone, students transcribe folk songs and legends of the mountains. Near Flat Rock, where Carl Sandburg found solace, National Park Service rangers lead tours of his beloved farm, Connemara. In Asheville, which long felt betrayed by the novels of Thomas Wolfe, his mother's boardinghouse is a lovingly tended historic monument. The opulent Biltmore estate of George W. Vanderbilt offers folk dancing by a proud new generation of mountaineers. At Southern Pines, in the Sandhills known for golf and horses, poet Sam Ragan, who taught me to be a newspaperman, leads in the preservation of novelist James Boyd's

*"**Empty bookshelves** still plague black universities in this state," charges H. Lowell Alston, a leader in a 1978 demonstration for more funds. The crisis was triggered when the federal government ordered the state to eliminate programs duplicated at predominantly black and predominantly white colleges. Pending a court ruling, the state appropriated a hefty 65 million dollars for the black schools' 1979-80 year.*


FSU "SAYS"
SAVE
Schools!!
NCCU
NORTH CAROLINA
EAGLES
CENTRAL UNIVERSITY



The billion-dollar-a-year *tobacco crop, the nation's largest, is to North Carolina what it was to the Jamestown colonists: an economic lifeline. Up to his nose in the esoterics of smoke, chemist Roff Grimes (**right**) taste tests two experimental blends against a control cigarette at the R. J. Reynolds Tobacco Company. The largest U. S. cigarette maker, Reynolds Industries, Inc., built its 40-million-dollar world headquarters in Winston-Salem (**below**).*

*In Wilson, an auctioneer's singsong leads buyers through the Centre Brick Warehouse (**left**), the world's largest flue-cured tobacco warehouse, where 14 million pounds changed hands last year.*

Sixteen years after the U. S. surgeon general first declared smoking a health hazard, the industry is alive and well. Its leaders echo Reynolds Tobacco Company chairman William D. Hobbs: "More research is still needed."

Weymouth estate as a writers' retreat.

Tar Heels who once talked of their "vale of humility" seem content to let the word spread that their state has become a relatively tranquil, rooted refuge in a restless land. That sense gripped me one still, sunburned afternoon at the Ashwood farmhouse that was my mother's ancestral home. It had stood abandoned since the death of my favorite uncle in 1961. I tramped through young pine and rank crape myrtle to find purple wisteria coiling around the old walnut tree and down through the broken roof into the attic where I had pored over stacks of NATIONAL GEOGRAPHICS, first dreaming of adventure beyond North Carolina borders. The smokehouse above the spring, once fragrant with salted hams, stood empty and bandaged in brush. The barn was a golden dustheap of crumbled timbers.

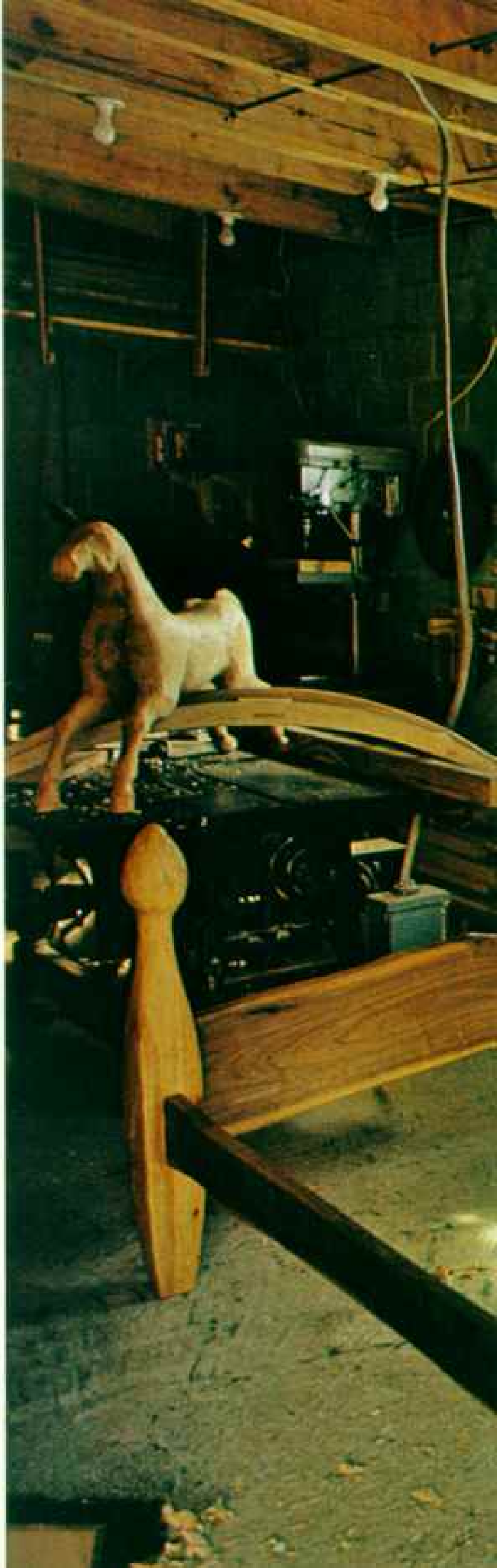
Mosquitoes swarmed out of waist-high weeds. I retreated, pausing only to stroke the bark of the venerable live oak around which the Fords and Chevys found shade when uncles and aunts and cousins came for Sunday dinner.

It still felt like home.

Pride Binds Tar Heels Together

Finally, under the elms of Wake Forest, I stood at the graves of my mother and my father, who was a selfless gadfly to his Baptist brethren almost until his death at 100. After these springtime weeks I knew why, in his late years, he smiled away my invitations to leave the state and live in California. He was a Tar Heel. His legacy to me was a million-word diary that spans seventy years of small-town Tar Heel life.

I left with a surge of the pride and loyalty that bind North Carolinians wherever we are. But with it came an echo of the sly warning from Hugh Morton, back on Grandfather Mountain: "Some folks say we're a bit too proud of not bein' proud." □



Handcraftmen *like Guy "Darry" Wood, who works mostly for himself and his friends, augment the state's huge furniture industry. Darry's lumberyard, a stand of choice hardwoods, grows behind his house near Hayesville. Says he: "I wouldn't trade places with anyone."*

"TO BE INDOMITABLE, TO BE JOYOUS"

GREECE

By PETER T. WHITE

Photographs by JAMES P. BLAIR

BOTH NATIONAL GEOGRAPHIC STAFF

I HADN'T BEEN LONG in Athens, that glorious and smoggy megalopolis now home to nearly four of all nine million inhabitants of Greece, when I was given timetables for getting the most out of life.

Work till 2:30, home for a big meal and into pajamas for a good two-hour sleep. A shower at 6:30—and you have a whole new day! You can go to a second job or to the theater and then, in convivial company, to a café or to a taverna for another sizable meal with music and singing and dancing. To bed around 2, up by 6 or 6:30. . . .

"The only trouble with our two days in one is our four rush hours instead of two."

That was a civil servant talking, but others assured me they kept similar schedules—a factory worker, a newspaperman. A sales manager juggled two additional jobs on alternate afternoons; after midnight I'd find him at a sidewalk table, enjoying the soft breezes of March and the sweetest of pastries, talking to *(Continued on page 368)*

Nourishment to the Greek soul, *dancing and feasting in the village of Arakhova celebrate its patron, St. George—the Christian embodiment of a classical hero. With democracy restored and the country now joined to the European Economic Community, Greece begins a new national odyssey.*

Lofty solitude was the reward of 14th-century monks who thwarted plunderers

by dwelling atop rocky outcrops in Thessaly's Meteora region. A walkway now leads to Rousanou Monastery, right center, once reached by ladders and nets.

The marbled harmonies of the Parthenon, epitome of the Doric order, still sound from the Acropolis, despite centuries of abuse, the appropriation of sculpture

THIS PAGE FOLDS OUT

by Britain's Lord Elgin, and, finally, the acidic air pollution of Athens.

(Continued from page 360) friends about challenging moneymaking ventures. He echoed what I'd been hearing from numerous Greeks: "This country has suffered so much, we want to be as happy as we can, *right now!*"

What better setting could be imagined for being happy than this sunny, mountainous land on the southeastern edge of Europe with islands by the score—an area no larger than Florida but with nearly as much coastline as the entire United States? With such variegated scenery and with monuments of classical antiquity so renowned, far and wide, that this year for every hundred residents there will be more than fifty visiting foreigners? But alas, after 150 years as a modern national state, with a history so ferocious, I was told, as to be fully imaginable only to Greeks.

Now, many saw yet another war as a distinct possibility. . . .

IT'S MARCH 25 in Athens, Independence Day, the day of uprising in 1821 that led to the end of *Turkokratia*, the nearly four-centuries-long rule of the Ottoman Turks.

From the main cupola of the Greek Orthodox cathedral, the frescoed face of the Lord of All looks down at the country's most highly placed men: The president and the prime minister, generals, politicians of half a dozen parties—all stand tightly packed, hearing a hymn to the Mother of God that sounded 14 centuries before in besieged Constantinople—then capital of the Eastern Roman or Byzantine or Greek Empire. The siege was miraculously lifted.

Many of these men were in exile during the latest spell of military dictatorship in Greece. That ended five years ago—bloodlessly—and democracy, for the moment, seems safe in Greece. Many Greeks call this a miracle too.

At the big parade, amid tanks and missiles made in the United States, a colonel proudly points out Marathon and Leonidas armored vehicles. "Greek made! Cost a lot of money! But if the Turks should try something. . . ."

Since independence, Greece has already been at war with Turkey five times.

BUT ENOUGH of foreboding. I'm driving off to the far corners of picturesque Greece—first to the southernmost finger of that storied peninsula called the Peloponnesus (map, pages 370-71), to the remarkable towers of Mani.

After the shipyards and refineries outside Athens, I see silvery green olive trees and pink almond blossoms; vines just beginning to sprout; and pines, whose resin gives Greek wine such zest. Along much of the way—in towns and villages, and on narrow roads winding over passes between snow-covered peaks—hardly a minute goes by without a tiny shrine, often no bigger than a birdcage. Marking a fatal crash? "More often a lucky escape," says Yanni, my interpreter. Or simply someone's idea of a good spot to stop and pray.

Now, in the Mani area south of Kalamata, along the Gulf of Messinia, I want to stop everywhere and just look.

The Taygetus Mountains drop to one cozy bay after another; I can see three bays ahead. Up high at Kambos loom fortifications dating to the Franks, 13th-century Crusaders who took much land of the Greeks. At Kelefa sprawls a 17th-century fortress of the Turks. Increasingly the villages appear like fortresses themselves.

A village president explains: Those square towers close together, sometimes dozens, with tiny windows or none, were the seats of powerful families fighting each other in unending blood feuds, with muskets and sometimes cannon, with truce at harvesttime; exhausted families might move away to build new villages with new towers. That's how it was in the Mani until the middle of the last century. In some villages the fighting lasted into the childhood of Maniots still alive.

Emerging from a fifty-foot tower, I scrape

The Greek passion for Greece *pours from a member of a World War II resistance group at a wreath-laying ceremony in front of the Tomb of the Unknown Soldier at the Parliament Building in Athens. The event commemorates the National Republican Greek League, formed in 1942, which fought Nazis and, later, Communists.*

YUGOSLAVIA

BULGARIA

Rhodope Mountains

2,915 m
9,563 ft

Nestos

MACEDONIA

Axios

PRESPA NATIONAL PARK

Prespa lakes

Serrai

Struma

Xanthi

Komotini

Kavala

Pella

Kotas

Melas

Lake Vegoritis

Aliakmon

ALBANIA

Kastoria

Thessaloniki

THASOS

100 fathoms limit the continental shelf

Kozani

FOTIDHAIA CANAL

MOUNT ATHOS

Voidhomatis River

Vikos Gorge

2,497 m
8,192 ft

Monodhendrion

Mt. Olympus
2,917 m
9,570 ft

Gulf of Thermai

LIMNOS

OTHONOI

Metsovon

METEORA

Mirina

A self-governing monastic state of some 1,400 men, Mount Athos contains 20 Eastern Orthodox monasteries dating from as early as the tenth century A.D.

Kerkira

Ioannina

Igoumenitsa

Metsovon Pass
1,705 m
5,594 ft

Pindus Mountains

Larisa

Lake Voivis

CORFU

EPIRUS

Pinios

Kardhitsa

Volos

PAXOS

THESSALY

ALONNISOS

PELAGOS

SKIATHOS

AYIOS EVSTRATIOS

Arta

SKOPELOS

Preveza

Lamia

SKIROS

CENTRAL GREECE

Thermopylae

Vasilika

LEVKAS

Aheloos

Lake Trikhonis

Mt. Parnassus
2,457 m
8,061 ft

Kimi

EUBOEA

CEPHALONIA

ITHACA

Mesolongion

Arakhova

Delphi

Khalkis

Thebes

Patras

CORINTH CANAL

Lycabettus

Greater Athens

Piraeus

Marathon

Rafina

Salamis

Athens

ANDROS

Zakinthos

ZANTE

Corinth

SALAMIS

AEGINA

Pirgos

Olympia

Mycenae

Argos

Sounion

MAKRONISOS

KEA

TINOS

Tripolis

PELOPONNESUS

POROS

YIAROS

KITHNOS

SIROS

Epidaurus

100 fathoms limit the continental shelf.

Taygetus Mts.

Evrotas

HYDRA

MIKONOS

SPETSAI

SERIFOS

PAROS

ANDIPAROS

Kalamata

Sparta

Ionian Sea

Kambos

2,404 m
7,887 ft

SIFNOS

Ayios Nikolaos

KIMOLOS

CYCLADES

Kelefa

Gulf of Messinia

Monemvasia

MILOS

SIKINOS

MANI

FOLEGANDROS

Vathia

Cape Tainaron

ELAFONISOS

KITHIRA

THERA (SANTORINI)

ANDIKITHIRA

Sea of

Kastellion

Khania

Rethimnon

Iraklion

Amnyia

Knossos

CRETE

GAVDHOS

∴ Ruin ⚔ Battle

Major car ferry routes shown in blue

0 KILOMETERS 50 100

0 STATUTE MILES 50 100

DRAWN BY JOHN G. WEBER
COMPILED BY BRIAN H. MORGAN
NATIONAL GEOGRAPHIC ART DIVISION

Black Sea

Orestias
Dhidhimotikhon
THRACE
Evros
Alexandroupolis

Turkey's largest city, Istanbul played a central role in Greek history when, as Constantinople, it was capital of the Byzantine Empire. The name Istanbul was not officially adopted until 1930.

Istanbul

Sea of Marmara

TURKEY

SAMOTHRACE

Greece and Turkey both claim territorial waters within six miles of their respective borders. Where there is less than 12 miles between a Greek island and the Turkish mainland, the border lies equidistant from both.

