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

NATIONAL GEOGRAPHIC

May 1971

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Two Wheels Along the Mexican Border

ARTICLE AND PHOTOGRAPHS BY
WILLIAM ALBERT ALLARD

RIDING A MOTORCYCLE FROM COAST TO COAST, A YOUNG WRITER-PHOTOGRAPHER TAKES A FRESH LOOK AT OUR SOUTHERN FRONTIER

LEAVING TIJUANA, MEXICO, I eased up to one of the customs inspectors at San Ysidro, the port of entry into California, and asked directions to the two-lane highway leading toward the Imperial Valley, 90 miles to the east.

"You don't want that road," he said. "It's narrow, full of sharp curves. Go a little farther north and pick up the freeway. Big freeway—takes you right to El Centro."

"I'd rather take the old road," I said. "The one with the curves."

"Up to you," he shrugged, and gave me directions. "Where you going?"

"Brownsville, Texas," I said. "Going to take a ride down the Mexican border."

"On *that?*"

I smiled. "That," as he called it, was my motorcycle. Heavily loaded with camera equipment and duffle bag, an Australian bush hat slung across the back, and a sleeping bag tied to the handlebars, it was to evoke his kind of response throughout my trip. Maybe it didn't look like the ideal way to travel the nearly 2,000 miles of border that separates the United States and Mexico.

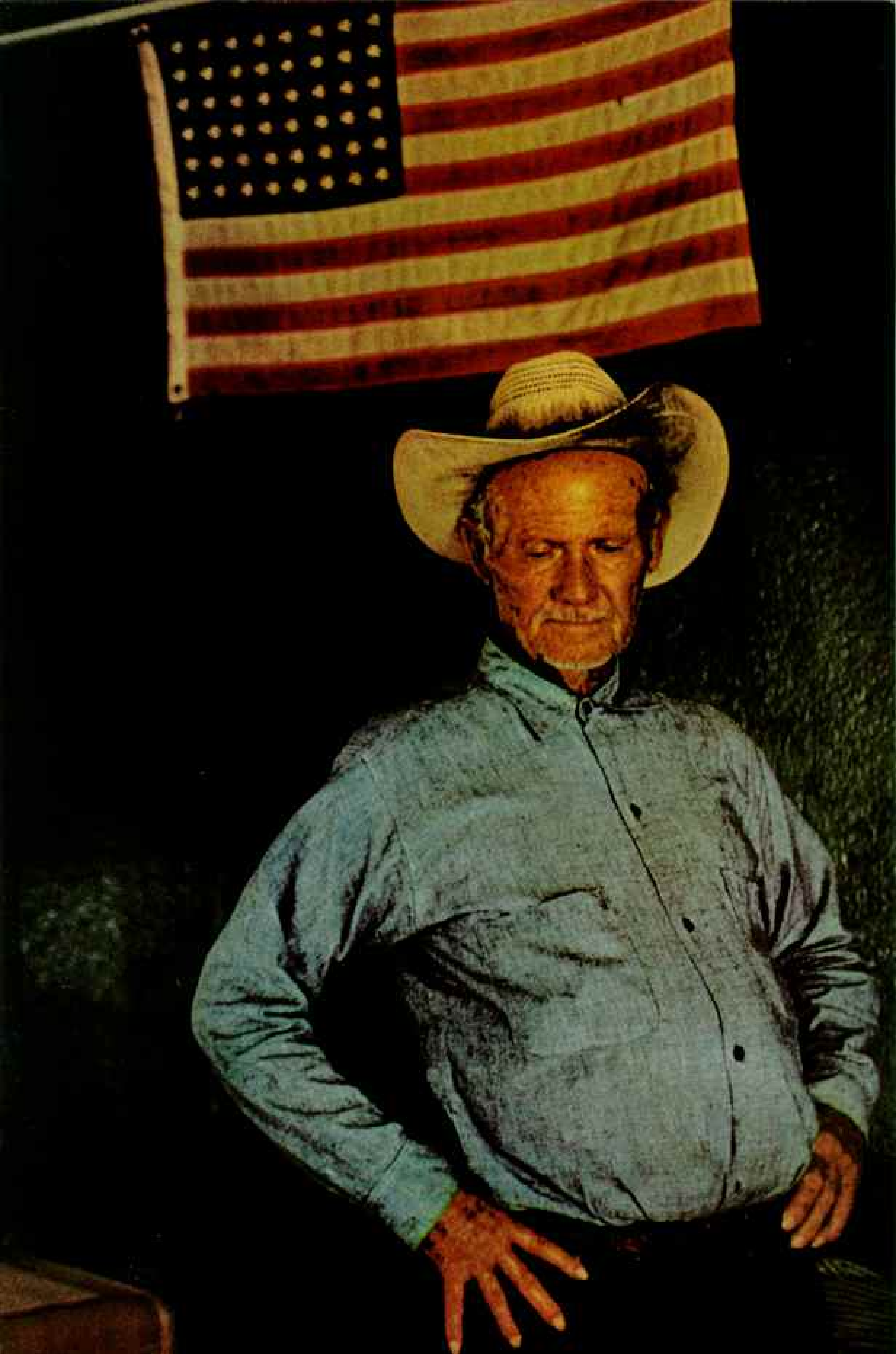
"It's a strong bike," I said, "and it should be a great trip. I still have room on the back if you want a ride."

"Some other time, pardner," he laughed. "I don't think I'm quite ready for that. But good luck—and be careful."

I thanked him and headed east. The inspector may not have known it, but motorcycles and roads that twist and turn are made for each other. Along the back roads I hoped to find interesting people with stories to tell.

Established when the United States was in a spirit

"**Strong people** for a tough land." Thus the author describes border dwellers like Henry Gray (following pages), who has run cattle on Arizona's Sonoran Desert for half a century. Now the disappearance of open rangeland threatens a way of life as firmly rooted to the past as the 48-star flag on his living-room wall. ▶ KODACHROME © N.G.S.



of expansion sometimes called "Manifest Destiny," the basis for today's Mexican border was laid down by the 1848 Treaty of Guadalupe Hidalgo and the 1853 Gadsden Purchase. Together they created a boundary made up of 1,250 miles of the Rio Grande, 23 miles of the Colorado River, and 675 miles of harsh deserts and rugged mountains.

It is a boundary created by conflict that has, in the past, seen bloodshed between the neighbors it separates. It is still marked in places by high fences and steel gates (page 607), but in recent years it has seen great achievements through the joint efforts of people who think of it as merely a river or a fence—not as a barrier.

TIJUANA lies only 15 miles south of downtown San Diego. I first saw it as most tourists do, by taking a stroll down Avenida Revolución. The street presented a vibrant and bawdy image that many first-time visitors carry in their minds as typifying the Mexican border.

The market area of the avenida stretched seven blocks in a barrage of sounds and people. Store after store stood filled with wares varying from stuffed chipmunks to paintings of Christ on purple velvet.

Outside the doorways merchants beckoned, willing to bargain for their wares. There were floppy hats of straw and leather, boots, guitars, pottery, paper flowers, and on and on. Many of the things were cheap and garish souvenirs. But there were also fine handcrafted leather goods, copperware and wrought iron, beautiful silver and gold jewelry, and imported perfumes.

On the side streets, automobile-upholstery

Eye for the unusual led author Allard to out-of-the-way corners on his hopscotch motorcycle journey between two nations. As with the Hutterites (July 1970), he won the confidence of the border's proud people to portray with sensitivity both the dark and bright sides of their lives.

Man-made cobwebs, power lines gleam along a lonely mine road 20 miles south of Tucson. Following such back roads, the author explored a 2,000-mile international boundary drawn in the mid-19th century after the Mexican War; much of it follows the looping Rio Grande. Once bloodied by feuds, Apache raids, and banditry, the border now unites 12 major sets of "sister cities"—more than any other international frontier.

shops advertised one-day service, and there were places to get married—or divorced. Floating through it all were the sounds of *la música*, the brass of strolling mariachis and the electronic harangue of hard-rock guitars from the doorways of 24-hour bars.

It is an avenue of hard sell. I heard a story about a young couple who visited Tijuana a year or so ago and were shopping on Avenida Revolución. They were joined in their stroll by a middle-aged man persistent as only a Tijuana go-getter can be.

"You want to get married?" he asked.

"No," they replied.

"You sure? I can do it in a few minutes."

"No," they said again, more firmly.

"I can marry you very cheap."

"No!" said the lady. "We *are* married!"

"Then you want to get a divorce?"

Besides the bargain hunting and night life of Avenida Revolución, the main tourist attractions in Tijuana are horse races and bullfights.

I stayed in a hotel across the street from the plush Caliente Race Track, and I would sometimes go there at dawn to watch the horses being exercised (page 600). The air was always fresh and moist and, as the horses reached the far turns, their floating shapes often disappeared in a veil of mist. As I stood by the rail, a bay would come by, prancing sideways as horses do when they're fresh and eager. His coat would be sleek and his head down, held in check by a jockey who stood in the stirrups, singing gaily in Spanish.

BACK BY THE STABLES the hot-walkers led white-blanketed horses in circles, cooling them after their workouts, while vigilant stable cats perched on hay bales and the air smelled of liniment and straw. It was a nice way to start the day.

The desert their sandbox, dune-buggy enthusiasts speed over wind-carved drifts near El Centro, California. In country that broke pioneers' hearts, they gaily vault the ridges in squat cars mounted on balloon tires. Flag atop the mast, a warning to other drivers, guards against dune-top collisions.

In few other places, however, did the author see people finding fun in the border wastelands. "It's harsh terrain," he says, "given more to hardship than recreation."

Most people, however, don't go to a track at dawn to see the stable cats or hear the jockeys sing. They go at noon when the sun is high and the horses thunder from the starting gate in a run for the money. Caliente races draw more than a million people a year.

Nearly a quarter of a million spectators visit Tijuana's two bullrings each season. On a bullfight Sunday afternoon I met a matador in a hotel room above the noisy Avenida Revolución. His name was Curro Rivera and he was 18 years old.

A handsome boy, Curro sat on a bed playing solitaire. His *traje de luces*—the traditional "suit of lights" worn by matadors—lay draped over a chair. On the dresser were photographs of his family, a picture of the Virgin Mary, a candle, and a television set that was showing an old Tarzan movie. In a corner stood a hand-carved leather case for his swords.

After he dressed, he lighted the candle and prayed to the Virgin for good bulls. Outside the hotel, as we left for the plaza, children ran to his automobile, reaching inside to touch Curro's brilliant costume, while American tourists scrambled to take his picture.

THE *PLAZA DE TOROS* was filled. In the crowd were lovely American girls in low-cut summer dresses of gay colors, and the more quietly dressed Mexican girls, shy and beautiful.

As I watched the corrida, I thought that regardless of whether one believes bullfights are good things or bad, it is an awesome sight to see a bull charge into the ring—a thousand pounds of speed, agility, and potential death.

Curro had one bad moment, when the horns of his first bull found him and threw his body high above the sand. But he kept

PODACHROME © N.G.S.

Brassy tourist mecca on Mexico's west coast, Tijuana attracts hundreds of thousands of U. S. citizens a year. This roadside display of automobile hubcaps makes its glittering appeal to bargain-minded "gringos"—non-Spanish visitors from the

KODACHROME BY WILLIAM ALBERT ALLARD © N.G.S.

north. But Mexico also offers quality handicrafts: glass figures, silver jewelry, serapes, and leatherware. Mexicans in turn cross the border with money earned from tourists and spend it on such U. S. goods as TV sets, furniture, and groceries.

Explosive energy of Thoroughbreds, like the one held in check by this exerciser, annually draws more than a million fans to Caliente Race Track in Mexico's Baja California. Between races, riders jockey pool balls.

his poise, made the kill cleanly, and was awarded both ears and a tail. As he circled the ring in triumph, his face gleamed with sweat and pride (page 603). The joyous fans threw him their sombreros and wineskins, and women twice his age called his name—"Curro . . . Curro . . . Cuuurrrooo."

CROSSING INTO CALIFORNIA from Tijuana can be an exasperating experience. San Ysidro is the busiest U. S. port of entry on the border. Even with 16 northbound lanes, traffic sometimes backs up far into Tijuana. The main reason for delays in crossing the border here, as well as at other ports, is an increased attempt to combat narcotics and marijuana smuggling. Much of the marijuana comes from remote areas of Mexico's interior and a lot of it funnels toward the California line.

Three men of the U. S. Customs Agency Service talked to me about the fight against marijuana. Special Agents Don Quick and Ted Miller, and Special Agent in Charge Fred Bancook said that Mexico has burned some of the marijuana fields and seized large amounts of recent harvests. The United States has supplied Mexico with light aircraft and helicopters to aid in the search.

"Cooperation from Mexico is better than it ever has been," said Ted Miller. "They are prosecuting suspects who have fled the U. S. side to take refuge in Mexico. Their officers are now willing to testify in our courts, and we are constantly exchanging evidence."

The agents said most of the marijuana smuggled into California goes directly to Los Angeles. From there it diverges. Some may go north, but most goes east to New York. As it travels, so does its price—upward.

"In the harvest area," said Don Quick, "a kilo of marijuana sells for about eight dollars. In the U. S. that same 2.2 pounds may bring as much as three hundred dollars."

Then they sketched for me the severe penalties anyone risks who reaches for these high stakes.

"The big problem," said one of the agents, "is that there's just too much money in the stuff. Mexico's economy is steadily improving, but vast areas are still very poor. So poor that they can be controlled by the marijuana dealers. A local official in one of these areas may earn less than sixty dollars a month and then somebody offers him a thousand just to cooperate with the smuggling operation. It's a pretty tough temptation."

Drugs are not the only problem here. California is also a busy part of the border in terms of illegal aliens. Joseph E. Dupuis, Officer in Charge of Immigration at San Ysidro, told me the port has twenty-five million crossings annually. This includes about half a million vehicles and nearly half a million pedestrians a month. Everybody who crosses must be checked for citizenship.

"The United States restricts the entry of immigrants from Mexico," he said. "By immigrant, I mean a person coming into the U. S. on a permanent basis, with the privilege of getting a job. Many more want to come than are allowed. Visitors, with few exceptions, are forbidden to work on this side.

"Back in 1951 we started a program allowing nonimmigrant field workers to enter in large numbers for seasonal labor. They were called braceros—loosely, 'strong arms.' They were issued permits and allowed to work under contract. A man entering illegally to work without a permit was called a 'wetback,' —meaning, originally, that he waded across the Rio Grande.

"By 1965 the bracero program had ended. But there are still employers who will hire illegal aliens if they can. The alien is often exploited because he's under constant threat of discovery and deportation. A rancher knows that such a man will work extra hard.

"THE MEXICANS are a proud, nationalistic people," Mr. Dupuis continued. "They would prefer to live and work in their own country. But there is a great difference in what a man can earn on this side of the border compared to the other. If and when the advantage of coming across is not as great, the problem of illegal aliens will solve itself. Until then, however, it's keeping the Border Patrol very busy."

Established in 1924 under the Bureau of Immigration, the United States Border Patrol watches over the 6,000 miles of border shared by the United States with Canada and Mexico, as well as 2,200 miles of U. S. coastline on the Gulf of Mexico and along Florida's east coast. It numbers about 1,500 officers, the majority assigned to the Mexican border. Well trained, fluent in Spanish, they rely on four-wheel-drive vehicles, boats, and planes in their search for illegal aliens (page 606).

KODACHROME © N.G.S.

"Grant me good bulls and safekeeping," prays novice Jorge Blando before the fight that brings him the status of matador. He kneels in the ringside chapel at the *plaza de toros* in Tijuana, harboring a special concern: His father's career carried an aura of bad luck after a bullfighter was killed on the day of his debut.

Circling in triumph (right) matador Curro Rivera sails the sombrero of an admiring fan back into the stands. For a quick taste of another culture that lies at their doorstep, U. S. tourists fill many of the seats; nearly a quarter of a million annually "go to the bulls" at Tijuana.

I asked Deputy Chief Patrol Agent Richard E. Batchelor why California has so many illegal border crossings. Now a supervisor in the Chula Vista Sector near San Ysidro, he has been in the patrol for 29 years.

"California's attraction is its large, expanding economy," said Agent Batchelor. "Almost all our apprehensions are Mexican nationals hoping to find work. Wages for field labor are higher here than in Texas, and we have a year-round growing season. Tijuana has a normal population of about 350,000, plus 20,000 'floaters.' Each one of those 20,000 is a potential border crosser.

"Alien smuggling is a million-dollar business and getting bigger every day," he went on. "In the past six months the cost of smuggling an alien into the country has jumped from a hundred and fifty to two hundred dollars. That price includes delivery to a previously agreed-upon point in the interior of California."

IN TIMES PAST, border patrolmen usually worked in remote mountains and desert areas, Agent Batchelor said, but today one of their problems is the use of rapidly expanding urban areas by illegal entrants.

"The urban sprawl has swallowed up many of the remote areas," he explained, "and has made it tough to do what we do best—to 'cut sign' in open country."

That is an important technique for the Border Patrol and, as I would later witness, it is also an art. The following morning Mr. Batchelor arranged for me to go on border patrol with Ab Taylor, Patrol Agent in Charge of the El Cajon Station near San Diego.

"It looks as if we'll get about 500 apprehensions this month alone," Ab said. "That would have been a year's total three or four years ago. It's kind of self-perpetuating. Those who make it encourage their friends and relatives to try."

Ab drove out of El Cajon toward the hills along the border. One of his men reported over the radio that he had just cut some fresh sign in Horsethief Canyon.

"Do you have a make on it?" Ab asked. The patrolman replied that he did. Ab told him to stay with it; we would join him after checking a spot in our area.

Ab explained that a "make" was an identifiable footprint, one that could readily be distinguished from others. The one his man had found in Horsethief Canyon was made by a *botina*, a shoe with a sharply pointed toe,

BRANDY
FELIPE II
RONRICO

common among the younger men in Mexico.

We drove along the fence-embroidered boundaries of small ranches tucked into the hills. The early-morning sun scattered patches of light and shadow across the road. It was the kind of light that is good for me because, although it is brief, while it lives it is soft, touched with gold, and casts the long shadows that bring out the dimensions of a landscape. And it was good light for Ab Taylor because the low, slanting rays bring out the texture of imprints on the earth. This is the best kind of light for tracking a man.

AS WE DROVE, Ab talked about this work, every now and then taking a bit of chewing tobacco from a silver-and-red pouch on the dashboard.

"Nobody can enjoy or be any good at sign cutting until he develops patience. The aliens have a lot of tricks to throw at us. I guess it's their business too, in a way. I've cut sign where a man changed shoes on me three times—carried the others in a sack. We've even had them tie cow's hoofs to their shoes.

"But we're just like a bunch of hunting dogs. We'll chase 'em until we get 'em. I guess there aren't too many people around who do tracking for a living."

On a ranch road at a place called Honey Springs we stopped. Ab said the road was often used by illegal immigrants. We got out and walked up to a steel gate, padlocked but low enough to climb over. There, near its base, was a print defined clearly enough for even my untrained eyes. It was made by a cowboy boot and looked fresh.

"Well," I said, "it looks as though you have something."

"Afraid not, my friend," he replied, pointing his finger. "Look closer."

Beneath his fingertip an almost invisible set of marks, tiny enough to have been made by a pin, and running parallel to each other, crossed the width of the boot print.

"Those are the footprints of a beetle," he said. "And that beetle moves only at night. The man has already put too much ground between us to pick up the trail from here. He'll show up again, though, maybe farther north. That is, if he's wet."

At that point I realized that if the owner of the print was illegal—in border terminology, "wet"—he'd better be moving fast to stay ahead of the likes of Ab Taylor. I was glad not to be in his boots and couldn't help but feel sad that he had to be running in them.

From Honey Springs we headed for Horsethief Canyon, where several other patrolmen had joined in cutting the sign found earlier. It was now determined that a group of four or five aliens were moving out into the Japatul Valley. As we joined the search, a patrol plane flew above us, talking to Ab by radio.

We looked closely in the brush for freshly broken twigs and branches and around rocky places where a careless footstep might leave an upturned stone, its underside showing dark and damp. It all led behind an old barn and into some low hills, thick with grass and stunted trees. I stayed close to Ab as we climbed up through the dense cover. Then Ab stopped.

"Come here, Bill," he said quietly, and began to speak in Spanish, not loud, but firm.

"*Esperen*—Hold up," he said. "*No se muevan*—Don't move."