Mitilini
LESBOS

OINOUSAI
PSARA

Chios
CHIOS

Izmir

SAMOS
Samos
IKARIA
FOURNOI
GAIDHAROS
PATMOS
LEROS
DHENOUSA
NAXOS
KALIMNOS
Kos
AMORGOS
KOS
ASTIPALAIA
NISIROS
DODECANESE
SIMI
Rhodes
TURKEY
GREECE
ANAFI
TILOS
KHALKI
Lindhos
KASTELLORIZON
RHODES
SARIA
KARPATHOS
KASOS
Crete

GREECE

POISED BETWEEN east and west, Greece gave to both worlds her gifts of immortal arts and letters, science and philosophy. Greek epics were forged from a strife that seldom ceased. Her ancient glory was already waning when Roman troops swept across the land. Yet her Christianized culture held sway through the millennium of the Byzantine Empire, which fell to the Ottoman Turks in the 15th century. Turkish rule began to crumble during the War of Independence in the 1820s. Thus was born the modern Greek state, which grew by increments (**above**) to its present boundaries.

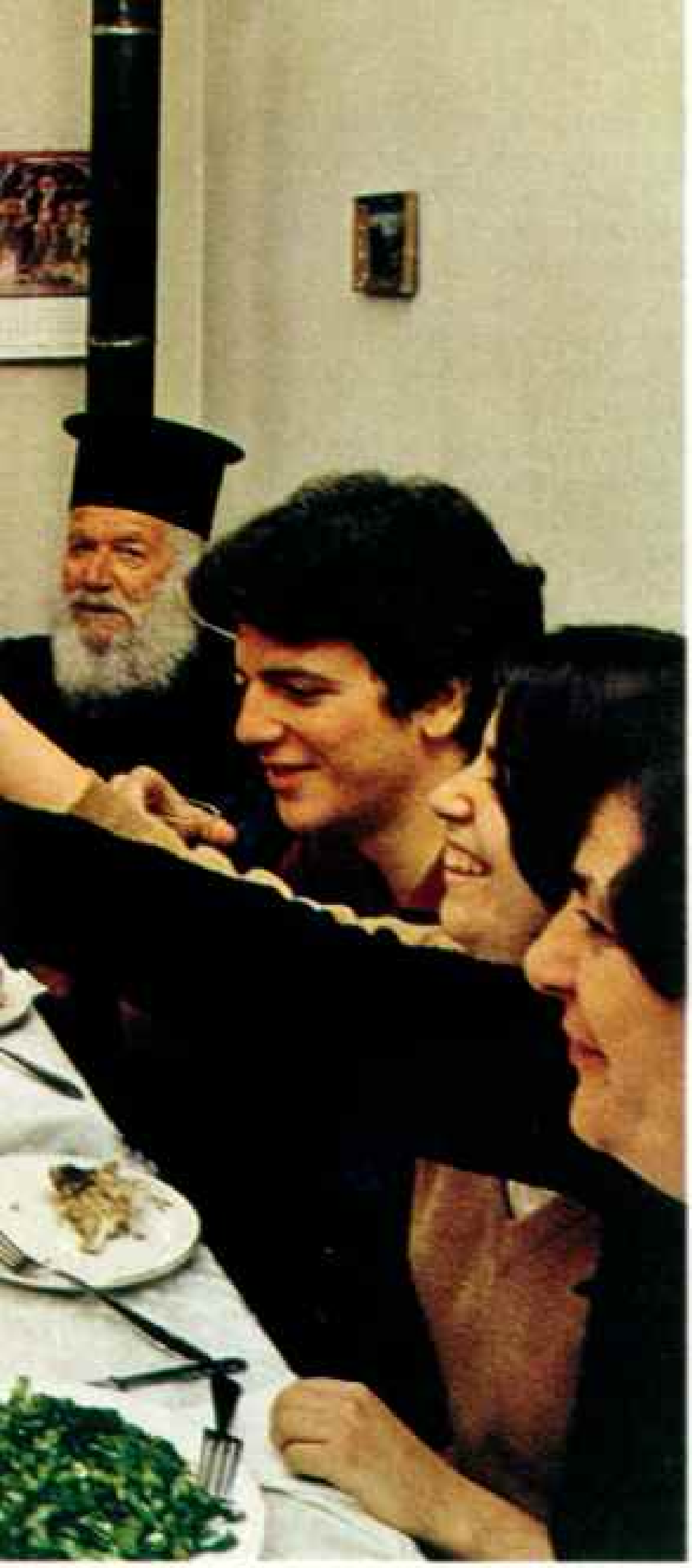
GOVERNMENT: Republic. **AREA:** 131,945 sq km (50,944 sq mi), 19 percent islands. **POPULATION:** 9,350,000. **RELIGION:** Greek Orthodox. **ECONOMY:** Agriculture (wheat, sugar beets, fruit, viticulture, tobacco, olives), shipping, tourism, mining, textiles. **MAJOR CITIES:** Greater Athens, capital (3,600,000), Thessaloniki (557,360), Patras (120,850). **CLIMATE:** Hot, dry summers; cool, rainy winters.

my head; the arched door is only four and a half feet high. "So a man couldn't come in brandishing a knife," says the president.

Near the end of the road the village of Vathia beckons like a miniature Manhattan. A tethered donkey bars the way and brays, like a loudly squeaking pump. He's waiting to be loaded with olive branches his master is collecting.

"For my lambs and sheep to eat," says the young man. Olive trees need much fertilizer, he adds, but the oil, pressed locally, is the main income now that hardly anybody's left to grow crops on the stone-terraced fields. He's still here because of his old mother—"She'd die if she went to Athens." That's where most of the people have gone. One day he'll go too.

Before a tower an old woman sits in the sun and the wind, mending a blouse for an absent daughter. Nearby, workmen refurbish an unoccupied tower—the National Tourist Organization of Greece has leased several; Vathia is to be a "traditional



Joyous reunion *on Easter Sunday brings together in the village of Vasilika three generations of the Loukas Sklavounos family. Whether a priest, grandfather, or chic young Athenian, Greeks remain united above all else by family ties.*

village" with all the amenities expected by well-paying foreigners.

Beyond the road I walk with a man and a donkey taking supplies—always on Saturdays—to the lighthouse at the Greek mainland's southernmost point, Cape Tainaron.

Those 15 miles on rocky paths are a pain in the feet, but there are compensations. Wild flowers, red and yellow and blue; the ruins of a temple, supposedly of Poseidon, and the foundations of a Roman harbor town with greenery pushing up through a broken mosaic. And I stop with the southernmost family of farmers. From June to October they eat the fruit of the prickly-pear cactus, but I get boiled lupine seeds and sage-smoked pork. Delicious.

Driving back northward, I see a fading word on a wall: *nai*, meaning "yes." It concerns King Constantine of the Hellenes. After the demise of the recent dictatorship there was a referendum—should he return? Seventy percent voted *ochi*, no! So now it's Elliniki Dimokratia, the Hellenic Republic.

I wonder about a little stone fort above the Mani fishing port of Ayios Nikolaos. Turkish? No, says the middle-aged filling-station man—it was built under the Nazi occupation, then used by both sides in the civil war of Nationalists versus Communists. "It's a bad souvenir for us."

World War II and its aftermath killed one of every ten Greeks; thousands of them starved to death.

I HEAD for the main Peloponnesian port of Patras, where I had gone earlier for the climax of Carnival. Can I ever forget it? The parade of floats, a ball till 2 a.m., feasting and dancing at a beach taverna till 4:30, and *then* a nightclub. Thank God the next day was Clean Monday, the first day of Lent, the beginning of spiritual purification. That day there's only a light picnic lunch—shellfish, no meat; also flying kites, as high as possible; and for once, going to bed early. . . . This time I take a restful overnight ferry to Corfu and another to Igoumenitsa, to the spectacularly mountainous region called Epirus.

Beyond the city of Ioannina in the Pindus range, at the village of Monodhendrion, begins the nine-mile-long gorge of Vikos, 4,000 feet deep, carved by the Voidhomatis, or Ox Eye, River. Another thirty winding minutes, plus a short climb, and I stand high above the forest on a snow-sprinkled cliff. The opposite side seems incredibly near.

A black cloud sweeps by. One far end of the gorge fills with cottony mist, like icy steam. Now it's the same at the other end. The swirling white masses meet before my frozen nose, then there's sunshine once more. All in 15 minutes. And then hail!

Hereabouts the mainstay has long been sheep—milk for cheese, and wool. Here too a lot of people have left, but they haven't cut their ties. They come back for Easter and Christmas, they renovate houses here or build handsome new ones, for vacations or retirement. That's why there's so much construction going on. Occasionally sheep dogs chase the car. A villager warned me not to get out unless the shepherd is near. They go for the groin.

Near the highest drivable pass in Greece nestles a village where people are *not* leaving. This is Metsovon, transformed by a philanthropic foundation. With a new sawmill, and workshops turning out beehives, altars, dower chests. A winery. And a factory for smoked cheese, from milk of imported Swiss cows. And a master of embroidery—traditionally a male art here—to instruct promising boys.

"We pay well for handicraft," says a foundation lady. "A woman weaving a rug can earn enough for a bathroom for the family. A village with extra drachmas to spend might attract a trucker once a week to bring oranges." Greeks, she adds, are quick to grasp opportunity.

FARTHER NORTH, in the Macedonia region, Kastoria has grown from 15,000 in 1970 to 28,000. Furriers in the U. S., Canada, and much of Europe send their scraps—mink heads, paws, necks—to be carefully cut and stitched together into pieces big enough for new coats. All for export. "Cheaper than in Holland," says a buyer from Amsterdam. Workshops buzz in nearly every house, hundreds of them. "Too many," complains one Kastoria fur entrepreneur. The annual gross is more than a hundred million dollars.

I pause for coffee and backgammon in a *cafeneion* near Van Flit square. It's named for the United States General James Van Fleet who made a speech there, before the last Communist forces were pushed into Albania in 1949. U. S. support had helped turn the tide.

The general now in command in Greece's northwestern corner explains that modern Greece after the War of Independence was less than half today's size; most of what is now the northern half was wrested from the Turks only in this century, in the Balkan Wars of 1912 and 1913. But even earlier this part of Macedonia was a killing ground.

"Bulgarian guerrillas tried to throw out the Greek people, so they could say this land

Eastern outpost *of Greece, the island of Kastellorizon lies two miles off the Turkish coast. Since antiquity it has known many reversals of fortune. In the 1930s it prospered as a stopover for seaplanes. Now many islanders have moved to Australia, and scores of houses stand vacant.*

was theirs. But instead Greek guerrillas threw *them* out."

That was the Macedonian struggle of 1904-1908, from which the Turks sought to profit by aiding one side and then the other. North of Kastoria one senses its shadow in monuments and village names. Kotas, for Christos Kota, hanged by the Turks. Melas, where Pavlos Melas was shot. . . .

But ah, what a sight at the border triangle with Albania and Yugoslavia! The blue Prespa lakes sparkle amid green mountains and still higher ranges of brightest snow. Prespa National Park is a safe haven for Europe's endangered birds—spoonbills, glossy ibis. Pelicans of the species *P. crispus*, the world's largest, have just arrived to nest in the reeds. They cruise over the water in low formation, calm and swift.

DRIVING EASTWARD in Macedonia, I get more intimations of newfound prosperity. A hydroelectric dam. Limekilns. Tractors spray peach trees, towns pack jam for export. Around Pella so many wells have been dug that the fountain of Alexander the Great dried up.

More and more plants—textiles, biscuits, chemicals, steel—and I'm in Thessaloniki, second city of Greece, on the Gulf of Thermai. Its annual fair first gained renown in the Middle Ages; its Byzantine churches rank foremost in Greece in stylistic variety. Clothing stores stage big sales, attracting busloads of Yugoslavs. And what's that, an *a-l-a-n-t-o-z-y-l-h-o-p-o-l-e-i-o-n*? A delicatessen, with good things to eat from all over Europe and Morocco, Argentina, Malaysia.

In a former royal palace by the sea resides

Like stone tridents, *columns of the temple of Poseidon rise above the Aegean Sea at Cape Sounion* ***(above)****. Silver mines nearby helped finance the building of the Athenian fleet that defeated the Persians under Xerxes at Salamis in 480 B.C. For six decades thereafter, Athens excelled as a naval power, and the temple to the sea-god was built during the rule of Pericles.*

A new temple, built with the help of wealth from the sea in the form of modern shipping, stands on a neighboring cape. Seven years in construction, the recently opened Three Temples of the New Age Movement is the conception of Anna Goulandris Horn ***(left)****. Its spacious halls and guest quarters provide a serene setting for international groups to practice spiritual renewal through reflection and meditation.*

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the minister for northern Greece. "This is the most promising part of our country," he tells me. He talks of billions of tons of lignite, for energy; of asbestos, magnesite, uranium. About oil and natural gas expected soon from under the sea.

His eyes shine brightest as he envisions Thessaloniki as an even more important crossroads of trade than it was in Byzantine times. There are plans for a ferry service to Syria, cutting hundreds of miles from the trucking routes of Western Europe to the Middle East. And beyond that: "Imagine, making the Axios River navigable and linking it to the Danube! That would be the project of the century. Someday Thessaloniki may be the Hamburg of the south."

AT THE EASTERN EDGE of Macedonia I cross the wide Nestos River into Western Thrace, Greece's northeasternmost region, where a quarter of the population is Muslim.

Western Thrace is a legacy of the *Megali Idea*, the Great Idea. It was a notion that gathered momentum after independence—to establish Greek rule over areas where Greek Orthodox Christians were concentrated, including Asia Minor. The dream was to make Constantinople (today's Turkish Istanbul) once more the heart of a Greek empire—a resurrected Byzantium!

By 1920 the Ottoman Empire lay crumbling, the time seemed ripe. Greek armies struck deep into Anatolia. They met disaster. "We came close to Ankara," a veteran told me, "but we had no more bullets, no bread." The resurgent Turks threw them out; Greek families whose ancestors had inhabited Asia Minor for centuries fled for their lives.

Thus into Greece, which then had a population of five million, streamed more than a million refugees, dazed and destitute, in 1922 alone. From this debacle Greece salvaged one territorial prize: The acquisition of Western Thrace was confirmed in 1923 by the Treaty of Lausanne.

In Xanthi, the collection point for the aromatic tobacco that traders call oriental ("everybody in the world buys some, to make cigarettes smell better"), a regional official explains that most local Muslims are Pomaki: "Their ancestors believed in Christ but were converted during the Turkish occupation." Pomaki village women wear white headcloths.

Farther on, in Komotini, the heart of town is sprinkled with evident Musulmani, Muslims of Turkish descent. Women's dresses and headcloths are both black; on holy days some women stain their fingernails brown or red.

I see men with red hats—if the broad band is white, he's a teacher; if gold, he's been to Mecca. It's Friday, and in the New Mosque, built 450 years ago, the crowd is dense around the mufti of Komotini.

One Thracian town after another has new factories—to make sugar from beets; for pharmaceuticals and potato chips. Nearly all have been put up in the past three years—thanks in large measure to government tax inducements. And I see more and more army jeeps and trucks. The Bulgarian border lies close to the north, in the fortified Rhodope Mountains.

I TURN NORTH to follow the Evros River, along the fortified border with Turkey. At Dhidhimotikhon, under a ruined castle once a residence of Byzantine emperors and Ottoman sultans, Greek army divisional headquarters assigns an escort; the officer's shoulder patch displays the double-headed Byzantine eagle. On we go, past richly dark fields, freshly plowed for sugar beets. Red signs warn of land mines.

At the country's northeasternmost lookout point I peer across the Evros. Bulgarian watchtowers at left, a Turkish tower on the right—but what's this?

Why hundreds of cars parked in the middle of nowhere?