I could see nothing. Then, from the darkness beneath a scrub oak tree, came a flash of light, the sparkle of sunlight reflecting on bright metal. We moved forward. Lying beneath the tree were five young men, passively watching us approach. One wore a shiny belt buckle that caught the sun. Another wore sharply pointed shoes. They offered no resistance and showed no fear, but seemed to be waiting for instructions.

WE WALKED BACK to the vehicles, where the patrolmen questioned the aliens. The young men knew no English, so the conversation was in Spanish, and it was filled with joking and laughing and it became a very friendly arrest.

They all came from far south, the State of Durango. Escondido, California, had been their goal. They had heard that they could earn a dollar and a quarter an hour picking lemons there. In Durango, they said, wages were a dollar a day—when there was work. The leader of the group was 29 years old, had a wife and five children.

I asked him if he would try again. He looked down at the ground and didn't answer.

"Ab," I said, "tell him that I wish him no harm. Tell him I was just wondering."

This time he looked at me and answered.

"*No, ahora mismo. Pero si Dios me recuerda, yo volveré*—No, not right away. But if God remembers me, I will be back."

We left the men with the other officers,

about fifteen miles from their country and hundreds of miles from their homes. Ab explained what would happen to them.

"They have two choices," he said. "Voluntary departure or a deportation hearing. Almost all of them choose to leave voluntarily. If they take a hearing and are found guilty, it's a felony if they're ever caught again."

Ab told me that if they agree to leave, aliens are taken by bus or plane back to Mexico, as close to their homes as possible. At their expense if they have the money; if not, our Government pays the costs.

"We used to take them only as far as the border and then just tell them to go home. Time and again we'd see some of the same people showing up on this side the next day. One man got caught ten times. If it wasn't so costly to the U. S. taxpayer, it might be funny."

At sunset we came to some hills where the border is only a low cattle fence. We stopped and climbed to a ridge; a hundred yards below us, on the U. S. side, we saw four men running back to the fence. We watched them scramble over into Mexico and head slowly down a dirt road leading to a grove of trees.

"Just a few minutes too early," Ab said. "We almost met each other on the path." He smiled and cupped his hands to his mouth.

"Vénganse. Los esperamos.—Come on over. We're waiting."

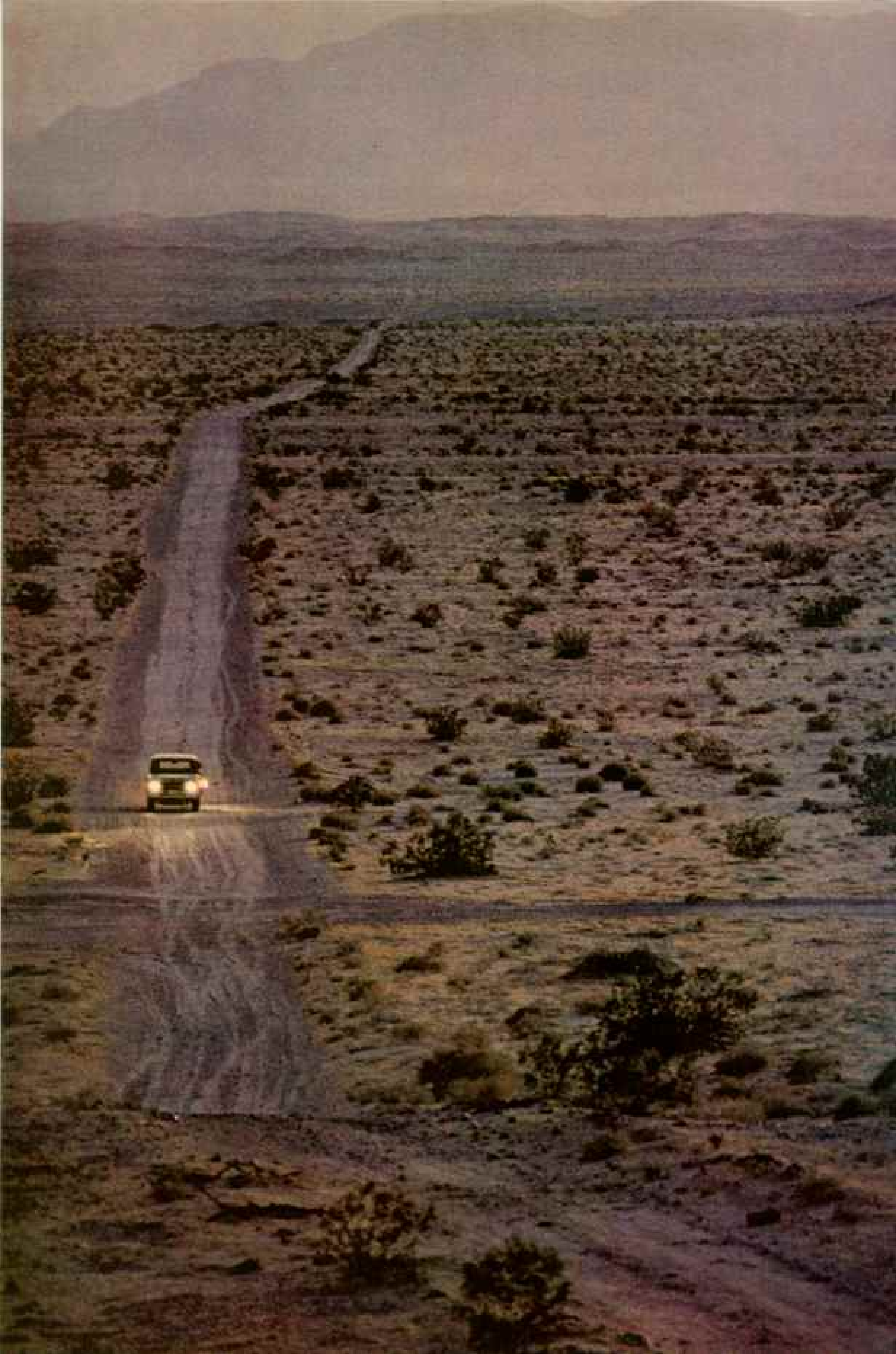
I saw one of the men swing around and call to us. I think he was laughing.

"Sí, amigos, esta noche.—Yes, my friends, tonight."

As dusk arrived, they walked into the trees.

KODACHROME © N.G.S.

Onetime desert blooms with melons in California's Imperial Valley. Waterless wasteland prevailed at mid-19th century when Daniel Webster declared the area "not worth a dollar," and the bones of fallen pack animals lined the trails of gold-seeking forty-niners. A canal from the Colorado River brought irrigation in 1901. Nourished by water, the parched land now smiles with a year-round harvest worth some 250 million dollars.



KODACHROMES BY WILLIAM ALBERT ALLARD © N.G.S.

Wire mesh and open desert challenge anyone who attempts illegal entry into the United States from Mexico. Last year U.S. border officials caught more than 200,000 would-be workers, eager to earn higher wages than they could in their native land. Bused or flown home without penalty, many of the "wetbacks"—named for those who wade the Rio Grande—return to try again.

At dusk near the foothills of California's Laguna Mountains, a border patrolman scouts for crossers. In urban areas, fences help stem the tide. Concertina wire, now rarely used, tops this barrier between San Ysidro and Tijuana.

Until 1965, braceros—Mexican farm hands—entered with little difficulty, but U.S. labor unions argued successfully that hiring them kept wages low and unemployment high north of the border.

THE OPEN ROAD to El Centro was a welcome relief when I left the crowds and heavy traffic of Tijuana and the California suburbs. Within minutes I was out of it all and into the countryside.

In and out of the mountain curves I leaned one way and then the other. Lazy and easy, a slow dance with the road. I simply followed its lead, and it rewarded me with an exhilaration unknown to most travelers. Everything seemed to open up in a burst of freedom where the vision was clear and the smells were sharp. A feeling of being unrestricted, yet a definite and intimate part of all my surroundings. It was like being just a little more alive than usual.

As night fell, I reached the Imperial Valley, slowly cooling itself in the darkness. With most of the valley below sea level, temperatures above 100 degrees F. are common six months a year. And although the annual rainfall averages less than three inches, this 2,900-square-mile region is one of the most productive agricultural areas in the United States, with more than a dozen different crops that gross a million or more dollars a year. But it was not always such a garden.

It was a desert wasteland when the Spanish explorer Juan Bautista de Anza crossed it in 1774. His harsh trail opened the way for settlement of southern California.

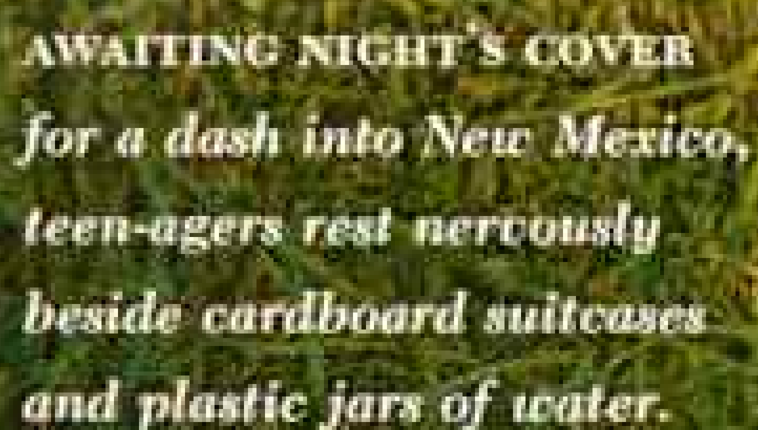
As early as 1850 there were men who claimed the desert could be made productive if water could be brought from the Colorado River, sixty miles to the east. In 1901 the water finally arrived, by way of a canal starting near Yuma, Arizona, and going down into Mexico before returning to irrigate the valley. Not until 1942, after the completion of the All American Canal, was the valley irrigated by water that flowed only within the United States (map, page 594).

Fed by waters released from the Imperial Dam, the main branch of the All American Canal stretches 80 miles and irrigates some 500,000 acres. It is truly the lifeline of the valley and has surpassed even the wildest hopes and dreams of those pioneers who first came looking for new and fertile land.*

I was fortunate to meet one of them. Ninety years old the day I met him, T. B. Shank had arrived from Kansas in 1904.

"I slept in a haystack my first night here,"

*The bounty of the Imperial Valley was featured in "The Revolution in American Agriculture," by Jules B. Billard, NATIONAL GEOGRAPHIC, February 1970; and in "California, the Golden Magnet," by William Graves, GEOGRAPHIC, May 1966.



AWAITING NIGHT'S COVER *for a dash into New Mexico, teen-agers rest nervously beside cardboard suitcases and plastic jars of water.*

"They flattened in the grass when I first saw them," said the author. "Being younger than most crossers, they were very frightened at being found."

KODACHROME BY WILLIAM ALBERT ALLARD © N.G.S.

KODACHROME (ABOVE) AND EKTACHROME © NATIONAL GEOGRAPHIC SOCIETY

Underground wealth in the Mule Mountains spawned Bisbee, Arizona, nearly a century ago. In teams of two, miners still blast and drill copper ore from the subterranean Copper Queen Mine; lunch break here includes a moment of rest on a plank bench more than half a mile down. Overhead, rotary drills, electric shovels, and huge trucks harvest ore from the Lavender Pit, a surface mine.

As fame of its high-grade ore spread, Bisbee reached a peak of 15,000 people in the early 1900's. Today, with about half that many, it sees its copper supply nearing exhaustion. The town, whose houses stairstep the surrounding hills, faces a gloomy future as miners seek opportunity elsewhere.

he said. "The wind blew like hell and sand was everywhere. I decided I didn't want any part of the valley. In the morning I grabbed my suitcase and ran for the train. And don't you know—I missed it. That day the wind didn't blow, and the place looked pretty good, so I stayed.

"The years that followed were tough," he said. "I worked out in the cornfields when it was 127 degrees. We didn't have tractors, of course. Used mules—horses couldn't take the heat. The only thing that kept a man going was that his clothes got so wet from sweat they cooled him a little. We didn't have much of a home. No air conditioning, no ice, and muddy water.

"I guess I never thought then that the valley would ever be what it is today. I saw men just walk away from their land because they didn't think they could make it work."

Watermelons were being harvested while I was there, and I rode out one afternoon to watch field workers pick the crop (page 605). The men were setting ripe melons out to be loaded into trucks at dawn. Another man, wearing a battered and sweat-stained hat, followed along behind, checking their work. He was 75-year-old Ernie Schweinfurt, who had come to the valley in 1916.

"I came from San Antonio," he said. "The name Imperial Valley fascinated me. I went to war in '17 and came back two years later. And I ain't been anywhere else since, except once to bury my daddy under them pretty oak trees in San Antonio. There just isn't another place like the valley."

"Kind of warm though, isn't it?" I said.

"Why, boy!" he said with a trace of impatience, "don't you know that's what makes them melons grow?"

As if to prove his point, he picked one and sliced it in half lengthwise, the juice running down over his callused hands. We spent the next few minutes squatting between the rows, talking about Texas and the valley, and eating watermelon, red and sweet, spitting out the seeds wherever we pleased.

OUTSIDE EL CENTRO the landscape stayed green while there were canals to bring it nourishment. Then I was suddenly out of the garden. The color changed to a flat, endless beige, and near Yuma the highway sliced through massive sand dunes, some crisscrossed with dune-buggy tracks (pages 596-7). With the next wind the tracks would vanish and the dunes would again roll out

smoothly in a landscape attractive to today's traveler, but one that must have been heart-sinking to the pioneer with horse and wagon. The famous scout Kit Carson referred to some of this land as "so desolate, deserted and God-forsaken that a wolf could not make a living on it."

ON A HILL overlooking Yuma, I wandered through some stone ruins. Now preserved in a state park, they were from 1876 to 1909 the maximum security prison for the Arizona Territory.

Violence was an unavoidable part of taming the country. The territory was not a lawless land, but jails were few and inadequate for anything beyond temporary detention. Hemmed in by the Colorado and Gila Rivers and the open desert, Yuma offered a good location for a penitentiary, and in April 1876 the cornerstone was laid.

Although considered by many to be the first public building of distinction in the territory, Yuma prison was called the "Hell Hole" by its inmates. The cells were built of granite and there was little air to cool them when temperatures soared above 100 degrees. Convicts spent long hours in the sun, breaking rock. In winter, nights were bitter. Tuberculosis took a higher toll than executions.

I walked into the remains of the solitary-confinement cell. A dark and airless cave, it was about ten by ten, carved into a hill. Old-timers said no man could spend more than a couple of days in it and come out with his mind intact.

But perhaps the best comment on what the Arizona Territorial Prison was like can be found in an anecdote I read about a Yuma hanging. The prisoner approached the gallows with a smile, and it was on his face when the sheriff slipped the rope over his neck.

"What's so funny?" asked the sheriff. The man turned for one last look at the prison.

"You have to go back up there," he said. "I don't."

Seventy miles south of Yuma the Colorado empties into the Gulf of California. For people living in the Imperial Valley and Yuma, the gulf is the closest ocean beach, and on weekends the highways are filled with campers and dune buggies.

I followed them, and in the little Mexican fishing village of El Golfo I spent the weekend of Marine Day, a Mexican holiday. It was fiesta time and the main street was lined with stands selling food and cold drinks. Three or four bands drifted through the dirt streets, roaming in and out of the cantinas, while Mexican and American families played on the beach.

I had a moment of frustration when a Mexican naval officer insisted I surrender my film because he thought I had photographed his guardhouse on the beach. It is illegal to photograph any military establishment in Mexico. I hadn't, but my meager knowledge of Spanish was not equal to the task of explaining, and he simply motioned to one of his men, who was pointing a submachine gun at me. I had no choice but to give him the film and walk away, discouraged at my inability to communicate. Later, Clem Wilson, a Spanish-speaking Mexican-American friend from the Imperial Valley, came to my rescue and retrieved my film.

That night when the officer got off duty, he and my friend and I rode in a dune buggy to a cantina in the village, our lights falling softly on dust-clouded figures of children walking barefoot in the street. The cantina was filled with people dancing and drinking. In a corner of the room sat a tuba player. Streamers of yellow crepe paper dangled from the ceiling above his head and a picture of the Last Supper hung on the wall beside him. The officer turned out to be a fine fellow, despite our earlier misunderstanding.

Much later that night I lay in my sleeping bag on the beach beneath a clear sky. It was a night when all the stars were within reach and the only sounds came from the soft lapping of water and from the music of the distant cantina where my friends still danced.

A MEXICAN ROAD parallels the border from San Luis, near Yuma, to Sonoita, the Mexican village just below Arizona's Organ Pipe Cactus National Monument. It is 130 miles long; I heard it called "El Camino del Diablo—The Devil's Highway."

When I left Yuma the temperature was 110° F., and it was like riding in an open furnace. The road seemed to quiver in the heat; it cut through vast stretches of rock and cactus, and nowhere was there any sign of life.

It was, as a man had warned me, a lonely road. But it gave me time for thinking about where I'd been and what might lie ahead. And it was the kind of time when lyrics to

KODACHROME © N.G.S.

"I remember best the faces of the border, faces of hope, strength, and sometimes despair," says the author. Apache blood runs in the veins of Juan Yeska, an old-timer of Tombstone, Arizona.

half-forgotten songs return, and you can take your choice of whatever song seems to fit the surroundings and sing it at the top of your voice because there's absolutely no one around to object. I sang my way down that road to Sonoita and up into the Organ Pipe Cactus National Monument.

Practically all the organ-pipe cactus in the United States grows within this preserve. The 516-square-mile area, established as a national monument in 1937, used to be open range. Now all but a couple of ranchers have left, and because cattle are hard on desert forage used by wildlife, the rest may also have to leave.

I rode through the monument staring at the tall, slender cactus stems and looking for one of those ranchers, a man named Henry Gray (page 593). After going about 20 miles on the twisting desert road, I made a foolish mistake. Hearing what sounded like my canteen falling, I turned to look at where I'd strapped it to the motorcycle. It was all right, but when I looked ahead again I was far too deep into a curve. The front wheel spun into the soft sand of the shoulder, and the bike went down as if struck by a cannon.

Bleeding from cuts on my hands and arms, I reached over and switched off the ignition as gasoline trickled down into the sand. I pulled myself out from under the four-hundred-pound machine, grateful that it had fallen on my leg in a good way, without pressure where it would smash bone.

I sat there awhile remembering that a ranger had said not many people traveled that road in early summer and it was sometimes two days before a car passed. Like the sea, I thought, the desert is unforgiving to those who make mistakes, and only if you are lucky can you learn from them. Twenty miles would have been a long way to crawl.

The only damage to the motorcycle was a few scratches and dents, and I continued on

to the Gray ranch. The gate was posted with a no-trespassing sign, so I waited until a man peered cautiously out the door of the trim frame ranch house. I introduced myself, and he invited me in for a drink.

WE SAT IN HIS KITCHEN, and from a butane refrigerator Henry Gray poured glasses of ice-cold well water. Henry said he was 72 years old and had come to Arizona from Pecos, Texas, in 1919. On the kitchen wall were pictures of Richard Nixon as a Senator and Barry Goldwater in his younger days. There was also a tinted picture clipped from a magazine showing a young Jack Dempsey in a fighting stance.

"Ever since I came here with my father and two brothers, we've run cattle on the 330,000 acres of monument desert," he said. "Since the park people came in, we've had permission to graze our cattle. But it seems like they're always putting up more fences. And now they're talking about us having to move out altogether.

"I've been here such a long time," he said, "I'd kind of hate to leave my old home, even though the Government would probably pay me plenty for giving up the place. All I know is cattle. Guess I'd just have to quit ranching.

"I've never lived in town. I go in for supplies about every two weeks or so, but I never seem to do no good there. Sitting around gets the best of me. I don't believe I'd last long in town."

Before we said goodbye, he told me about his plans to get some new teeth.

"I'm gonna get me some store-bought teeth soon as I can. I pulled mine about a year ago; couldn't seem to get in to a dentist. They all came easy except one. And that last one like to have taken my head off!"

As I rode away from the Gray ranch, the desert air was still and heavy with that sweet smell that always seems to come in open

KODACHROME BY WILLIAM ALBERT ALLARD © N.G.S.

Stinging sandstorm batters Palomas, Chihuahua. Perpetual dryness prevails in much of the border region, screened for the most part from moisture-bearing ocean winds.