Seized by the Turks, says the captain, for violations of import regulations.

Hands that reap the grain *pull controls instead of stalks in a Thessaly wheat field where a combine has supplanted manual labor. With entry into the EEC, Greece feels pressure to improve agricultural efficiency through mechanization. Greek farms average less than ten acres, and most are still tilled by man and animal.*

BACK IN BOOMING ATHENS, the view from Mount Lycabettus past the Acropolis all the way to the port of Piraeus gives me pause.

What a sea of houses accumulated here, what waves of newcomers. Asia Minor refugees of the twenties . . . then villagers seeking escape from the poverty of generations, from beautiful hillsides where half the year one worried about having enough to eat during the other half. This is where everybody wants to be, the place for fun and opportunity. And in the center, seemingly incessant noise. I used earplugs to sleep, until the hotel put in double windows.

There's a moving market, each day of the week in a different street—with eggs, flowers, artichokes, 18 kinds of olives. Noon is a good time to go, says a poet: by then they're anxious to get rid of things. Sure enough, a blackboard shows oranges down from 22 drachmas a kilo to 15. That's 40 cents.

In a fast-food place near Omonia Square I try the *pastourma* sandwich—supposedly dried camel meat from Egypt, possibly horse. Not bad. The proprietor also sells what he calls Kentucky fried chicken. He gets the spices from Canada; his capital is savings accumulated in Johannesburg.

A typical story. Between 1951 and 1971 a quarter of the work force went abroad, mostly to West Germany and Switzerland, to the U. S., Australia, and Canada. Money sent home is a big factor in the Greek economy. A cabdriver says he earned his Toyota as a waiter in Munich; in a few years he'll retire to his village in the Peloponnesus, where his old parents still tend the vineyard.

An economist points out that until the recent worldwide slowdown, the Greek gross national product grew 6.5 percent annually, manufacturing by more than 10 percent. Only Japan had higher rates.

And here's something no less intriguing: The official Statistical Yearbook of Greece for 1977 reports that much manufacturing is done by firms with very few workers. In textiles, an average of thirteen; electrical appliances, eight; furniture, three. Altogether 124,000 industrial firms show 604,000 people at work, so the average per firm is five—and that includes "working proprietors and non-paid family workers." A third of those firms and half the people are in Athens.

What does this suggest?

That productivity—meaning per capita output—is still low, says a foreign diplomat.

True. But also something highly significant, very Greek: The undeniable upswing in gross national product is due not so much to government planning or foreign investment; it reflects above all the sum of the effort of a million Greek families to better themselves.

So states Professor William H. McNeill of Chicago, who's been studying Greek villages and cities over the past thirty years. He finds family cohesion still strong, in Athens as in the village. Greek family values and rules for getting ahead, absorbed from earliest childhood, have changed very little.

I've seen this ethic in action in a tiny port with great tourist potential. A man had an old fishing boat. With that he got a loan for a big new one, rented a place to open a seafood restaurant, and then built a hotel. Man, wife, three boys, four girls—all pitch in, as fishermen, cooks, waitresses, maids. To prosper, the family pulls every possible string—cousins, politicians who are the children's godfathers. The growing fortune will provide dowries for the daughters commensurate with the family's rising status; the sons won't wed before their sisters are married off.

IN ATHENS many a salary earner, risen from his afternoon sleep, sallies forth to canvass his connections, to see what income-producing activity can be found for the rest of his two-part day. Some short-term job, perhaps, for a flat fee and a share of the profits?

Prospects are good, says Professor McNeill. Entrepreneurs prefer to keep down the number of permanent employees because it's hard to fire people; free-lance workers hope their arrangements will escape the tax collector.

"Besides, the bargaining involved gives scope for individual enterprise and cleverness. Each party has a chance to outsmart the other. It's exciting, it gives a spice to life that many Greeks value highly."

Because of such enthusiastic moonlighting—not just to get by, but to get ahead—men of Athens, so a study shows, devote more time to work than their counterparts

do in either Germany or the United States.

Spending is enthusiastic too. An elderly gentleman says he's seen ordinary people in the supermarket load up with things they would never have dared approach twenty years ago. "A feather pillow, Quaker Oats, mustard! If they buy sugar, it's not one little bag but six."

Demand is brisk for bathroom fixtures in blue, black, red, pink. But first comes the automobile, even if import duty and taxes add at least 200 percent. Don't ever do anything to a Greek's car; he'll go berserk.

And who is the most indefatigable type of moonlighter in Athens? Probably the *kamaki* of Syntagma Square. The word means spear, harpoon, the trident of Poseidon. Or a young man chasing tourist girls.

To get good results, a kamaki tells me, you must have a mouth that runs like water and feel strong, meaning self-confident. "Never stop! If you're good, the girl will eventually answer—not just yes, no, ha-ha—and then you take her to a discotheque or a place with bouzouki music. . . ."

AT THE SIDEWALK TABLES in fashionable Kolonaki Square there's talk of skiing on Mount Parnassus, of getting yachts and summer houses ready

Quick stops while on the go, *the innumerable kiosks of Athens provide pay phones, magazines, snack foods, toiletries, and such last-minute souvenir gifts as Parthenon paperweights. Kiosk attendants also dispense invaluable guidance for those threading the maze of narrow, often unmarked Athenian streets.*

in the islands, and of course politics.

A student says she's had it with these old-fashioned people; why can't they see that one doesn't have to be an anarchist just because one's doing something new? A professor says the most dangerous thing here is to be in the middle—"the rightists call you Communist and the leftists call you Fascist." A lady waxes nostalgic for the days of the colonels, the military junta that seized power in 1967. If they were still around, there'd be no striking truckers, students, or teachers. "They'd throw them in jail!"

The junta ruled until the crisis of 1974.

That was set off by troubles on the independent island of Cyprus—80 percent Greeks, nearly all the rest Turks. The junta fostered a successful coup against the Cyprus Government; would union with Greece now be proclaimed? A powerful Turkish expeditionary force stormed ashore. The surprised junta, unprepared to send Greek forces to Cyprus, nevertheless ordered general mobilization.

What happened next is still a matter of debate. Did the junta chief order a march on Constantinople? Did the commanders in Western Thrace, feeling unready, refuse to cross the Evros River? Certain is that the junta, humiliated, collapsed. Former Prime Minister Constantine Karamanlis flew back from Paris, was hailed as a savior, restored parliamentary government, and became prime minister once more.

Now the junta bigwigs are in jail. Karamanlis is still prime minister, but his moderately conservative New Democracy Party has been losing ground; in the last election it was down to 42 percent. PASOK—the Panhellenic Socialist Movement led by Andreas G. Papandreou—rose to 25 percent. Communists, legal again since 1974, got another 10 percent. A foreign correspondent says the next election, possibly in 1980 and no later than 1981, will be fateful.

"Karamanlis is old, but tough. Will he run again, or will his party break up into factions? PASOK is not Communist but pretty far to the left. If Papandreou should come to power, there could be another coup."

The ascent to self-denial *is steep on Mount Athos, a center of Eastern Orthodoxy where women are forbidden. At the monastery of Simonos Petra* ***(facing page)****, an elder monk counsels a younger* ***(above)****. After decades of attrition, the monastic ranks are now growing.*

MORE TOURISTS ARRIVE daily. They tramp in and out of buses, up dusty paths to temples, amphitheaters, and museums at Sounion, Delphi, and Olympia. They're enchanted by the landscape, architecture, statuary—this is the cradle of Western civilization, the stage of ancient drama dimly remembered from school. In a single day you can do Epidaurus, Argos, and Mycenae! Mycenae, by the way, has the Agamemnon hotel, the Menelaus restaurant, the Iphigenia youth hostel. And aren't the Greek people nice?

And the air! An American says one clear morning he could see from Mount Parnassus

A city rouses at sunset *as the evening promenade begins after siesta time in Thessaloniki* ***(left)****. The Aegean port is the hub of commerce in northern Greece. Down the coast at Volos, trucks bound for Syria board a ferry* ***(above)*** *to save hundreds of miles by cutting across the Mediterranean. Thanks to such seafaring savvy, more merchant ships fly the Greek flag than any other. Though tycoons like Stavros Niarchos get the limelight, scores of lesser known magnates also have amassed fortunes in the clannish world of Greek shipowners. In the Piraeus office of Ceres Hellenic Shipping Enterprises, George P. Livanos* ***(right)*** *helps run a century-old family operation that has grown to seventy vessels.*

across Thessaly all the way to Mount Olympus; that's farther than New York to Philadelphia. A German wonders why the ferries don't stick to the schedules in his guidebook. A Greek asks him why so many German campers run around without clothes; they shock the older people.

THE BIG WEEK is here, the holy week of Easter, and I'm invited to spend it in a village at the foot of Mount Parnassus, in central Greece.

On Thursday eggs are dyed red; Friday morning the symbolic bier is prepared with flowers and perfume, to be carried in procession that night to the cemetery and back. The priest wears black. Saturday at midnight the priest in scarlet and gold proclaims the Resurrection: *Christos anesti!* Christ is risen! *Alithos anesti!* He is risen indeed! There's kissing in the candlelight, cap guns pop, fireworks fizzle.

On Resurrection Sunday the lambs have been roasting on ten-foot spits, the feasting is endless. The priest must eat in every house; I eat in seven. On Monday it's more of the same. And for a while the village is filled again, cars abound from Athens, teenagers play volleyball. A little girl and her brother have placed a cross and a candle in a ring of stones. It's a little grave for Christ.

One of my hosts has 120 *stremmata*—30 acres—of wheat and cotton. Here that's a lot. But it's in 13 pieces; he'd love to exchange land with others in the same fix. But no, they can't agree.

That's very Greek too. The President of the Hellenic Republic, Professor Constantine Tsatsos, doesn't hesitate to express this himself. The structure of the Greek personality, he says, is to be indomitable, proud—and impatient, stubborn, not easily made to pull together with others.

My host adds that in the Cyprus crisis of 1974 he was mobilized for eighty days; half his crop was lost. He thinks he'll have to go again, the Turks are sure to cause more trouble. In that case, it seems, all Greeks will pull together.

What is the contention with Turkey now? Turkish troops still occupy 40 percent of Cyprus. This galls every Greek, but things are touchiest in the Aegean Sea.

Greek officials claim the Turks are encroaching. Turkey sent ships to seek oil between two Greek islands; this nearly set off a war in 1976. Turkey demands control of international air traffic over the entire eastern half of the Aegean; Greece has forbidden all flights between Athens and Istanbul.

Major Greek islands—Lesbos, Chios, Samos, Kos—lie just a few miles off Turkey,

"Europe Returns to Greece," *crowed banners in Athens when the country joined the EEC. With Foreign Minister George Rallis looking on at left, an aide stands by as Prime Minister Constantine Karamanlis signs a treaty that will make Greece a full member in 1981. Karamanlis championed the move; his opponents condemned it. Membership will put Greece under the yoke of foreign capitalists, claims Andreas Papandreou (***right***), leader of the Panhellenic Socialist Movement. He vows to lead a referendum to get Greece out of the pact.*

within the hundred-fathom line extending from Anatolia. Turkish leaders have said they want those islands. Turkish landing craft are said to be in position. . . .

(Turkish officials reply: We reserve the right to seek oil beneath the Aegean's international waters; but in the air, all we demand is notification of military flights as they approach Turkish territory. As to those Greek islands close to Turkey, they are Greek and will remain so; but the Greeks shouldn't have militarized them—that violates existing treaties.)

JOURNEYING AROUND the Aegean, I can see how closely these islands, so widely scattered on the map, are linked to mainland Greece. Mainly by big ferries.

The 200-foot *Aegeus* crisscrosses the northern Aegean twice a week—Skiathos, Limnos, Samothrace, Lesbos. A steward says his wife brings the baby to the dock at Kavala—he hasn't enough time between trips to go home.

At 2 a.m. in the harbor of Chios the 300-foot *Sappho* arrives from Lesbos: three decks for a thousand passengers, two decks for a hundred cars or sixty trucks. Rumbling aboard are double-deck trucks full of goats and sheep. And she's off, to Piraeus—those animals will go to market in Athens the same day. It seems as routine as turnpike traffic back home.

In the southern Aegean, at Mikonos, cruise ships disgorge hundreds of tourists into the picturesque harbor, the little lanes between whitewashed walls, the shops with pottery, jewelry, colorful cottons. I join an island cruise.

The sea couldn't be smoother. There's a Greek lesson in the lounge (*efharisto*, thank-you; *parakalo*, you're welcome; *yassas*—hello, cheers, good-bye). On deck, bright sun.

Here's Patmos—picturesque harbor, massive monastery. Rhodes—the castle of the Knights Hospitaler of St. John of Jerusalem. Crete! The palace of the kings called Minos. The guide says these women don't want to see ruins, they want the souvenir shops. All pile back aboard looking pleased. Time flies.

On Santorini it's zigzag up the cliff on muleback, take a picture, back to the ship! I stay. Time stands still.

The panorama did it. The half-moon bay is the bluest of blues. In the middle, a little black volcano. The sun sets, the bay turns gold. A man asks, with Viennese accent, "Can there be anything more beautiful?" I don't see how.

Across the bay lies the island of Thirasia; across a ridge dozes the village of Potamos. Twenty houses, children and dogs, donkeys. And quiet. That's how Santorini was before the time of ten cruise ships a day, before the airport and the jets.

Potamos has no electricity yet, but there are TV antennas. The sets run on batteries. And there are little churches, freshly painted bright blue and red. With money from shipowners who made it big.

To be a millionaire shipowner! It's the ultimate in Greek family ambition. From lonely, windswept islands they came, from Cephalonia, Andros, Chios, from age-old traditions of seafaring and sweet, hard-driving mothers. The archetype is the captain who parlays a rusty old clunker plus shrewdness plus luck into a modern fleet—who bestrides, with his sons, the chancy world of freight rates and telex machines from Athens, London, New York. When a Chandris son gets a Goulandris niece, it's the wedding of the year.

I remember Oinousai. A tiny island off

World's longest-running sports spectacular began at Olympia in 776 B.C.;

many now support return of the modern Olympics to this original site.

Chios, two miles by five, home of some thirty millionaire shipping families; theirs is a quarter of the Greek-registered merchant fleet—the world's largest, with 2,700 vessels. From Oinousai comes the biggest of the Greek shipping tycoons, Constantine Lemos, said to gross a million dollars a day. In summer the place will be full of millionaires' offspring, back for a while from the capitals of the world, dancing the nights away.

One night on Oinousai the taverna was jammed, the band tireless, the tempo constantly changing: the *hasapiko*, the *hasaposerviko*, the *zeimpekiko!* Two men, two men and a woman, ten men and women—a little girl too, a pregnant lady. They prance, hop, slide, hands touch toes. . . .

That's *kefi*, a sense of well-being, high spirits. When the kefi reaches a certain pitch, when you can no longer contain yourself, you get up, you dance!

A young man gets up, cigarette in his lips, arms stretched far, fingers snapping, a mask of concentration—and suddenly spins, squats, leaps! *Opa!* The little girl does a girlish belly dance, the *tsifteteli* or *turkiko*. *Ala!* A middle-aged captain joins her, he stands on his head on a table, *Ela-opa!* Five hundred drachma bills fly to the band. . . .