"I had an over-all impression of brownness," says the author after his four-month trek. Throughout the flat land, mesquite and sagebrush extend most of their woody length underground in search of moisture; rain falls largely in the mountains. "You have to climb for water and dig for wood," groused an early pioneer.

KODACHROMES © N.G.S.

Natural maze of eroded lava, Arizona's Chiricahua Mountains once harbored Apache Indians, fighting back against white injustice. Masters of ambush, they terrorized the border until Geronimo and his band surrendered and were exiled to Florida in 1886.

Landscape atilt as he leans into a curve, the author backtracks a few miles on Mexican Highway 2 near Mexicali. Sun reflecting within the lens of a camera mounted on his motorcycle splashes lavender flares above his head. "I like to wander when I travel," he says. An erratic course from Pacific Coast to Gulf Coast led him nearly 8,000 miles along the 2,000-mile border. Two minor mishaps marred the journey: a bruising spill on a sand road and a chest-thumping collision with a low-flying nighthawk. "The bike gave me a close feeling for the land," says Mr. Allard, "whether I was being buffeted by furnacelike heat or driving through a downpour with lightning dancing around me."

A summer thunderstorm darkens the late-afternoon sky in Arizona's Sonoran Desert (left), studded with the spiny candelabra of saguaro cactus.

country just before a storm. Then the rain came hard, splattering down onto the road, cutting the dust with dark patterns that soon turned solid. And all around me the lightning fell like brilliant, jagged arrows.

I rode on through the rain to the copper-mining town of Ajo, where I pulled into a drive-in and stood, dripping wet, drinking coffee and talking to some disappointed Papago Indian boys who had been rained out of their Little League baseball game.

HEADING FOR NOGALES, I attended a Mass at Queen of the Angels Church, a small mission on the Papago Indian Reservation. The Mass was celebrated in behalf of two young Papago girls who had just graduated from high school and were going on with their education, one to a state teachers college and the other to secretarial school.

The church was filled as the priest came down the aisle, followed by two young Papago altar boys. Just as in any church service, some of the younger children played beneath the pews and some of the older men dozed. Toward the end of the Mass, the priest said a short and special prayer: "Dear Heavenly Father, please give these two girls the wisdom to use their education for their own good, for the good of the state and country, and for the good of the tribe. Amen."

After Mass, Father Edward Schulz, O.F.M., explained some of the meaning behind his special prayer (page 634).

"It used to be that only a few Papago children would finish high school, let alone go on to college. They didn't care about school because their parents never went. Now they want to finish high school and go beyond, and they're going with the idea of using their knowledge not only for their own good, but for the good of the tribe. I'm more encouraged now than I've ever been in 15 years among the Papagos. And it's because of the outlook of the kids. They care."

There are 12 major sets of "sister cities" along the border, separated only by a fence or a river. Although living under different governments, they share common problems. Nogales, Arizona, and its sister Nogales, Sonora, are good examples.

The economic heart of any border city is the wholesale and retail trade it has with its neighbor. Residents of Nogales, Sonora, as well as many living deeper in the interior of Mexico, do much of their shopping on the U. S. side. Not because the prices are lower; they are not.

"The quality of our goods is still superior to theirs," said an American merchant. "They're willing to pay five dollars for a shirt over here because it will outwear a three-dollar shirt from one of their stores. I even have one Mexican customer who buys all his aspirin here. Says it's the only way he can get rid of his headaches.

"On the other hand, we spend a lot of money on their side as tourists."

ONE ORGANIZED ATTEMPT to improve economic conditions of both sides is the Border Cities Association, made up of businessmen from all the sister cities. Its president, Arthur Doan, who is also mayor of Nogales, Arizona, told me about the "twin" industries that flourish along the border.

"These are American-based factories in Mexican border cities with matching plants in American cities. Most of them are manufacturers requiring a great deal of hand labor. The parts are assembled on the Mexican side and then packaged and shipped from the American side.

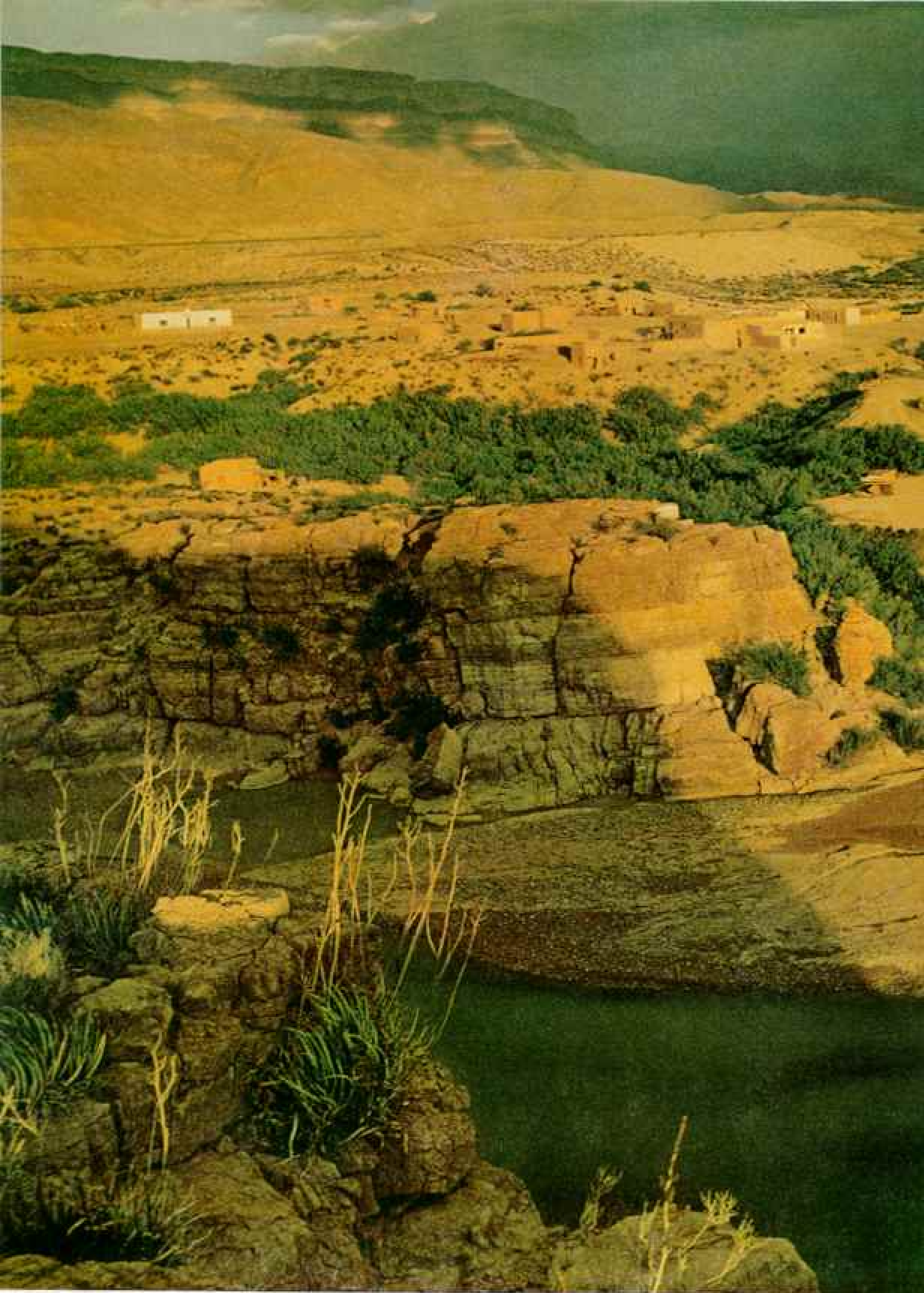
"We have 21 twin plants here in Nogales," Mayor Doan went on. "That means 21 plants in each city. They have provided 3,600 jobs on the Mexican side and about 1,200 here."

The trend toward twin plants has met with some criticism from U. S. labor leaders, who point out that only a minority of the U. S. "twins" are actually located in cities on the border. Some have likened it to the abandoned bracero program, implying that industry is simply exploiting the cheap labor available south of the border at the expense of employment at home.

Near Arizona's Dragoon Mountains in 1877 an eager young prospector named Ed

Screen-door madonna: Bellina Norris looks out from her home near Tucson, Arizona. A junior at St. John's Indian School outside Phoenix, the pretty Papago girl impressed the author with her quiet strength. A tornado in 1964 killed her mother and crippled her father; 16-year-old Bellina now works summers to help support seven brothers and sisters. Papagos, most of them cattlemen, number about 6,000 on three Arizona reservations.

KODACHROME © N.G.S.



South of the Rio Grande, a storm brews in the Sierra del Carmen behind sun-baked Boquillas.

KODACHROME BY NATIONAL GEOGRAPHIC PHOTOGRAPHER JAMES L. STANFIELD © N.G.S.

The U. S. Postal Service handles mail for the remote Mexican village at the river's Big Bend.

Schieffelin found silver and staked a claim. He named the place Tombstone; it became known as "the town too tough to die."

As I rode toward Tombstone, I couldn't help feeling excited. Its names were all familiar to me from books I had read as a child: Wyatt Earp and his brothers Virgil and Morgan, Ike and Billy Clanton, Frank and Tom McLaury, Billy Claiborne, and the dentist-turned-gunfighter, "Doc" Holliday. Their meeting on October 26, 1881, at the OK Corral, where both McLaurys and Billy Clanton were to die, became perhaps the most famous gun battle in the history of the American frontier.

From a wide-open mining town with a population of 8,000, Tombstone has shrunk to a quiet community of 1,200 residents largely dependent on the tourist trade.*

Wayne Winters, editor of the *Tombstone Epitaph*, told me about the old days. By 1886 some forty million dollars' worth of gold and silver had been taken out of the mines. Then a disastrous fire destroyed the main pump house, and ground water flooded one of the biggest producers, putting an end to mining on a large scale. A year later the town suffered an earthquake. Gradually the people left, their good luck turned to bad.

"We're trying to restore Tombstone to the way it looked in the boom days," Mr. Winters said. "We'd like to get all the utility wires underground and have boardwalks all the way down Allen Street. We have some gas lamps now, and we'd like to have more. After all, there are a lot of Western tourist towns, but none has a more valid or dramatic history than Tombstone."

After leaving Mr. Winters's office, I went down to the OK Corral. Larger-than-life papier-mâché figures stood where the fight is supposed to have started. But the figures had been vandalized, and served only to

*Life in this famed Old West town was described by Mason Sutherland in "From Tucson to Tombstone," NATIONAL GEOGRAPHIC, September 1953.

KODACHROMES BY WILLIAM ALBERT ALLARD © N.G.S.

Lost Indians rediscovered: Tiguas like this young girl in El Paso, Texas, dropped from history's view for more than a century. Massacred by conquistadors, harassed by Apaches, Tiguas of the Isleta pueblo, near Albuquerque, were relocated in what is now El Paso by the Spanish in 1681. As the city grew around them, they blended into the population and were assumed to be Mexican. Recognized again only four years ago, the 350 remaining El Paso Tiguas seek compensation for 36 square miles of the city which they say were given them by an 18th-century Spanish grant.

Siesta time clears the sandy streets of Santa Cruz, eight miles inside Mexico. "I felt like a character in a Pancho Villa movie when I entered the town," says the author. "I knew unseen eyes were watching me." Raids by Mexican bandit-revolutionist Villa alarmed border residents half a century ago. Today, lack of jobs concerns their successors. Far from markets in both nations, such isolated communities suffer economic stagnation. Increased tourism offers hope for both sides.

shatter my boyhood fantasies: The Earp brothers and Holliday stood stripped of their weapons and missing most of their fingers. The figures, I hear, have now been replaced by new ones made of fiberglass.

Allen Street, dubbed "Whiskey Row" by Mr. Winters, has eight saloons within two blocks. At the well-restored Crystal Palace, I had a mug of beer while a nickelodeon played "I Wonder Who's Kissing Her Now"; then I walked across to the old Oriental where "Buckskin Frank" Leslie used to tend bar. Leslie, who spent ten years in the Yuma "Hell Hole," was said to be "a good shot, mean when drunk, fond of women and a born liar."

In an Allen Street saloon a few months after the big fight, Morgan Earp was shot dead while playing pool. A grocery store occupies the site now. When I walked by they were having a sale on strawberry cheesecake.

FROM THE MINING TOWNS of Arizona I headed for New Mexico and Texas. Nine miles short of the New Mexico state line, I parked the bike by a stone monument commemorating the surrender nearby of the Apache Goyathlay—the "one who yawns." In 1886 Goyathlay, called Geronimo by the Mexicans, gave up his handful of warriors to Brig. Gen. Nelson A. Miles after a year-long

Swapping sides at day's end, U.S. tourists and Mexican shoppers stream in opposite directions across the international bridge that links Laredo, Texas, and Nuevo Laredo, Tamaulipas. A part of the Pan American Highway, the bridge channels more tourists to Mexico City than any other port of entry. A daily average of 36,000 visitors cross here; overhead counters flash toll information to bridge officials in nearby offices.

Before northbound tourists reach U.S. customs, signs remind them of tough penalties for bringing drugs into the United States. In a last-minute change of heart, some travelers dump contraband in the mailboxes below the signs.

KODACHROMES © NATIONAL GEOGRAPHIC SOCIETY

chase along the U.S.-Mexico border. After the surrender, Geronimo and his band were sent to a prison camp in Florida.

I sat by the monument awhile. The road didn't carry much traffic, and in the stillness of the lazy summer day you could pick out the sound of a fly. Recent rains had watered the earth, and the road was lined with yellow-flowered mustard weeds. To the northwest the Chiricahua Mountains sat under a deep-blue sky marked only by scattered clouds.

While in Tombstone, I'd taken a ride into those mountains. I'd met another motorcycle rider who was going west to Las Vegas. He had been an illustrator for NASA at Houston, but the space business had slowed down, so he was going to Las Vegas to paint go-go girls with cartoon characters that would become animated when the girls danced under black light. He was an interesting fellow, and we rode out to the Chiricahuas together.

I could remember now how the strange, slender, time-eroded rock formations had loomed up, and what a natural fortress they must have been for Apaches. I could remember how the mountains looked almost like grave markers in the light of dusk (page 616).

Now as I sat where it had all ended, within view of a closed-up gas station, I wondered if those mountains had looked as beautiful

Smuggling suspect, manacled amid 625 pounds of marijuana, stands by as customs officers search his car for additional evidence. Agents accused him of wading the Rio Grande in an isolated area near El Paso, dumping the contraband on the U. S. side, then driving the long way round to pick it up.

The bulk of the marijuana sold in the U. S. comes from Mexico, where profits from smuggling have tempted poverty-stricken farmers. Drug arrests have increased 30 percent since a stepped-up program of

KODACHROME BY WILLIAM ALBERT ALLARD © N.G.S.

surveillance began in September 1969. The United States and Mexico cooperate in the campaign; the U.S. Government donated three light aircraft and five helicopters to help Mexican officials locate illegal opium poppy and marijuana crops in remote fields.

KODACHROME (ABOVE) AND EKTACHROME © N.G.S.

Pint-size peddler hawks newspapers at an intersection in Tijuana. Sign directs tourists to the Avenida Revolución's seven-block emporium, where seasoned vendors tout everything from dentures to tamales.

to the Apaches as they did to me, and if the Indians had thought about them often from their exile in far-off Florida.

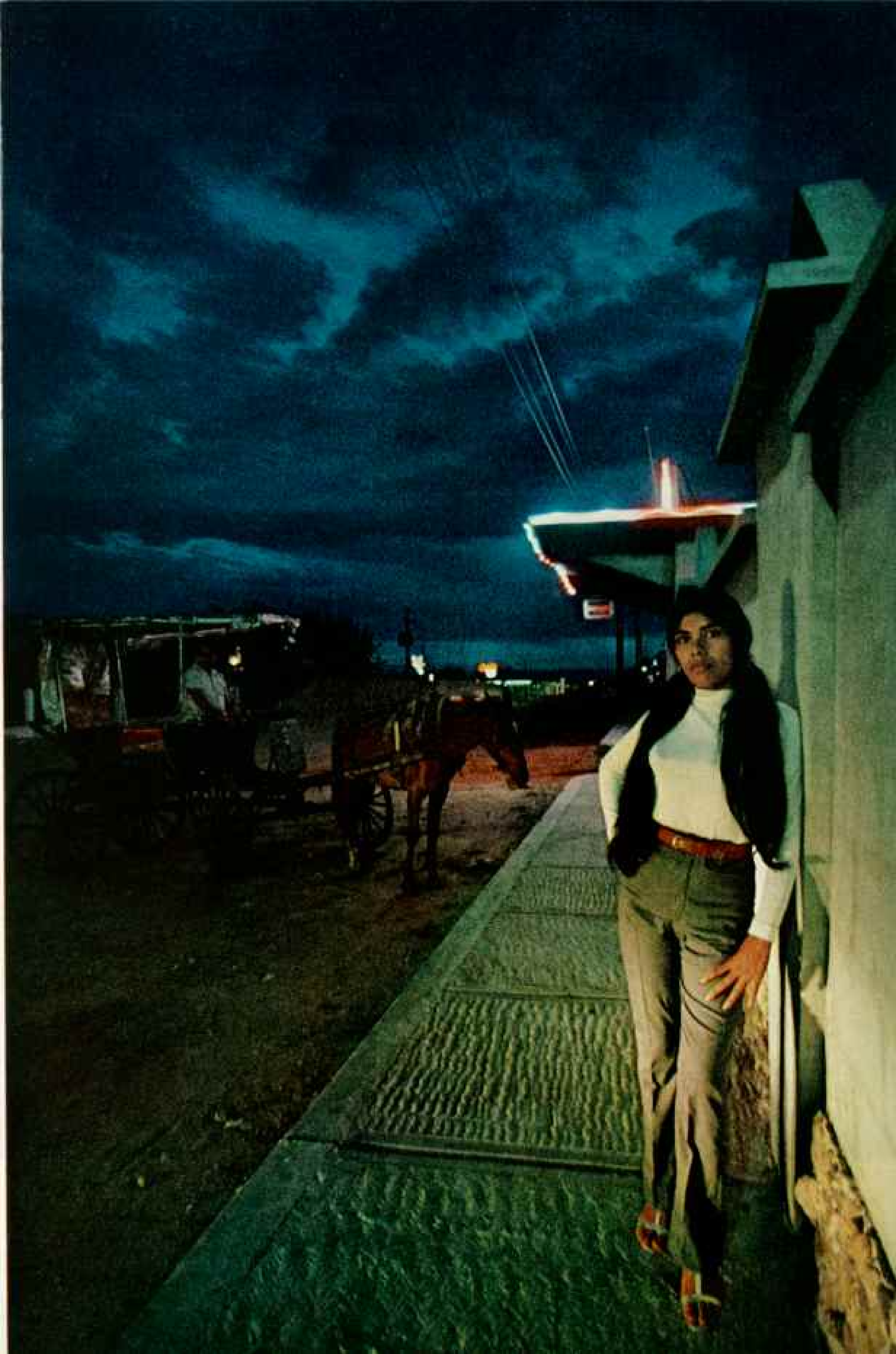
In a vast and open stretch of New Mexico, I met a train to match the country. Two hundred cars long, it snaked out for what seemed to be forever, seven steel-gray diesel engines at its head. As we ran side by side through the border country that railroads helped to break and build, it was carrying the wealth of the Nation on its back. There were automobiles and trucks stacked on flatcars, rows of powerboats, chemical tank cars—a bit of everything. I thought it should have had trumpets announcing its arrival, or at least some harmonica music.

Three miles from the Mexican border I passed through the historic town of Columbus, New Mexico, which Pancho Villa raided in 1916 during the Mexican Revolution. Then, as now, there were fewer than a thousand people living in the town. Villa's raid left 17 Americans dead and created a furor that caused President Woodrow Wilson to order Brig. Gen. John J. Pershing and 15,000 troops into Mexico on a futile one-year pursuit of the elusive Villa.

AMONG THE LARGEST sister cities on the border, El Paso, Texas, and Ciudad Juárez, Chihuahua, form a metropolitan complex of nearly a million people. The international boundary between them was changed in 1963 with the signing of the Chamizal Treaty. The meaning of this agreement was explained to me in El Paso by Joseph F. Friedkin, U. S. representative on the International Boundary and Water Commission.