I'm glad I made eight tapes. I'll play them back home when I'm out of kefi.

ATHENS, May 28, 1979. The President of France arrives, the Prime Ministers of Belgium, Ireland, Italy, the Netherlands—it's the day to sign the papers that will make Greece a full member of the EEC, the European Economic Community. Prime Minister Karamanlis beams. This has been his dream (page 386).

He points to achievements since 1974—political stability, social peace, economic progress, all within the framework of a healthy democracy. Accession to the EEC, linking the country to the mainstream of Europe, will stabilize these blessings.

Bright sun and mourning women *make their daily rounds in the village of Anoyia on Crete. During World War II, Greek partisans held a captured German general here, and, in retribution, the town was nearly leveled.*

He calls it the most important political step in the history of modern Greece.

Papandreou of PASOK is against it. It will be bad for farmers, he says, erode Greek sovereignty, enslave Greeks to foreign capital. Wait till we're in power, there'll be a referendum! Communist posters depict a menacing Uncle Sam behind it all. Police stand alert to arrest demonstrators at once.

AFTER A TWO-DAY MEETING chaired by the prime minister, the government decrees new, staggered working hours for banks and civil servants; it means a lot of people won't be able to start for home until four or five in the afternoon! This is announced as an energy-saving measure, to cut the four rush hours to two. A banker says it has something to do with EEC too—we must have working hours more like those of the other countries. "High time we joined Europe."

Bank workers strike, then there's a compromise. But the government says there'll be further radical changes in long-established practices. Will this mean the end of the afternoon sleep, of extra income?

Tavernas must now close at 2 a.m. Will this depress the national output of kefi?

A Greek friend says no way.

A maze of cafés *lures patrons in Rethimnon, Crete, on a soft summer's evening.*

Once Greek oracles foretold the future, but in the words of poet Odysseus Elytis, 1979 Nobel laureate: "No one will tell our fate, and that is that."

The other side of kefi is *anisichia*, a feeling of disquiet, being worried. A civil servant says that in Greek life, conditioned by Greek history, there's a lot of that. From the Prespa lakes to Dhidhimotikhon, old people have had to remake their lives three times.

"We still feel as if Greece is an island, just nine million Greeks surrounded by the sea and not-friendly nations, by a great uncertainty. We are full of suspicion . . . there's nobody we can trust."

He means that Greeks have always had to depend on allies who eventually let them down. The Americans too, and NATO. I've been hearing that a lot. Those were NATO weapons from America the Turks used on Cyprus—why didn't Kissinger stop them? President Carter has been the latest disappointment, sending Turkey so many dollars and weapons.

"Many of us play double scenes. Our real self, within the family. In public we act another way, we play around, we strike a pose, well meaning, hospitable. But the real feeling is fear."

The same day, a much traveled young businessman tells me he's often been totally fed up with all the problems and anxieties here. He's thought of going to live abroad, he's confident he'd do very well.

"But something holds me back. There's something special about the sea and the sun and the light, about the total environment. Here you really feel a full human being. With all the faults and all the good things, you feel you're experiencing life fully."

AND SO *siga, siga*—slowly, slowly—I've learned a little about what it is to be Greek. That there is bitterness and despair in the 19th-century "Hymn to Liberty" by Dionysios Solomos, which after independence became the national anthem; but that above all there is resurrection, and faith that Greekness shall survive.

Every Greek child learns that at the bridge of Alamana, not far from Thermopylae where Leonidas and 300 Spartans stood to the end against the Persians in 480 B.C., 700 Greeks were overwhelmed by the Turks in 1821. And of their leader, the Deacon Athanasios, impaled on a spit like a lamb and roasted alive. . . .

The contemporary poet Yannis Ritsos sings, "Don't weep for Greekhood . . . it is rising again, brave and fierce—piercing the beast with the spear of the sun!"

Could it be that knowing the worst engenders striving for the best? To be indomitable, to be joyous—to get the most out of life in this beautiful, terrible world. □

Deception: Formula

ARTICLE AND PHOTOGRAPHS BY

WHAT SEEMS to be one thing in nature is often an impostor in an intriguing disguise. Concentrating through the viewfinder of my camera, I have seen plants that look like rocks, shrimp resembling blades of grass, and flowers that up and fly away. A fly passes as a wasp; a caterpillar is disguised as a twig. Deceptions such as these allow organisms to hide from

for Survival

ROBERT F. SISSON NATIONAL GEOGRAPHIC NATURAL SCIENCE PHOTOGRAPHER

ANT: ECTATTOMA TUBERCULATA, 10 MM (3/8 IN.); PLANT BUG: FAMILY ALYDIDAE

predators or potential victims and to increase chances of procreation.

Consider the two insects above. The one on the left is a species of ant that tastes bad to predatory birds. The "ant" on the right is actually a tasty plant bug whose body shape, coloring, and food sources resemble those of its unsavory neighbor. To strengthen the mirror image, it also mimics the ant's posture and movements.

A predator's parlor games

LOOPER/ FAMILY GEOMETRIDAE; SPIDER/ GENUS MISUMENOPS; 15 MM ACROSS

AT DESERT'S EDGE I was observing a crab spider on a flower of the same color, when a bee buzzed over. Failing to see the spider, it ended up as breakfast. Then I spotted a looper, or inchworm, under the blossom, chewing bits of petal and sticking them on its back (***above***). As I watched, the looper inched its way up onto the center of the blossom.

The spider, alerted by the movement, climbed over the edge of the flower to look for the intruder and froze. And so did the looper and I—for the predator was standing on the camouflaged insect (***right***). The spider finally withdrew, and I could breathe again.

On that one blossom I had seen two aspects of deception—camouflage to help catch prey and camouflage to escape capture.

The looper—inching along from

LOOPERS usually hunch their way along with the gait of an inverted U that opens and closes. When I bumped this branch inadvertently, the looper quickly became rigid in a vertical position (***above,*** at left), and when I touched it, I found that the normally soft caterpillar had become as stiff as the adjacent twig.

Another looper, crawling from one twig to another, sensed a threat. It froze in a horizontal position, so realistically that a predator ant strolled across it—and even stopped en route to preen (***above,*** at right).

Scientists have given many names to such deceptions: mimicry, cryptic coloration, camouflage, protective resemblance. They theorize that at some point a mutant individual is born with, for example, coloring closer to that of the leaves on which its species browses.

one disguise to another

LOOPERS: FAMILY GEOMETRIDAE, .25 MM; ANT: POLYRHACHIS BARBATA

Hungry birds, feeding on its kin, are likely to overlook it. And so it lives to breed and pass on the protective adaptation. Continuing adaptation allows the species to become a deceiver, often with more than one mode of disguise.

A successful mimic may not only look, feel, smell, and move like its model, but it even may gear its life to the same seasons in which its model operates. As mimics change to resemble their models, the models themselves are also changing. Too many good-tasting mimics in a population of untasty models would be unfortunate for both, for if predators were as likely to have a good meal as a bad one, they would begin to dine on mimic and model alike. So it is in the best interest of the model to look as unlike the mimic as possible. Call it anti-mimicry, if you wish.

The industrial revolution

AS FACTORY SMOKE blackened tree trunks in England, some insects adapted to the color change. E. B. Ford of Oxford University notes that the change in moths has been striking.

"More than a hundred species have become predominantly black in England," he told me. "It is known as 'industrial melanism,' and it has also occurred in the United States."

He mentioned a study done by an associate, H. B. D. Kettlewell, using the peppered moth, which flies at night and rests exposed on tree trunks during the day (***right***). Kettlewell

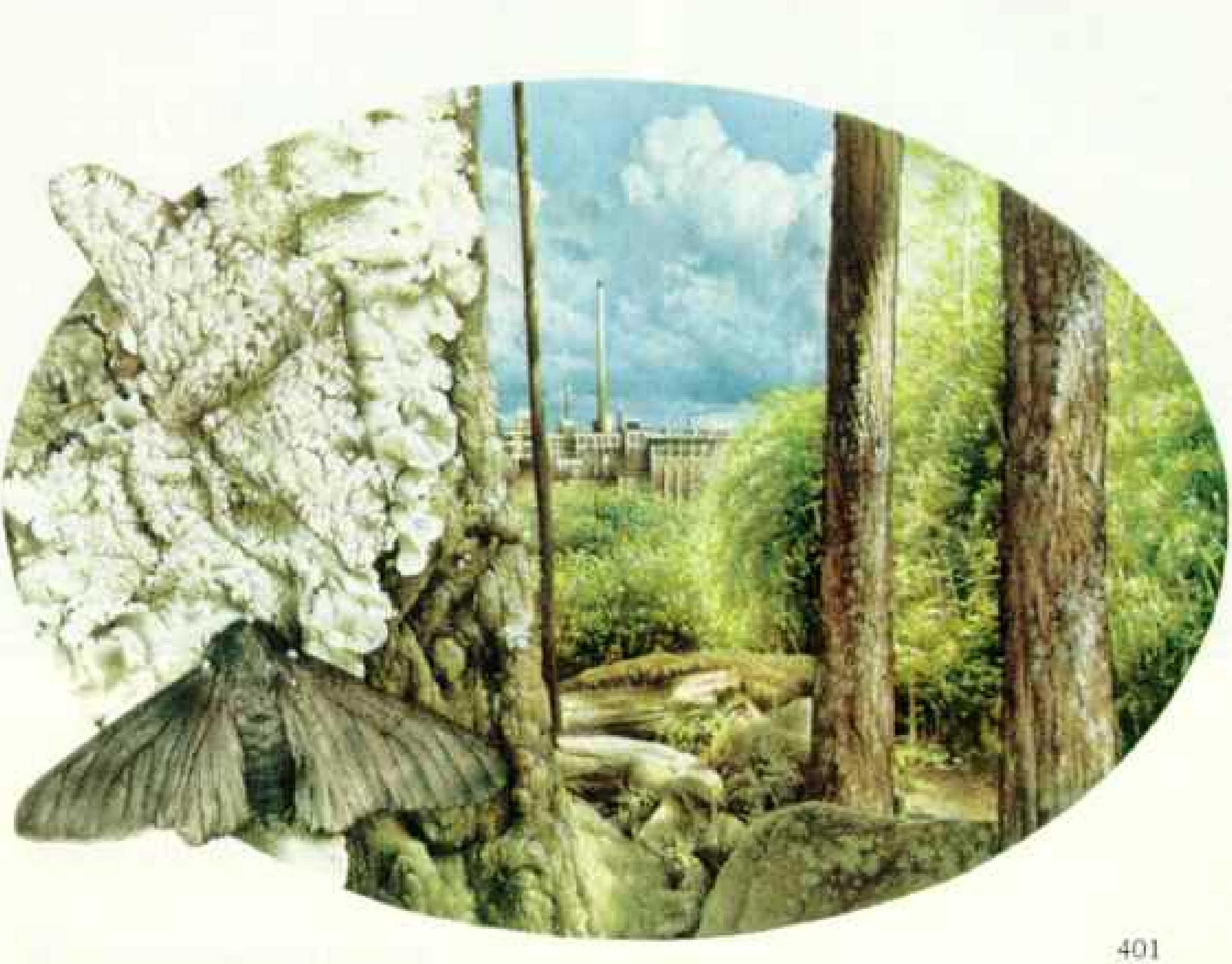
generates a century of adaptation

released equal numbers of pale and black moths in an unpolluted forest (***left***). Birds took more than six times as many black moths as pale ones. But in an industrial area, blacks survived pale moths by four to one (***below left***).

The black moths are spreading for reasons other than camouflage. Genetically, most of them have become hardier—more tolerant of pollution—than the pale forms and have increased in industrial regions.

More than a century of industrialization has passed, and the British have made progress against air pollution. A sign of that success is the increase of pale moths in some industrial districts (***below***).

BISTON BETULARIA, 30 MM ACROSS; OXFORD SCIENTIFIC FILMS (ABOVE); PAINTINGS BY ROBERT HYNES



A one-bug virtuoso starring

AS A BUTTERFLY-TO-BE changes from an egg on a leaf to an adult, it adopts a series of disguises. After hatching, the tiger swallowtail larva survives by resembling a bird dropping (***bottom right***).

Three molts later, it has turned green to match the leaves on which it feeds (***above***). The false eyespots

in three roles

on the caterpillar's head give it a snakelike look that may frighten away predators. In the pupal stage it seems just another broken twig on a tree trunk (***top right***).

Mimic, model, and puzzle

MANY BUTTERFLIES have come to look enough like other species to confound predators. The yellow female tiger swallowtail (***right***) is of the same species as the black female at upper right. Why the color difference? The black female is a mimic, and the butterfly to the left, a pipe-vine swallowtail, is its foul-tasting model. Male tiger swallowtails are never black, and frequently suffer wing damage (***above***) from bird attacks.

But why do only some female tiger swallowtails adopt the protective coloration? I asked James Sternburg of the University of Illinois, who has studied the question for years.

"It may have to do with where they live, and whether there are models to mimic," he told me. "Females south of Chicago are more likely to be black than females north of the city. The unpalatable pipe-vine is rarely found in the north."

TIGER SWALLOWTAIL, PAPILIO GLAUCUS, 90 MM ACROSS;
PIPE-VINE SWALLOWTAIL BATTUS PHILENOR

ALTHOUGH MIMICRY was first scientifically described in the middle of the 19th century by Henry Walter Bates, an English naturalist, only recently has it been experimentally duplicated under natural conditions by entomologists Gilbert Waldbauer, Michael Jeffords, and James Sternburg of the University of Illinois.

"Other scientists have shown that the process indeed works in the laboratory," Waldbauer told me, "but demonstrating it in the field is a different matter. In our tests we use the day-flying male of the dark promethea moth—a natural mimic of the bad-tasting pipe-vine swallowtail butterfly.

"The promethea is shaped much like a butterfly and flies like one too. And the male is relatively easy to recapture in a trap baited with a female of the species.

"We paint some of the moths

orange and leave dark wing markings to resemble the unpalatable monarch butterfly. Others we paint yellow, leaving wing markings that make them look like the tiger swallowtail, which is tastier to birds. A third batch is marked with black paint, so that their weight matches that of the other groups without altering their appearance to predators.

"We release equal numbers of all three groups [at left] in the center of a one-mile-wide circle of baited traps. As we had expected, more of our mimics painted to look like unsavory models are caught in the traps undamaged, whereas the yellow ones may have beak-shaped bites taken out of their wings [at right].

"Survivors are 37 percent 'monarchs' and 39 percent 'pipe-vine swallowtails,' but only 24 percent 'tiger swallowtails.' Batesian mimicry does seem to be effective."

CALLIDAMIA PROMETHEA, 90 MM. PAINTING BY ROBERT HYNES

The great

EACH TIME I COUNT, I come up with a different number of grass, or phantom, shrimp in this picture (***above***). Their body colors are so perfect that they seem to come and go before my eyes. There are at least 17 of them in and

underwater disappearing act

TOZEUMA CAROLINENSIS, 48 MM LONG (ABOVE); HIPPOCAMPUS ZOSTERAE, 7 MM (TOP LEFT)

around the turtle grass—I think. Note that the dark green ones rest on dark green grass; brown and black ones choose dead or dying grass. Sometimes a dark shrimp masquerades as a shadow under a leaf, which supports a lighter-hued shrimp on top (***bottom left***).