"About a century ago the Rio Grande, which had been established in 1848 as the border, began to change its course in a southerly direction," said Mr. Friedkin. "In 1884 a treaty was signed which specified that the river would continue to be the boundary even if it changed course—provided the river's change was due to slow and gradual erosion. If it was due to any other type of change, the

Night life is big business south of the border, attracting girls from Mexico's interior to seek their fortunes as entertainers in the cantina trade. "With darkness, U. S. border towns grow quiet," says the author. "The Mexican side comes alive with neon lights, scurrying taxis, and even horse-drawn cabs."



old river bed would still be the border."

For years the two countries were unable to agree on the cause of the river's meanderings. Then, in 1963, in a settlement considered mutually beneficial, 630 acres along the disputed border were returned to Mexico, while the U. S. received 193 acres. To re-establish the Rio Grande as the boundary, the two countries shared the cost of relocating and concrete-lining the river for 4.3 miles.

Mr. Friedkin, who has seen all the border by plane, jeep, and horseback, talked about the many joint projects that have helped establish good relations between Mexico and the United States and between the cities that line their borders. As outstanding examples he cited Falcon and Amistad Dams.

"You'll see them as you head down into the Rio Grande Valley," he said. "Both countries shared in the construction of those dams. In just the first year of its operation, Falcon Dam—70 miles south of Laredo, Texas—paid for itself by preventing flood damage. Since then it has provided a steady supply of water for municipal purposes, as well as irrigating more than a million acres in both countries.

"Amistad Dam was completed in 1969," he continued. "The name means 'friendship.' Its reservoir will extend 86 miles upstream and will store more than 5.5 million acre-feet of water, nearly a million and a half more than Falcon Dam. The public use of both reservoirs is free to both countries. The National Park Service will eventually establish ten recreational facilities on the U. S. side of Amistad Reservoir. It's expected to receive two million visitors annually."

Down the Rio Grande out of El Paso

Shrimp capital of the world: Trawlers, part of a fleet of 500, raise a forest of outriggers at Port Isabel, Texas, across the bay from an evening angler. The adjacent harbors of Port Isabel and Brownsville also form an ocean gateway for the land wealth pouring into the twin cities of Brownsville-Matamoros. Cash crops from the fertile Lower Rio Grande Valley and petroleum and metal ores from northern Mexico pass

toward Big Bend National Park, the country was big and empty, with very little between gas stops. Under a clear sky I could see the Chisos Mountains a long way off. Big Bend—a national park since 1944—embraces 1,100 square miles of spectacular canyons, lofty mountains, and desert. The park is bordered on the south by 107 miles of the Rio Grande as the river makes a U-turn on its way to the Gulf of Mexico.

Once an area of marshes and tropical forest where dinosaurs roamed, Big Bend is now the habitat of mountain lions, mule deer, peccaries, and pronghorn, together with some 300 species of birds.*

Great herds of cattle were brought into Big Bend in the early 1880's, when ranchers found that the best grass in west Texas lay in the country around Alpine. It still does. Big Bend remains one of the state's most productive cattle areas. This is true in spite of occasional drought, when—as Texas author Virginia Madison wrote—"the grass gets short [and] the whole face of the region is lined with worry."

In Big Bend I met a retired civil engineer from Michigan. We had a beer, and, as we talked, we watched a hawk sail high above us along the face of the mountains. It glided seemingly without effort, wings outstretched, feathers spread at their tips like fingers on a hand. Every now and then it would catch a gust of wind and suddenly tilt, like a high-wire artist catching his balance.

"Wouldn't it be wonderful if we could all be like that hawk for a day," the engineer

*Nathaniel T. Kenney's "Big Bend: Jewel in the Texas Desert" appeared in the January 1968 GEOGRAPHIC.

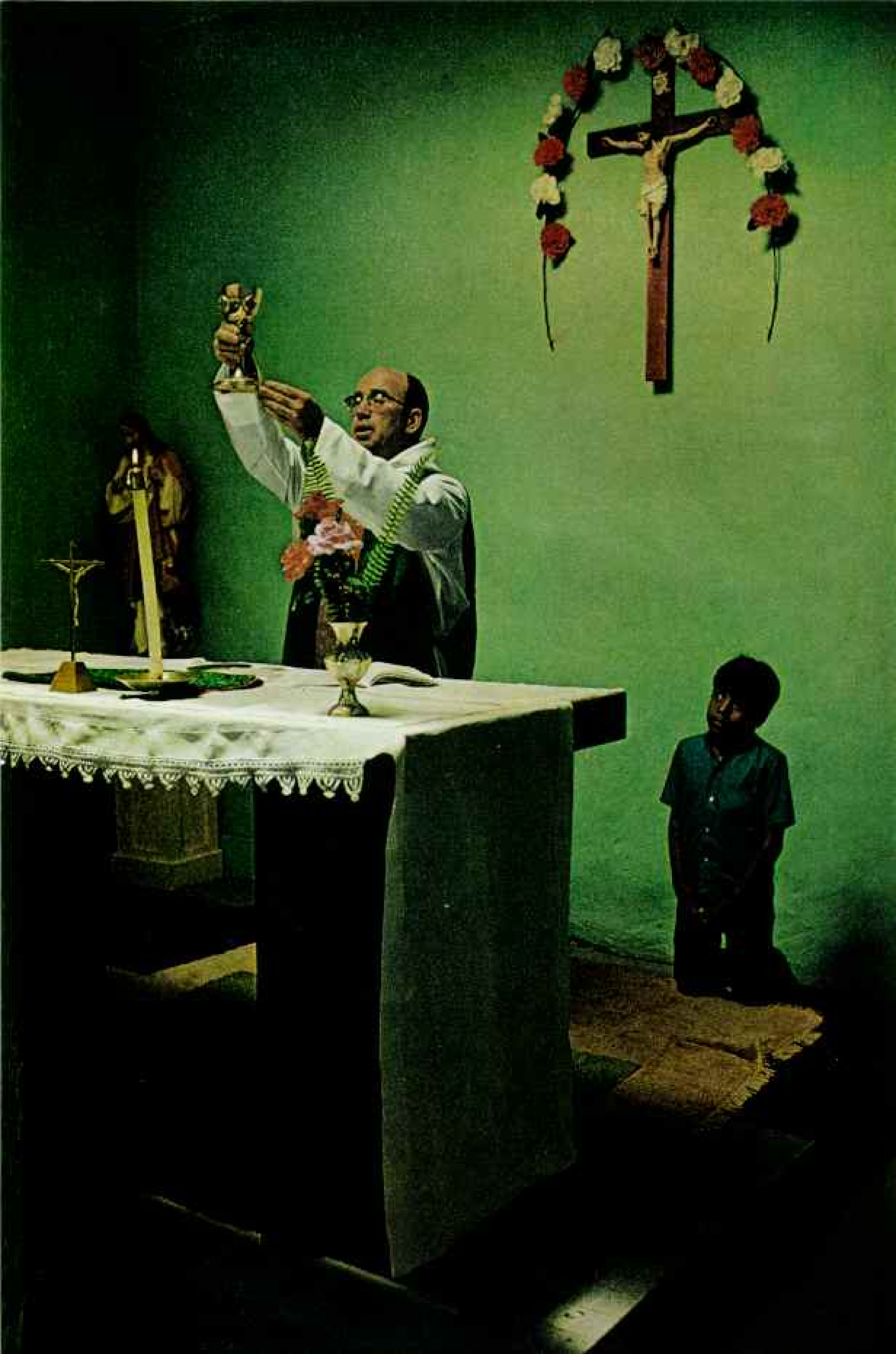
KODACHROME © N.G.S.

through here on their way to world markets. So strong runs the economic bond between the two cities that the Mexicans coined the slogan in the booming 1950's, "What makes Brownsville makes Matamoros."

Cowboy's lament follows a flight into the muck. Steady rain and cold wind turned the arena at Alpine, Texas, into an icy lake when Sul Ross State University held an intercollegiate rodeo there. Many of today's professional cowboys started their careers in college rodeos.

Cattlemen of the 19th century imitated the style and much of the language of Spanish ranchers who first grazed herds along the Rio Grande. From those early vaqueros came spangled leg-protecting chaps, words such as "lariat," "corral," "pinto," and "rodeo," and eventually the entire flavor of the American cowboy West.

EKTACHROMES BY WILLIAM ALBERT ALLARD © N.G.S.



said. "With its vision and ability to go above everything. Not so high that it all looks the same. Just high enough to see all that we have and what we've done with it."

MY LONG RIDE came to an end in a place called the "Magic Valley." Semitropical in climate, with palm trees taking the place of the cactus I had become so accustomed to, the Lower Rio Grande Valley is rich in history, industry, and agriculture.

The first battles of the war with Mexico and the last battle of the Civil War were fought near Brownsville. On May 13, 1865, not knowing of Gen. Robert E. Lee's surrender a month earlier, Confederate forces routed Union troops in the Battle of Palmito Ranch —only to find that the war was over.

Besides attracting thousands of tourists to its beaches, the Brownsville-Port Isabel area is the shrimp capital of the world, with a fleet of 500 trawlers.* And the first true American breed of cattle, the Santa Gertrudis, was developed on the huge King Ranch that lies just north of the valley.†

But the Lower Rio Grande Valley is best known for its farm production, with cotton, vegetables, and citrus among its top crops. Its Ruby Red grapefruit is especially famous. Yet, according to Joe Rawls, manager of the Edinburg Citrus Association, the valley is not a valley.

"It's really a delta that slopes away from the river," he said. "This is important, because it permits gravity-flow irrigation."

"Granting that it isn't a valley," I asked Mr. Rawls, "why is it called 'magic'?"

"I guess because the ground is so fertile," he said. "But I can give you another opinion. I've never seen country that can be so rich one day and so busted the next. One good freeze or hurricane can almost wipe it out, but it always snaps back as if by magic."

Dwayne Bair, a 37-year-old farmer, told me about the frustrations of the small, independent operator in the valley.

"A man just can't put all his eggs in one basket down here," he said. "The most consistent thing here is the inconsistency of the weather. We'd rather get a hurricane than a freeze because at least a hurricane will leave water in the dams. A freeze just leaves dead fruit. I grow mostly grain, cotton, and vegetables now. I lost all my fruit in the big freeze of '62 and had to bulldoze my trees.

"A Mexican who used to work for me offered to lend me four thousand dollars to get started again. Can you imagine that? He had worked for me as a laborer and now was offering everything he had to help me stay alive. Maybe that tells you something about the way we get along down here.