Witness another victory at sea (***top left***). A dwarf sea horse sways in the current, festooned with appendages that duplicate the plumes of hydroids on the turtle grass to which it is anchored.

Four masters of deceit

GENUS LITHOPS, 1.5 MM ACROSS

PTEROCHROZA NIMIA, 40 MM, OXFORD SCIENTIFIC FILMS

LIVING STONES are plants that survive by looking like rocks in southern Africa's deserts (***top***). Veined wings hide a leaflike katydid on a forest floor (***above***).

Treehoppers march up a branch (***right***), usually aslant like the real thorns. Some do stray onto thornless branches or face the wrong direction, but birds quickly scanning the branches usually do not spot them.

The blooms (***facing page***) are larval plant hoppers, members of a group of insects that deceive en masse rather than individually. Botanists in East Africa have picked plants adorned with the adult insects—and have been startled to see the "flowers" fly away.

FAMILY MEMBRACIDAE, 8 MM, KJELL SANDVED (ABOVE); ITYREA SPECIOSA, 15 MM, BOB CAMPBELL (RIGHT)

Will the real wasp...

SPILOMYIA LONGICORNIS (ABOVE AT LEFT), VESPULA MACULIFRONS, 20 MM; CLIMACILLA BRUNNEA, 15 MM (RIGHT)

"GOD MADE THE BEE, but the devil made the wasp," runs an old German proverb. The feisty wasp is especially popular as a model for other insects.

An insect I photographed in Costa Rica, a mantispid (***right***), occurs there in five different color forms, and each of the five mimics a different species of paper wasp.

Study the two face-to-face insects above, and select the real wasp. Answer: the one on the right. Its companion is a hover fly, a striking mimic of the wasp.

At least one hover fly species not only looks like a wasp but also sounds like one. The frequency of its wingbeats is 147 a second, very close to its model's 150. Scientists call this audio mimicry—another adaptation in the effort to survive by deception.

Pulling a fast one on an

unsuspecting fly

VINEGAR FLY: DROSOPHILA HETEROCHEURA;
CATERPILLAR: EUPITHECIA STAUROPHRASMA. 17 MM

AT FIRST it seems a common sight, a fly prowling along a twig (***top***). Suddenly the twig comes alive (***left***)—lashing out with clawed forelegs to pinion the hapless fly. My electronic flash froze the strike—it all took less than a tenth of a second—to show for the first time what had always before been a blur.

Discovered by Steve Montgomery of the University of Hawaii, this caterpillar of a geometrid moth strikes when tactile hairs on its body are touched. After capturing its prey, it holds the fly (***above***) so the legs cannot get purchase in an attempt to escape. □

Bali Celebrates a Festival of Faith

THE BEAST'S MANE is torch ginger and rice stalks, its horns are corn and cassava, its body and tail are coconuts, bananas, and bamboo, its heart and soul pure Balinese.

Villagers of Selat, on the eastern end of this Indonesian island, built this symbol of prosperity for the gods. With a flair for the dramatic, they made the offering in the likeness of a *barong*, fearsome defender of humanity (***right***). Then they shouldered it up the steps to Besakih, the mother-temple complex on Bali's holiest volcano, Gunung (Mount) Agung, and left it beneath a canopy as their contribution to the island's largest and most important religious celebration, Eka Dasa Rudra.

The festival is as ambitious as it is colorful, aiming to restore a balance in the world between the forces of good and evil.

Photographs by
FRED and MARGARET
EISEMAN

Text by PETER MILLER
NATIONAL GEOGRAPHIC STAFF

TWO HIGH PRIESTS welcome the gods back to Besakih (*left*) after worshipers return from a three-day procession to the sea, where images of the gods were symbolically washed. Borne overhead, the images had been carried 19 miles down the mountain past lush, terraced rice fields to a black sand beach at Batu Klotok.

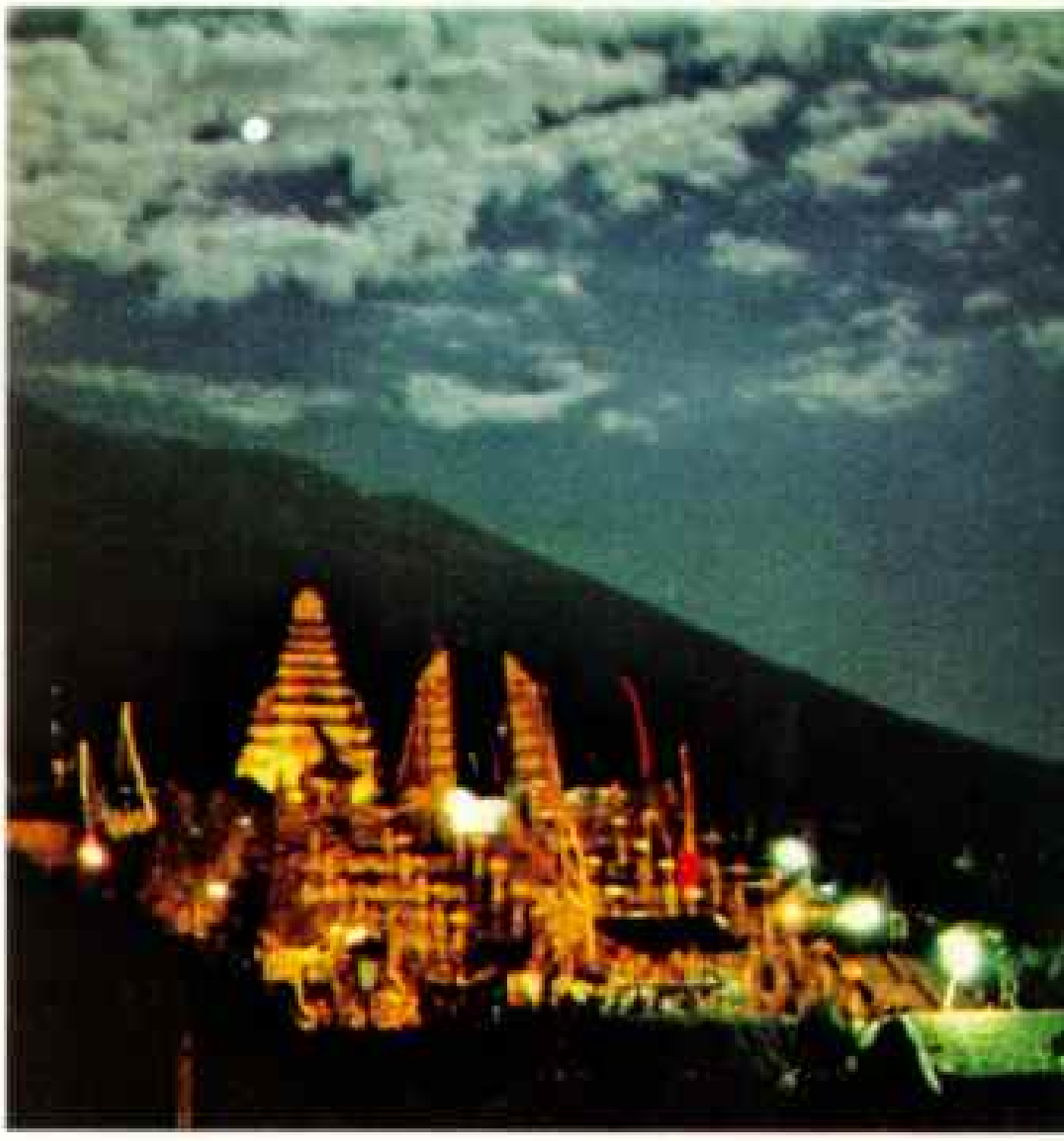
Along the route, entire villages gathered beside offerings for the deities. And at the beach, men in an outrigger sacrificed a water buffalo calf to sea demons by pushing it into the surf with gold on its horns, silver bracelets on its legs, and a stone tied around its neck. Later, at Besakih, priestesses and temple attendants laid rice cakes and other offerings, some in bowls fashioned from ornately cut palm leaves, on a buffalo hide—a symbolic bridge to return the gods to the temple from the profane world.

This procession was one of some thirty ceremonies held from late February to early May 1979 during the Eka Dasa Rudra festival. The climax came March 28 at the Taur rites, when 23 priests offered prayers, gifts, and scores of sacrificed animals—from an eagle to an anteater—to appease forms of Rudra, a demonic manifestation of Bali's supreme being. Their prayers were addressed to all 11 directions of Balinese space. Eka Dasa means "eleven."

According to sacred writings, the festival should occur once a century or when times are bad enough to require it. Such times were cited for the festival held in 1963, which began just before Mount Agung erupted, killing more than 1,500 people.

The complexity of Balinese religion is mirrored in the forest of temples at Besakih, some bathed by temporary lights (*below*). In a blend of Hinduism, Buddhism, and animism, Balinese honor hundreds of deities, from their rice goddess to all-embracing Sanghyang Widhi.

Less than two miles east of Java, Bali is an island of two and a half million people, mostly Hindus, in a nation of 135 million, mostly Muslims.



THOUSANDS of pilgrims a day came to Besakih during Eka Dasa Rudra, some packed into trucks (***left***) hired by a *banjar*, or neighborhood group. On the road up the volcano to Besakih, a river of Balinese carried baskets of offerings and picnic lunches—women in batik skirts and bright blouses, men in kiltlike skirts and head wraps (***below left***).

At the temple pilgrims toss three flowers toward the shrine in a simple gesture of devotion. Priests bless the worshipers with holy water and press rice to their foreheads.

Other offerings were placed high on each of 11 bamboo towers (***below***) that encircled the Taur sacrifice area.

CROWNED with frangipani, young women from a village near Bali's capital, Denpasar, dance the ancient *gambuh*, a reenactment of Balinese legends and fairy tales. This and other sacred dances performed during the festival to entertain the gods also demonstrate the physical poise Balinese cultivate from childhood.

More popular dances like the *legong*, once seen only in temples, are now often performed in hotel lobbies for ever increasing numbers of tourists. And the influx of visitors, some 350,000 last year from such nations as Japan, Australia, and the United States, has stimulated an industry of mass-produced arts and crafts.

Tourists were not permitted to attend Eka Dasa Rudra, but the general trend toward commercializing traditional Balinese culture disturbs many observers. In response, Balinese officials have encouraged development of resort facilities on a southern peninsula close to Bali's beaches and airport and away from its temples and villages.

AN "INSATIABLE appetite for an elaborate patterning of the world." Thus anthropologist Margaret Mead characterized the islanders' hunger for detail.

As if to satisfy this craving, the villagers of Singapudu hooked holy cookies onto a wooden frame (***above***) to symbolize a cosmos crowded with gods. The finished *sarad*, trucked to Besakih, was erected near a shrine (***right***) to please and nourish the deities, who the Balinese believe consume its essence.

On a similar rice-dough sarad (***far right***), the princely deity Wisnu, top, rides on the long-tailed eagle, Garuda. Near the bottom of the five-foot-high offering, molded at Suci, Besakih's holy kitchen, a barong rests on Bedawang, the mythical turtle on whose back Bali lies.

DANCERS IN SAFFRON robes and peaked white headdresses (***right***) revive the manly gestures of Balinese warriors as they dance the stylized *baris* before a crowd of more than 150,000 people who attended the climactic Taur sacrifices.

After 11 weeks of worship, the Eka Dasa Rudra rituals were judged a success by Bali's priests, one of whom sprinkles holy water on dignitaries at a closing ceremony (***above***).

Pleased for now with their efforts to restore harmony to the universe, the Balinese people return to their measured lives of work and religious devotion. □

Steeds draw a warrior across the bier of a sixth-century B. C. Celtic prince.

Treasure From a Celtic Tomb

By JÖRG BIEL Photographs by VOLKMAR WENTZEL
NATIONAL GEOGRAPHIC STAFF

His unplundered tomb yielded the richest Celtic trove yet found in Germany.

LIVING, he was master of a fair and fruitful land. The rolling meadows, the beech and oak woods amply furnished life's needs. Twenty-five centuries ago, in what is now the southland of West Germany, this Celtic prince ruled people adept in crafts and commerce. Local merchants traded in markets as distant as the Baltic and the Mediterranean.

When he died, the Celtic nobleman—his tomb richly caparisoned with ornate death couch, silk-embroidered draperies, weapons and utensils of gold and bronze—was ritually laid to rest in the stone-and-timber heart of a great mound that commanded the sweeping vistas of his homeland.

Centuries fled. Farmers tilled this land, raised crops on and around the odd hump of earth. Recently, on the tumulus, plows struck unexpected rock. Questions were

asked. Experts came to look. Tingling with hope, they sank trenches. . . .

Now that the job was done, I stood beside the rock-filled pits, touched again by the anxiety, and by the sharp thrills of success, that had animated our weeks of work on this undistinguished patch of ground near Hochdorf. Images flashed through my mind, images that measured how far our expectations had been exceeded:

• A company of female figurines cast in bronze, supporting a large bronze bed bearing the skeleton of a Celtic chieftain.

• A gold-handled dagger fastened to a gold-ornamented belt. And still more gold—ornate brooches, an armband, a necklace, and gold trim to adorn the prince's shoes.

• A huge bronze caldron rimmed with lions. An elaborate iron-plated wagon.

I thought back to the chance discovery—abetted by luck and intuition—of this prince's opulent tomb.

Renate Leibfried, teacher and archaeologist, lives with her family in Hochdorf, a village twenty kilometers (12 miles) northwest of Stuttgart. Mrs. Leibfried, already the discoverer of a number of ancient sites, phoned one day to ask me to examine another possible site she had happened upon. But the suspicious mounds there proved of no importance.

"While you're here," Mrs. Leibfried said, "you may as well look at the unusual rise in a field northeast of the village. Farmers'

Hearts raced *as the author and his team unearthed the remains of a burial chamber near the village of Hochdorf. Triumph! Layers of stone and timber hid the crypt of a prince, re-created here in its original splendor (**right** and **below**). The prince lay on a bronze bier, the first of its kind ever found. An iron-plated wagon held tableware and slaughtering tools; a bronze caldron once brimmed with mead. A ceiling cave-in had damaged the crypt's treasures but had also shielded them from looters.*

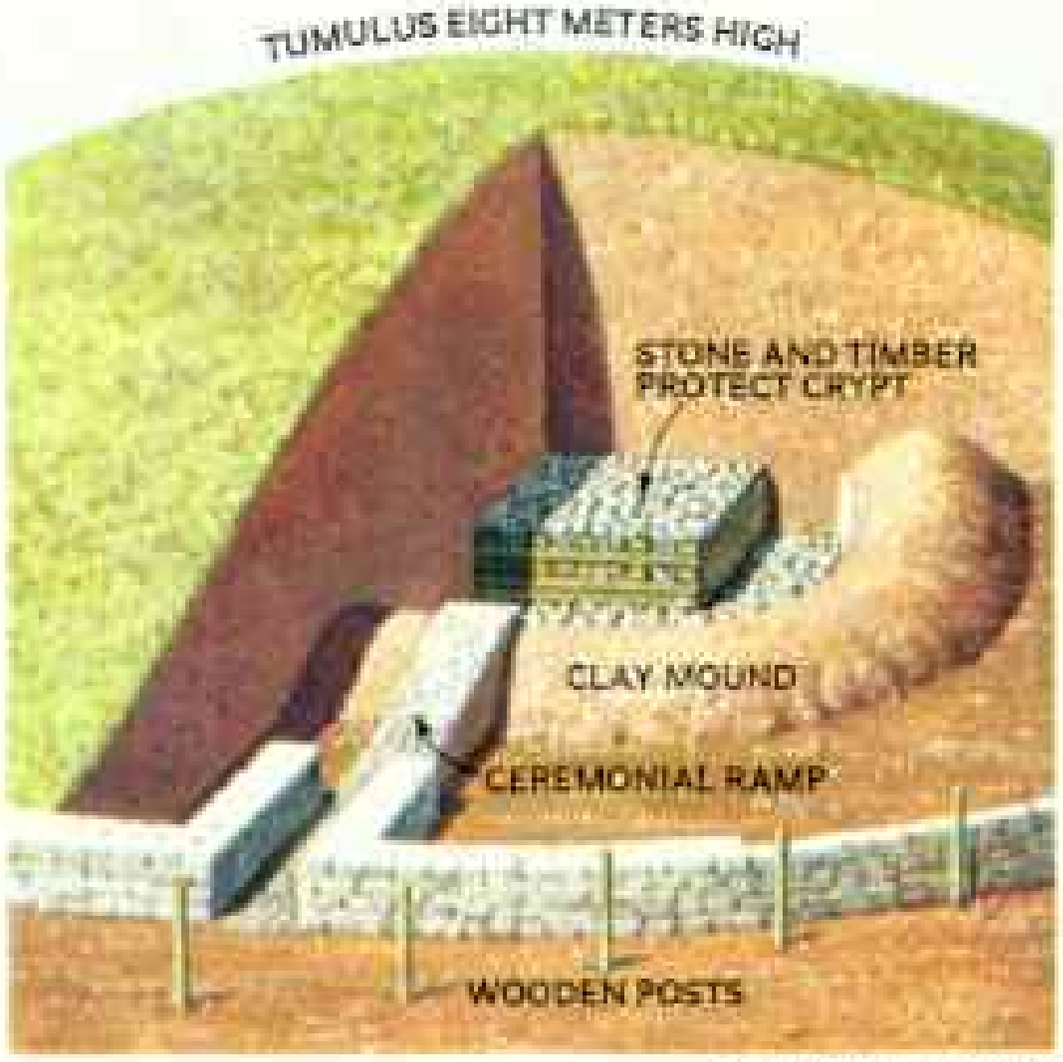


DIAGRAM BY NED M. SEIDLER
PAINTING BY LLOYD K. TOWNSEND
NATIONAL GEOGRAPHIC ART DIVISION

plows keep striking large stones there."

I had seen such formations before. Surely it had to be a large early Celtic tumulus, or burial mound. Yet so worn was it by centuries of erosion and cultivation that no one had recognized it.

Find of a Lifetime

In the end, peeling back the overburden from this acre or so of ground, we found what may be the most important discovery in this century from the early Celtic period—for me it became the find of a lifetime. We dated it to about 550 B.C. This was during the early Iron Age, or Hallstatt period, so labeled after the Austrian burial site where, in the second half of the 19th century, hundreds of graves gave up an enormous array of artifacts.*

I am a staff archaeologist with the State Service of Antiquities (Landesdenkmalamt) of Baden-Württemberg, headquartered in Stuttgart. The early Celtic period has been a focus of archaeology in this region for 25 years. My agency is responsible for preserving archaeological sites in the area and for salvage when sites are threatened by construction, road building, or farming.

Beyond the uncovering of ordinary graveyards, excavations have revealed proof of a stratified society, including an aristocratic class, that *(Continued on page 436)*

*Merle Severy traced the history of the Celts in the May 1977 GEOGRAPHIC.

FEMALE PALLBEARERS *cast in bronze supported the bier on upstretched arms. Intricately wrought bronze wheels wear tires of iron, an invention of the Celts.*

Artistry to honor the ruler came from his homeland and beyond through Celtic trade that extended to the Baltic and the Mediterranean. A ring of lions ***(below)*** *topped the Greek-made bronze caldron, probably presented as a gift to the prince during his reign. Celtic craftsmen made the gold drinking bowl.*

Seated beside the bier, restorer Ute Wolf ***(below left)*** *cleans the gold neck ring that proclaimed the ruler's status.*

At death the prince was bedecked with a gold-covered

*belt, foreground, and a gold armband and fibulae, or brooches (**left**). His burial shoes, which disintegrated, were trimmed with latticed strips of gold (**right**), displayed here on a clay model.*

On the skeleton excavators found remnants of cloth embroidered with Chinese silk, evidence of an ancient trade route uncharted by modern scholars. Bacteria-killing oxides that formed on the metal objects had helped preserve the organic artifacts, items usually destroyed by the central European climate.

dwelt in hilltop fortresses. Rulers were buried in large tumuli, sometimes more than a hundred meters in diameter and ten meters high. Sadly, until now, the princely central tombs in all the explored tumuli had already been looted when found.

The wealth of this elite class—as well as its power—apparently was based on political and trade links with Greek colonies in southern France and Italy and with the Etruscans in northern Italy. Tombs held Mediterranean-style drinking vessels, furniture, and other household luxuries.

Despite the looting, several princely graves in the region had yielded rich finds. In one of them the central grave was found stripped. But a lateral grave chamber contained a lavish treasure—gold ornaments, golden tips from two drinking horns, and two painted cups made about 450 B.C. in Athens. At another tumulus the nearly life-size statue of an early Celtic warrior was unearthed by my chief, Dr. Hartwig Zürn.

So Baden-Württemberg had a tradition of significant and splendid finds.

Fame Intrigues Skeptical Mayor

Before starting to dig, I needed permission from the owner of the Hochdorf land. Helmut Truckses was a retired farmer who rented out his fields. Though dubious that anything of interest or value would turn up, he cheerfully gave us the go-ahead. Next I approached the village mayor, understandably more interested in the welfare of his community than in old bones. But when the idea came across that his village could achieve fame, the skeptical mayor acquiesced. Later, he was not to be disappointed, when our find at Hochdorf was mentioned

*Practiced hands of restorer Benno Urbon clean iron fragments of a wagon wheel, re-formed on plastic spokes. Embossed warriors dance on the bier (**left**).*

in all the leading newspapers of the world.

I started by sinking a trench, seeking the stone wall that I knew from other such sites should have encompassed the tomb. The first turnings of our spades rewarded us with stones, stones, and more stones—big ones. The deeper we dug, the more we struck.

Then bronze objects started to emerge: a bronze disk and some pendants. Encouraged, we ran trenches right through the core of the hill. Within a circle of yellow clay we delved deeper and reached gray humus patterned with impressions of grass and straw and wood splinters. Still, to our relief, no sign of disturbance by robbers.

Inner Chamber Finally Found

Excavating still deeper, we came at last on the remains of a large rectangular chamber that had been walled and roofed with oak beams, the ceiling now collapsed and crushed under the weight of stone. Fallen stone blocks—in all about fifty tons of them—filled the room.

To protect our Celtic tomb against the weather, we built a kind of greenhouse with steel supports and a plastic cover.

Carefully our workers removed the ponderous stone blocks from the central chamber. About two meters down, intriguing finds began to appear, a long object of sheet bronze and a number of iron articles, including parts of wagon wheels (above). These articles, we observed, came from a second, much smaller inner room. This, the actual burial chamber, measured 4.2 by 4.8 meters. Now we were certain that the grave, buried under the protective masses of fallen stones, had remained untouched for some 2,500 years.

As we came upon one precious relic after another, what surprises and what racing heartbeats attended our discoveries!

The prince's skeleton lay on the three-meter-long sheet of bronze, actually a funeral bed. Gold jewelry was strewn over the remains and in fragments of his clothing, which had been made from richly patterned cloth with embroidery in Chinese silk. By what route had that silk journeyed here?

Anthropologists established that the body was that of a man some 40 years old, 1.83 meters (6 feet) tall—a head taller than his typical contemporaries. Average life span in the fifth century B.C. was about 30 years, so the gentleman who lay here was old for his time. From organic material in the skeleton, we will even determine his blood type.

In the grave his subjects had placed objects befitting their lord's rank. The Hochdorf prince wore an important status symbol of a Celtic chieftain of the Hallstatt period, a necklace in the form of a gold ring. His clothing was fastened with intricately twisted gold brooches (page 434). A delicate band of gold adorned his wide leather belt.

The hilt of the noble's dagger had been plated with gold, and he wore a wide gold armband. Thin strips of gold had embellished the prince's shoes—a novelty in the field of Celtic archaeology (page 435).

Together with these ceremonial articles, personal items had been offered—a birch-bark hat, a wooden comb, iron nail clippers, even three fishhooks. What useful clues to ancient Celtic ways! Perhaps the prince fished in the local streams and was a man of the people, not separated from his subjects by taboos and protocol.

For us as archaeologists the most impressive—and in some ways the most puzzling—of the furnishings in the grave was the huge bronze bier upon which the skeleton lay. In the form of a high-backed bench, the great bed was supported by eight cast-metal statues of women a foot high. These figures balance, almost like circus acrobats, on functional wheels of bronze and iron; the whole affair could be rolled like a sofa on casters. Embossed in bronze on the bench back, figures performed a funeral dance (pages 436-7); two horses pulled a four-wheeled cart, possibly bearing its passenger to eternity (pages 428-9).

Museum collections contain nothing like this wheeled bier. It is a landmark find.

Mead Caldron Fit for a Prince

The Celts sent their dead to the afterworld well equipped to eat and drink. In the northwest corner of the tomb, on a collapsed wooden stand, stood a huge round bronze kettle, or caldron, big enough to hold about 400 liters (104 gallons) of liquid. It still contained a drinking bowl of gold and a powdery brown mass, the dried remains of mead, a honey-based fermented drink.

To consume such vast amounts of liquor, our Celtic ruler also had at his disposal several drinking horns hung on the wall.

Across the chamber from the death couch, nine plates and three platters of bronze, together with slaughtering and carving tools, were stacked on a most remarkable four-wheeled wagon, a kind of Celtic tea cart adorned with bronze chains and figurines.

Walls and ceiling had been hung with opulent fabrics; iron clasps and bronze brooches held and gathered the hangings. Fortunately, bacteria-killing oxides from the metal artifacts had helped preserve the fabrics, making the grave the richest trove of woven materials and textiles from this period in all Europe.

Now the excitement—the triumph—of the excavation of this great Celtic tomb must give way to hard years of study, preservation, and restoration. The Hochdorf grave will make a major contribution to our knowledge of the roots of later Celtic civilization, one that never had the strength or the cohesion to form a single, united power.

The Celtic prince of Hochdorf, miraculously granted a glimpse of our intrusion on his privacy, could be forgiven a wry smile at all our painstaking endeavors to re-create from so long ago one person and the story of his life. □

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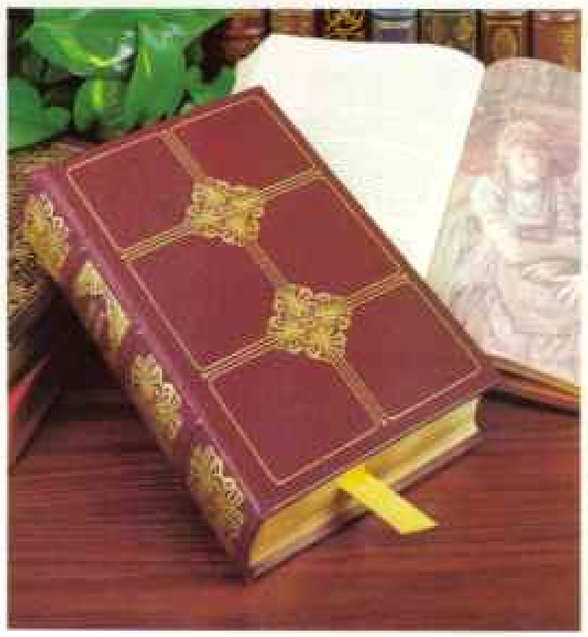

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If you desire, you may return any volume within 30 days for a full refund. Moreover, you may cancel your subscription at any time.

R.S.V.P.

To accept this invitation, you need only complete the Preferred Subscription Reservation and return it to us. This simple step is all that is necessary for you to begin building a private library of your own that is sure to be envied by all who see it.

Preferred Subscription Reservation 252

The Easton Press
47 Richards Avenue
Norwalk, Conn. 06857

No payment required. Simply mail this subscription reservation.

Please send me the first volume of "The 100 Greatest Books Ever Written" bound in genuine leather and reserve a subscription in my name. Further volumes will be sent at the rate of one book per month at $31.50* each. I understand that this price will be guaranteed for the next two full years.

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***Connecticut residents pay $35.56 to include sales tax.*

A SPECIAL MESSAGE TO READERS OF NATIONAL GEOGRAPHIC.

"Only a fortunate few will ever own this luxurious library. Maybe you can be one of them."

by Theodore R. Stanley, Publisher, The Easton Press

As a reader of *National Geographic*, you may have seen previous announcements for our luxurious leather-bound volumes, *The 100 Greatest Books Ever Written*. Perhaps you've asked yourself, "Are the books as beautiful as they appear in the photographs. And would I enjoy owning them?"

I can understand such questions. We have all seen beautiful-looking objects in advertisements—and then been disappointed when the actual products fall far short of expectations. But let me assure you, here is a case where the opposite holds true! These volumes are far more magnificent than any photographs could show. There is simply no way for photographs to convey the rich, textured look of the leather, the gleam of the real gold embellishments, and the many fine details of each binding.

Many of our satisfied subscribers first learned of these volumes through *National Geographic*. It seems that readers of this magazine especially appreciate the efforts we put into the creation of these volumes. You may be interested in their reasons for subscribing and their reactions to the volumes.

A way to become re-acquainted with the greatest classics of all time.

One attraction is the quality of the literary works—masterpieces by Melville, Hawthorne, Twain...Tolstoy, Dostoyevsky, Dante... Chaucer, Shakespeare, Dickens. Classics which form the cornerstone of a truly fine home library.

If there are young people in your home, this is a wonderful way to expose them to the great classic works of literature. As you hold one of these volumes in your hands, your sense of its greatness is enhanced by the sheer beauty of the edition. In your home, both the titles and the bindings will attest to your appreciation of the finer things in life.

A total commitment to quality.

Subscribers frequently comment on the unique *value* that these volumes offer during inflationary times. A collector from Des Moines says he regrets not having discovered Easton Press editions sooner. Comparing ours to other collector volumes (offered at a higher price), he states: "In almost every instance, the type, illustration, binding, leather, and ornamentation are far superior in the Easton editions." A Canadian collector writes: "The quality of the materials and the taste with which the volumes are presented allows me to believe it is still possible to hope in this era of mass-produced mediocrity."

This last comment captures the spirit which guides The Easton Press. Fortunately, it is still possible to find craftsmen who uphold the traditional standards of the bookbinder's art, and to supply them with the finest materials—premium-quality leather, acid-free paper, fine moiré fabric for the endpapers. It is still possible to have master book designers create striking, original, and appropriate cover designs—a different one for each volume. This is the kind of effort which goes into the production of *The 100 Greatest Books Ever Written*.

"Rarely, these days, is it possible to receive such high-quality merchandise at such a reasonable price," writes another collector. At a time when ordinary best-sellers can cost up to $20 each (and be forgotten in months), serious book-lovers are choosing instead to purchase more permanent and luxurious volumes at just $31.50 each.

Impeccable standards of customer service.

It would be to no avail producing such high-quality volumes without providing an equally high level of customer service. Subscribers are pleasantly surprised to find that their letters always receive prompt, courteous, personal replies. "I have yet to find one flaw in your staff's efforts," comments one subscriber. It is our goal to see that each and every subscriber is equally well-served.

This, then, is the opportunity that awaits you. The chance to re-discover your favorite classics and enjoy great works you've always wanted to read...to share in the pride and pleasure of owning luxurious volumes that will become treasured family heirlooms...to build a magnificent and enduring home library for little more than the cost of filling your shelves with the day's best sellers. Thousands of *National Geographic* readers have already joined us. Shouldn't you count yourself among them?

◀ Lift here

The new Nikon EM

From the legend that is Nikon comes the new Nikon EM. A lightweight, automatic 35mm camera designed to make great pictures simpler and more foolproof than ever before. A camera that gives you beautiful pictures that are...

Sharp, and clear, automatically ... alive with rich colors and vivid detail, because the EM is precision-engineered by Nikon. Acclaimed by one of photography's foremost authorities for picture quality that rivals even professional Nikons.

So it may surprise you to discover that... *For the cost of just an ordinary automatic single lens reflex,* the extraordinary Nikon EM can be yours! At last, the joys of fine photography at an affordable price. And, from the very first roll, you'll find it's also easy to use, because...

Nikon's exclusive electronics automatically set the correct exposure! All you do is focus and shoot. There's even a unique audible warning signal that tells you if the light's not right. And to add more excitement...

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for pictures this sharp, this clear, automatically.

Nikon: Official 35mm Camera, 1980 Summer Olympic Games

Buying a repair plan with your new GM car or truck?

Don't settle for anything less than "YES."

Before you say yes to any repair plan, take the time to compare it to General Motors' Continuous Protection Plan. For 3 years or 36,000 miles — whichever comes first, the GM Plan pays major repair bills for 78 components of nine major assemblies.

And General Motors provides a car rental allowance if your car becomes inoperative requiring overnight repair for any condition covered under the GM new vehicle limited warranty — and after the warranty for failure of any components covered by the Plan.

There are other important features. Compare it with other plans and we're sure you'll choose GM peace of mind.

Take any other plan you may be considering, read it carefully and fill in its coverage in the blanks on the checklist below. We don't think you'll find another repair plan that even comes close.

TEAR OUT ALONG DOTTED LINE AND TAKE WITH YOU TO YOUR DEALER BEFORE YOU SIGN ON THE DOTTED LINE

COMPARE THE GM CONTINUOUS PROTECTION PLAN WITH ANY OTHER REPAIR PLAN		
Use this chart to check the coverage of any other repair plan you may be considering	GM Continuous Protection Plan Coverage	Other Plans Coverage (Enter YES or NO)
Covers up to 78 components	YES	
Major assemblies covered:		
Engine	YES	
Transmission	YES	
Front Wheel Drive	YES	
Rear Wheel Drive	YES	
Steering	YES	
Front Suspension	YES	
Brakes	YES	
Electrical System	YES	
Air Conditioner	YES	
Additional Coverage:		
Honored at over 15,000 dealers in the U.S.A. and Canada	YES	
Rental car allowance for any warranty condition requiring overnight repair due to vehicle disablement.	YES	
$25 towing allowance for any reason during warranty	YES	
60 Day money back trial offer	YES	

Don't settle for less

Continuous Protection Plan

GM

Takes care of you as well as your car, light duty truck or van

Buick LeSabre.
The more logical we made it, the better looking it got.

Without changing its character as an elegant, 6-passenger automobile, we've done some very logical things to the new 1980 LeSabre. For instance, compared with last year's model, its tires are designed to roll more freely. The entire car is lighter. And it has been reshaped, millimeter by millimeter, to deal more decisively with wind resistance.

There's impressive logic under the hoods of our new LeSabres, too. The even-firing 3.8 liter V-6 is standard, and generates 18 EPA-estimated mpg and 24 mpg on the highway. The LeSabre Sport Coupe's standard power comes from a turbocharged version of the 3.8. And the 4.1 liter V-6 is available.

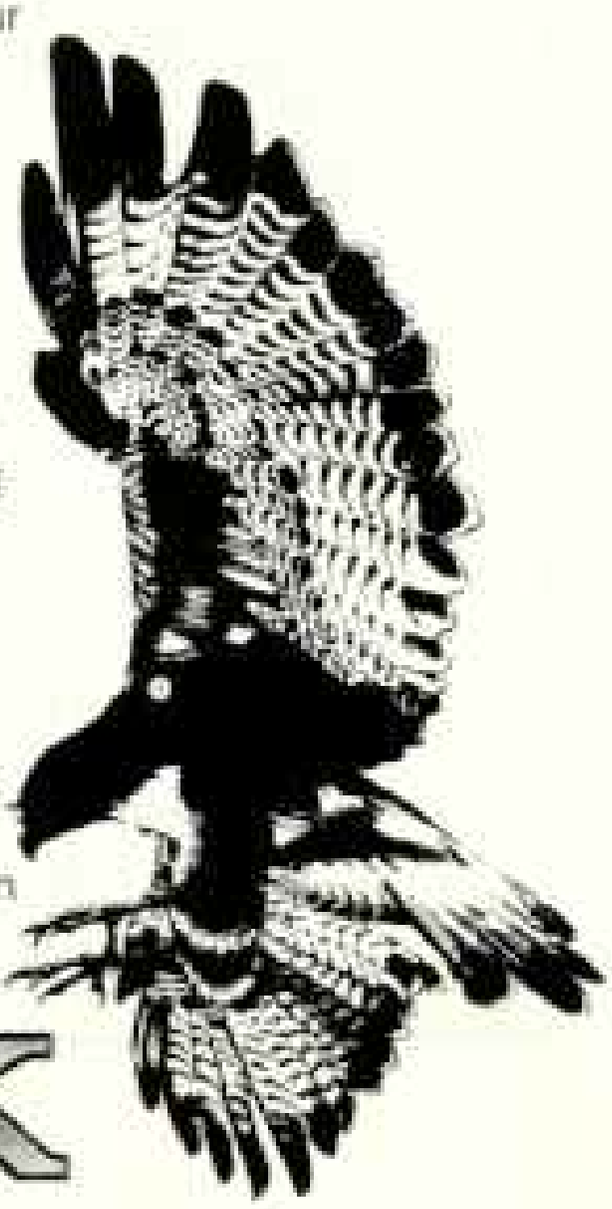
EPA EST MPG	EST HWY	EST DRIVING RANGE	EST HWY RANGE
18	24	450	600

The new 1980 LeSabre. We made it more logical. And it got better looking along the way. Talk to your Buick dealer about buying or leasing one.

Remember: Compare the boxed estimates to the estimated MPG of other cars. You may get different mileage and range depending on your speed, trip length and weather. Estimated mileage and range will be less in heavy city traffic. Your actual highway mileage and range will probably be less than the highway estimates. Estimated driving range based on EPA-estimated MPG rating and highway estimates. These range estimates are obtained by multiplying LeSabre's fuel tank capacity of 25 gallons by the EPA and highway estimates. Estimates higher in California.

Buicks are equipped with GM-built engines supplied by various divisions. See your dealer for details.

The 4.1 liter V-6 is not available in California.



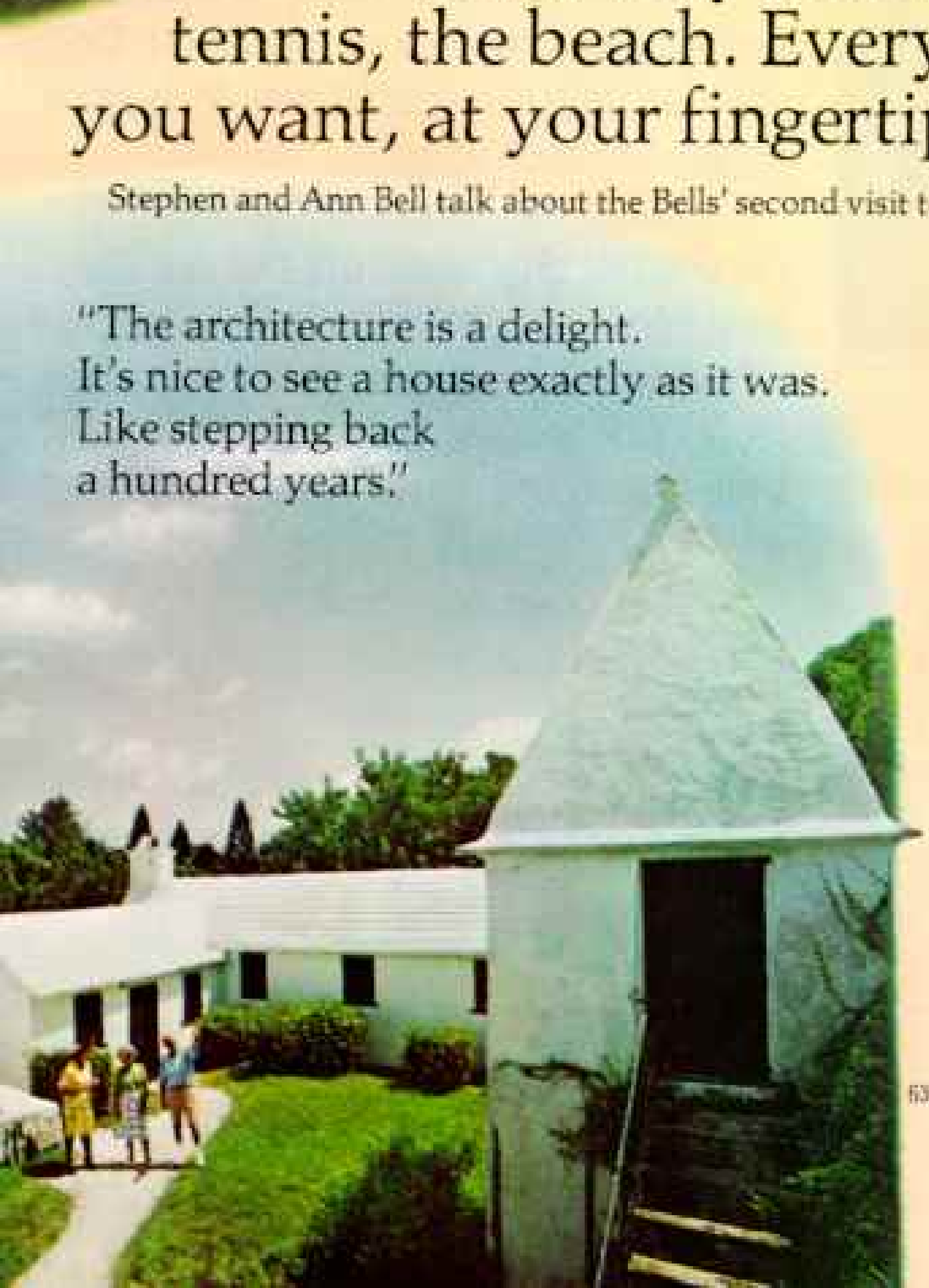
BUICK

Bermuda. Get away to it all!

"The lifestyle in Bermuda appeals to us very much. Golf, swimming, tennis, the beach. Everything you want, at your fingertips."

Stephen and Ann Bell talk about the Bells' second visit to Bermuda.

"The architecture is a delight. It's nice to see a house exactly as it was. Like stepping back a hundred years."



"I don't see how Bermuda can be improved upon. This is only the second time we've been here. But it's not going to be the last."

See your travel agent or write Bermuda, Dept. 615
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or 300 North State Street, Chicago, Ill. 60610

Medically, we know enough to save 5,000 babies a year from cerebral palsy.

If only we had the money.

It's easy to smile when baby is healthy. Dennis Hallinan/FPG

Doctors find some form of cerebral palsy in one out of 330 newborns. This is about 10,000 babies a year.

The number could be halved in five years, and halved again in another five. All it takes is the money to fully use present medical knowledge, and to speed research that doctors are sure will pay off.

You can help by giving to your local United Cerebral Palsy association. Or you can help in a special way, through a legacy or deferred gift.

Learn the full advantages of supporting not only research, but our lifelong services to the 700,000 people who have cerebral palsy. Just ask your local UCP association for the free, illustrated brochure, "The Case for Making a Will."

Be generous. Think what your money can buy.

United Cerebral Palsy.

For the national organizations' financial statement write United Cerebral Palsy Assns. Inc. 66 E. 34th St., N.Y., N.Y. 10016, or the Charities Registration Section, Dept. of State, 162 Washington Ave., Albany, N.Y., N.Y. 12231.

Guided by a legendary spirit, the Chippewa Indians use canoes to harvest wild rice...

Live the Legend

Now you can use Uncle Ben's Long Grain and Wild Rice to harvest a Grumman canoe.

According to legend, the Chippewa spirit of the water guided the Indian's canoe to the wild rice harvest. And now Uncle Ben's makes it possible for you to follow ancient waterways in your own canoe.

Uncle Ben's Long Grain and Wild Rice, with its blend of 2 rices and 23 herbs and seasonings, has a bold, unique flavor your family will love. So make your special meal extra special and take advantage of this very special offer from Uncle Ben's Long Grain and Wild Rice.

Save $150 on a Grumman Canoe

- Save $150 on America's most popular boat—A Grumman 17 foot double-end aluminum canoe!
- Just submit five proof of purchase seals from any Uncle Ben's Wild Rice Product.
- You will receive a $150 savings certificate plus a list of participating Grumman dealers and addresses.
- With the certificate, you can purchase the canoe from the participating dealer of your choice for only $329—instead of the suggested retail price of $479 (both prices quoted exclusive of standard taxes and delivery charges).

Please send _____ certificates entitling me to $150 savings on the purchase of a Grumman 17 foot double-end aluminum canoe. I have enclosed _____ proofs of purchase seals (five per certificate) from Uncle Ben's Long Grain and Wild Rice Products. I understand my submission of five proof of purchase seals (or more) does not obligate me to purchase a canoe. I also understand only one certificate per canoe may be used and that the certificate is good on this model only.

No money is required with the proof of purchase seals. Send the seals along with your name, address and telephone number to:

Uncle Ben's Canoe Offer, P.O. Box 1042, Port Washington, New York 11050

Name _____

Street _____

City _____ State _____ Zip _____

Phone _____

Allow two to four weeks for the return of your special certificate.

Offer expires November 1, 1980. NAT

A Country Path in May

Plates shown smaller than life size
Actual diameter: 9 inches

IN FINE ENGLISH PORCELAIN . . .

The Country Year

BY PETER BARRETT

A collection of twelve beautiful porcelain plates, each portraying the charm and color of the countryside in a different month of the year.

Each plate bears an original work of art and is individually decorated with pure 24 karat gold.

To be issued in limited edition.
Offered by direct subscription only, with a further limit of just one collection per applicant.
Subscription Application valid until April 30, 1980.

The beauty of a mountain stream in autumn, or a country meadow dappled with summer sun, possesses an enchantment that is universal. And it is the rare ability to capture this unique form of visual poetry — the beauty of the ever-changing countryside — that has established the English painter Peter Barrett as one of today's most gifted landscape artists.

And now, for the first time in his career, Peter Barrett has undertaken the task of creating an entire collection of important new works for issue in a form particularly prized by collectors: a series of twelve beautiful *porcelain plates* portraying the entire panorama of the unspoiled countryside.

Each of these original works has been specially commissioned by Franklin Porcelain and created *exclusively* for 'The Country Year' porcelain plate collection. After it is completed, none of these plates will ever be issued again.

Each plate captures a different setting, a different month of the year

To encompass all the splendors of the countryside in its changing moods, each plate will depict a totally different setting... in a different month of the year.

The April plate, for example, conveys the loveliness of Spring from the perspective of a secluded bluebell bower... The adventurous spirit of May invites us to follow a quiet country lane... August brings us to a golden wheatfield, where poppies, daisies and thistles abound, and swallows swoop low in search of food...

For no detail, no matter how small, escapes Peter Barrett's eye. And yet, over and above their sheer beauty, these new works accomplish something even *more* extraordinary. Because each plate actually seems to draw the viewer *into* the scene.

Challenging to create... satisfying to own

By letting elements of his art burst out of the center of the plate and flow to its very rim, Peter Barrett has given these works a unique sense of depth and dimension... a feeling of movement and vitality that brings *life* to every scene.

Furthermore, because of the precision of Barrett's art, and the fact that he has used some twenty-five separate colors in every work, this is a collection as challenging to create as it is satisfying to own. Indeed, more than two years has been devoted to its preparation.

To provide full scope for Peter Barrett's artistry and vision, each plate will measure a full nine inches in diameter. The entire collection will be crafted of fine English porcelain, whose traditional richness and vibrancy are exceptionally well suited to dramatizing the subtle colors of his art. And each scene will be framed within a decorative circular border of *pure 24 karat gold.*

A collection to enhance any room... any home

Each of the twelve beautiful plates in the collection is a superlative work of art in itself. Together they constitute a gallery of fine art that is breathtaking. Displayed upon the wall or shelves of any room, these beautiful plates cannot help but enhance the decor of your home.

But the plates are being made available on a very limited basis. They will be crafted *exclusively for individual subscribers.* And a further limit of just one collection per subscriber will be enforced without exception.

Here in the United States, the collection will be issued in a single edition, available *by direct subscription only* — and only from Franklin Porcelain. One plate will be issued every other month, and the issue price is just $55 for each plate and individual wall hanger.

Because of the international interest in Peter Barrett's art, a second edition will be made available overseas, with equally stringent limitations. In the tradition of the finest porcelain, the collection will be available only until the end of 1980, at which time the subscription rolls will be permanently closed. To enter your subscription, you need send no money now. But please note that the application at right must be mailed by April 30, 1980.

SUBSCRIPTION APPLICATION

The Country Year

BY PETER BARRETT

Valid only until April 30, 1980.
Further limit: One collection per applicant.

Franklin Porcelain
Franklin Center, Pennsylvania 19091

Please enter my subscription for Peter Barrett's 'The Country Year' — consisting of twelve plates to be crafted for me in fine English porcelain.

I need send no money now. The plates are to be sent to me at the rate of one every other month, beginning in June 1980. I will be billed for each plate in two equal monthly installments of $27.50,* with the first payment due in advance of shipment.

*Plus my state sales tax

Signature _____
ALL APPLICATIONS ARE SUBJECT TO ACCEPTANCE

Mr.
Mrs.
Miss _____
PLEASE PRINT CLEARLY

Address _____

City _____

State, Zip _____

Canadian residents please write for further information.

Top: September on the Moors
Middle: Wheatfields in August
Bottom: The Colors of Autumn in October

NEW COMPUTER SPACE COMMAND. NOW THE BEST ZENITH EVER IS EVEN BETTER.

The best Zenith ever–System 3.

With a Tri-Focus picture tube for the sharpest picture in Zenith history. With a Triple-Plus chassis, designed to be our most reliable ever. With Color Sentry for rich, real color automatically. With Electronic Power Sentry to protect critical components and save energy.

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System 3. The best Zenith ever. Now even better.

ZENITH

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SYSTEM 3

Shown: The Showcase, SL2561X. Ultra-contemporary styling in a bronze-tinted acrylic cabinet. Metal finished frame on tops and ends. Brushed aluminum base. Simulated TV picture.

The Diesel-Powered Cadillacs

All with (21) EPA estimated mpg...31 estimated highway.

Only Cadillac brings you a full line of luxury automobiles available with Diesel.

The estimated driving range is (567) miles...
837 miles estimated highway range for Fleetwood Brougham and DeVilles. Even 567 miles is considerably more than a full day's driving for many people—and on one tankful. Actual highway mileage and range will probably be less than the estimated highway fuel economy. *Remember: Compare* the circled "estimated mpg" to the "estimated mpg" of other cars. You may get different mileage and range depending on how fast you drive, weather conditions and trip length. These driving range estimates are developed by multiplying the EPA estimated mpg and the highway estimate each by the standard Diesel fuel capacity rating of 27 gallons.

Seville for the 80's. First car in the world with a Diesel V8 as standard. (21) EPA estimated mpg and 31 estimated highway. A new American standard for the world. Or you may prefer Seville's gasoline-powered Digital EFI at no extra cost. Seville with front-wheel drive...daring in design ...advanced in technology.

Eldorado: One of the world's best engineered cars. Also with 21 EPA estimated mpg ...31 estimated highway. Impressive Diesel mileage for both a great road car and a great luxury car—Eldorado by Cadillac —a pioneer in front-wheel drive among U.S. automobiles...and still perhaps its finest expression.

The benefits of V8 design. The engine used for Cadillac is a 5.7 liter V8. The dynamic balance of Diesel V8 design contributes to smoothness of operation. The V8 design also combines with an impressive power-to-weight ratio to provide responsive acceleration for a Diesel. Cadillacs are equipped with GM-built engines produced by various divisions. See your dealer for details. And to buy or lease the 1980 Cadillac of your choice.

Cadillac

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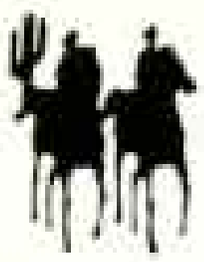

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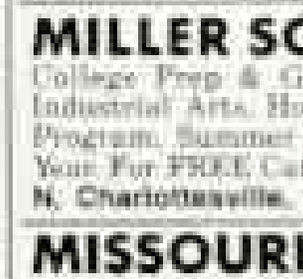

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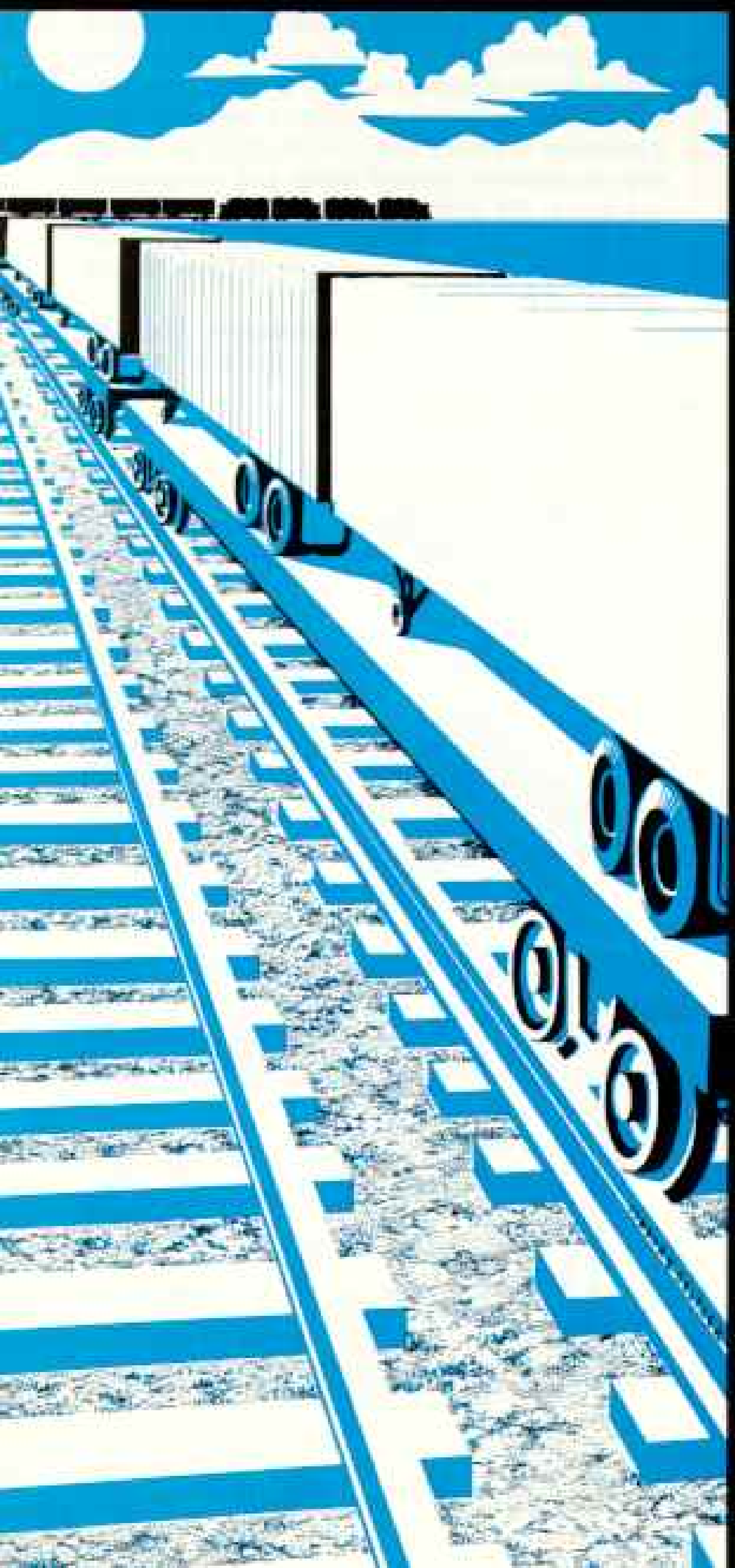

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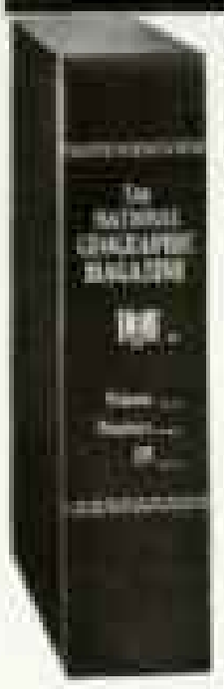

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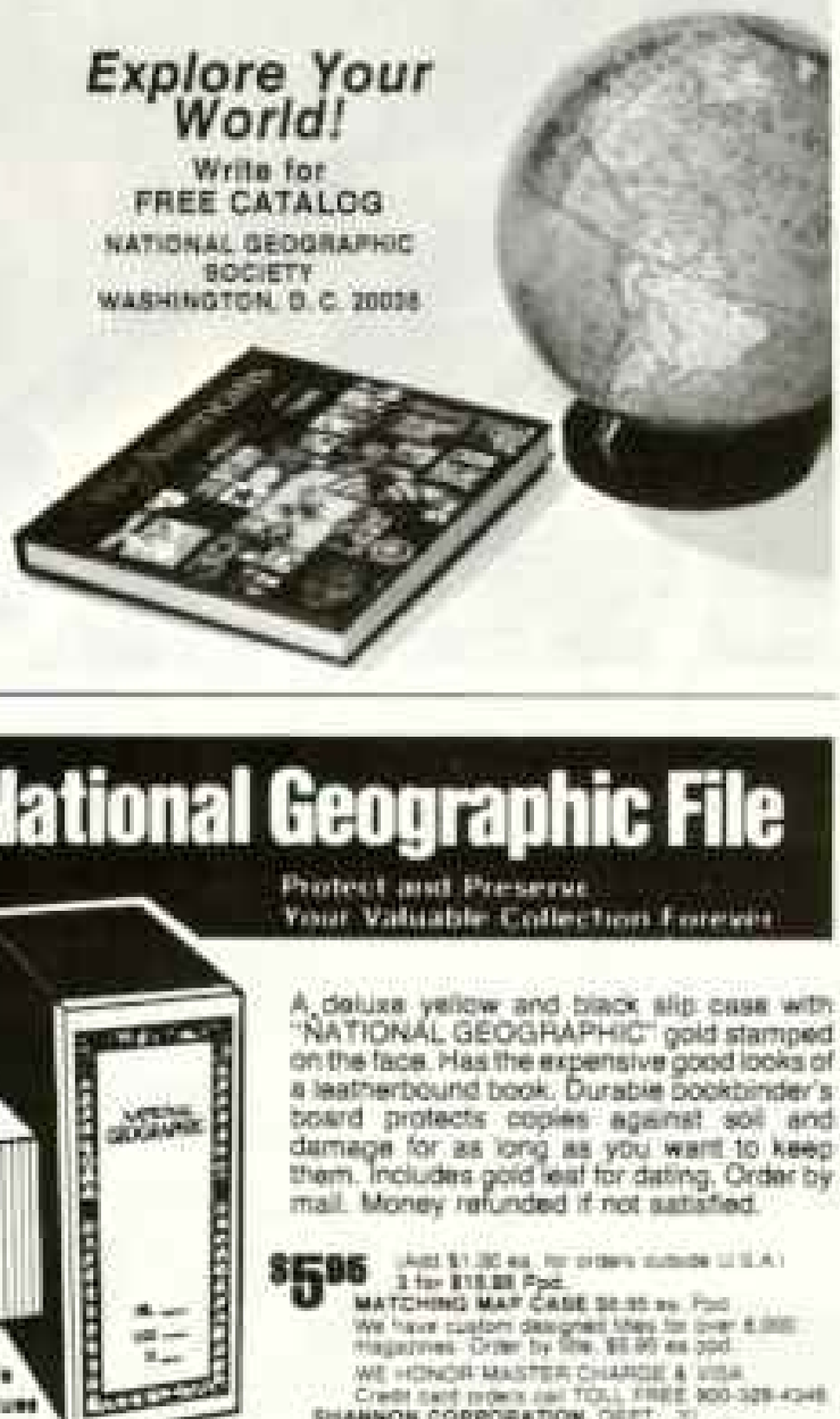

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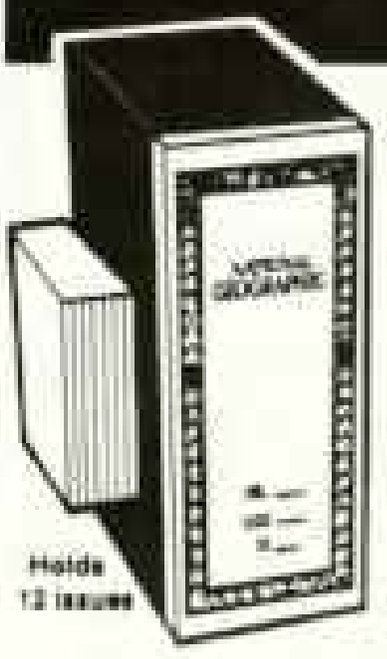

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