"I didn't take it, of course. I don't think he realized how much more than that it would take. Most people don't. They only know how much the grapefruit costs in the store.

"I'm an optimist," he added. "Otherwise I couldn't be a farmer. But I just don't see a farming future in the valley for my kids. We had a hurricane scare last year, and one of my boys was watching me pace the floor, waiting it out.

"'Daddy,' he said to me, 'I don't think I want to be a farmer.' I asked him why. 'Because you get too upset,' he answered."

AS I LOADED MY BIKE for the long trip to Washington, D.C., I was sorry, but didn't really know why. Early in the journey someone had told me that the border is "just a series of wide places in the road." A lot of it is. And there is a lot of country elsewhere that is prettier and less lonely.

Yet I keep remembering things. The dusty streets of a village at fiesta time and listening to the sounds of the mariachis. A stop for lunch in an old mining town where the trains don't run anymore, and playing the jukebox that sits glowing in the only cafe. Talking to people who are still developing the often harsh and demanding land their fathers came to years ago. Or seeing the monuments those "wide places in the road" have built from concrete and steel to hold the rivers and to water the gardens of the desert.

They are things, some of them at least, that are not easily forgotten. □

*For an account of the Gulf shrimp industry see Clarence P. Idyll's "Shrimpers Strike Gold in the Gulf," NATIONAL GEOGRAPHIC, May 1957.

†"America's 'Meat on the Hoof,'" by William H. Nicholas, told the story of this famous breed in the January 1952 NATIONAL GEOGRAPHIC.

Giving thanks for the promise of change, Father Edward Schulz offers a special Mass for two Papago Indian high-school graduates who plan to continue their education. College and trade-school enrollments from the Papago Indian Reservation this year are expected to be more than ten times 1968's total. The Indians, like other border people, see a brighter future in store for their youth.

KODACHROME © N.G.S.

Russia's Window on the West

LENINGRAD

By HOWARD LA FAY
FOREIGN EDITORIAL STAFF

PHOTOGRAPHS BY
DICK DURRANCE II
NATIONAL GEOGRAPHIC PHOTOGRAPHER

HE WAS A MAN in robust old age with a slow, shy smile—in his own words, "a member of the working class." I'd met him in a park beside Leningrad's Stachek Prospekt, and we were exchanging small talk. The skimmed sunlight of autumn bathed benches and trees in a wan, misty wash.

"You know," he said, "for years I thought your country was making a very silly propaganda. I used to see pictures of American workers wearing coats and ties just like the gentry. It seemed ridiculous. The only clothes any of us Russians could afford—or obtain, for that matter—were coarse and ugly. Few members of my union had ever owned a suit.

"But look at me now!" he smiled, fingering his shirt collar. "A Russian worker—retired, to be sure—but wearing a coat and tie. I tell you, Comrade American, we've come a long way."

In Leningrad, the capital of the tsars and the cradle of Communism, I had ample opportunity to view the fruits of the Bolshevik Revolution of October 1917. The Soviet system, born in Leningrad, not only brings neckties to the masses and probes the planets with majestic rockets, but also has lifted the U.S.S.R.—exhausted and impotent at the time of that revolution—to the status of a superpower. At the same time, it has produced a burdensome bureaucracy along with vexing shortages of consumer goods and housing. It has also perpetuated such civil abuses born in the tsarist past as state censorship and strict limitations on personal liberty.

LENINGRAD SPREADS over the Neva River delta at the point where the disintegrating stream flows into the Gulf of Finland (maps, pages 642-3). Standing at latitude 60°, and with a population of 3,798,000, it ranks as the world's northernmost metropolis.

When Tsar Peter the Great founded it in 1703 as a window on the West, he gave it the Germanic name Sankt Pieter Burkh—St. Petersburg. During World War I this was Russianized to Petrograd, or "City of Peter." In 1924 the Soviet Government changed it yet again, to honor the father of Bolshevism, Vladimir Ilyich Lenin.

By any name, the city ranks as one of

Mammoth billboard, towering 100 feet above Leningrad's Palace Square, honors Lenin, the founder of Russian Communism, on the centennial of his birth. The ferment that toppled tsarist rule and ended the city's 206-year reign as capital of the old Russian Empire came to a head here in 1917. Spreading from this "cradle of the revolution," Communism today holds sway over a third of the world's peoples. KODACHROME © N.G.S.

ХУДОЖЕСТВЕННЫЙ

the world's showplaces. Italian architects designed pastel palaces and public buildings that, in the pearly northern light, strike the eye with an almost eerie beauty. Canals and rivers intersect the streets. Graceful bridges —nearly 600 of them—arch across the waterways. From the low skyline—by law only church spires could rise above the 92-foot height of the tsar's Winter Palace—the domes and steeples of the numerous cathedrals crown the city with golden elegance.

IN THE EIGHTEENTH CENTURY, Voltaire reported that "the united magnificence of all the cities of Europe could but equal St. Petersburg." In the 19th, Alexander Pushkin, Russia's premier poet, wrote:

> *I love you, Peter's great creation,*
> *Your stately aspect, perfect ranks,*
> *The Neva River's undulation,*
> *The granite vestments of its banks.*

Far more than even Moscow, Leningrad qualifies as the chief repository of imperial Russian grandeur and the matrix of modern Russian culture. Here Dostoevsky—God-haunted and dissolute—dodged his creditors while desperately penning classics to discharge his debts. Mendeleev worked out the periodic table of the elements; Pavlov revolutionized psychology with his bells and salivating dogs. Here Tchaikovsky fashioned soaring melodies; Rimsky-Korsakov, the sometime naval officer, crafted glittering operas and symphonic poems; and a roistering ex-hussar, Modeste Mussorgsky, wrote some of the most profound music of the age.

Here, too, on an October day in 1917, a small, bald revolutionary named V. I. Lenin sparked an uprising that transformed Holy Russia into the Union of Soviet Socialist Republics, gave the world its first Communist Government, and set off a series of global repercussions that echo still.

Pulse of Leningrad life beats fastest along Nevsky Prospekt, main artery and commercial center of the city. The golden-spired Admiralty building, two miles away, marks the beginning of the broad old thoroughfare, here festooned with slogan-bearing strings of lights. A revolving glass sphere tops the building erected by the Singer Sewing Machine Company in 1902. The city, christened St. Petersburg by founder Peter the Great, was given its present name in 1924, only five days after Lenin's death.

KODACHROME BY DICK DURRANCE II © N.G.S.

The best way to arrive in Peter's old capital is via the luxurious overnight train from Moscow, the *Krasnaya Strela*, or *Red Arrow*. As the locomotive eases into the Moskovsky Voksal—the Moscow Station—you are introduced to Leningrad's delightful chauvinism; the public-address system comes alive with the municipal anthem, Glière's "Hymn to the City." My traveling companion, a Muscovite, shrugged in resignation. "That music!" he exclaimed. "Whenever I come here I can't get it out of my head for weeks afterward."

The taxi driver who transported me to my hotel also introduced me to the renowned dry wit of Leningraders. Trying out my uncertain Russian, I said, "It's raining."

"It's Leningrad," he answered laconically.

Like Londoners, Leningraders take a perverse pride in their abominable climate. On one of the few bright days of my stay, I commented on the fine weather to yet another Leningrader. He answered prophetically, "You won't really appreciate how fine it is until tomorrow."

IN TRUTH, PETER THE GREAT could not have chosen a more unlikely setting for a capital. But with the autocratic disregard for impediments that so often characterized Russia's rulers, he decided to erect it on bleak swampland. No matter that the region was bereft of building stone. The tsar levied a special tax: Every cart entering the town had to deposit several large rocks at the gates; barges paid a landing fee of some 20 boulders. And wealthy noblemen had to build palaces—or else.

The site intrigued Peter because it afforded Russia access to the Baltic Sea and, through it, to the technology, commerce, and culture of the West. For the tsar—who had traveled widely in Europe and even worked in a Dutch shipyard as a common laborer—had determined to Westernize his country, so long embalmed in the feudal past.

I commenced my study of Leningrad where Peter had commenced his city—at the Petropavlovskaya Krepost, the Peter and Paul Fortress. From an island hugging the bank of the Neva, the walls of the fortress—sixty feet thick—glower across the water (map, page 643). But Peter and Paul is saved from grimness by the steeple of the cathedral in its center; it looms thin and gold and graceful above the bastions and ravelins, a spire of faith yearning toward heaven.

As the city of Petersburg grew, the fortress lost its strategic value and the tsar converted it into a jail for political prisoners. Ironically, one of its first occupants was Peter's own son Alexei, who had fallen out with his father. Tortured repeatedly, the unhappy prince died in a casemate.

A Swiss-Italian architect, Domenico Trezzini, built the Peter and Paul Cathedral between 1714 and 1733. It was the first church in Petersburg and, for a time, the tallest structure in the Russian Empire. Except for Peter II, all the tsars from Peter the Great to Alexander III—together with members of the royal families—lie entombed in the sanctuary.

Here, in somber sepulchers of marble and jasper, sleep the tsars and grand dukes and duchesses. From the walls droop trophies seized from Russia's foes, faded regimental flags that crumble quietly in the silence. Crystal chandeliers gleam, and the gold leaf of the great iconostasis before the altar reflects the light in small shifting sunbursts. And, each day, excursioning workers from distant farms and villages make their reverent rounds, marveling at the splendor of this imperial cathedral, at the burnished sarcophaguses of the dead despots.

With a peculiarly royal spite, Peter caused his rebellious son Alexei to be buried beneath a stairway at the rear of the church. The tsar reasoned that, since the bell ringer mounted the steps each day, this would subject the prince's grave to the daily and eternal disgrace of being trodden by plebeian feet.

Virtually the entire social and commercial life of Leningrad focuses on the majestic main thoroughfare, Nevsky Prospekt—Neva Avenue. Poet Alexander Blok called it "the most lyric street . . . in the world." It runs from the Admiralty, with its stiletto-slim spire of gold (preceding pages), to the great complex of the Alexander Nevsky Monastery. Through most of its nearly three-mile length, shops, restaurants, and cafes line the sidewalks.

(Continued on page 647)

Expert at saving soles, a female cobbler repairs a sailor's boot in one of the many sidewalk stalls in downtown Leningrad. Window lettering advertises cleats for shoes. Most Russian women work, often at jobs that in the Western World would be filled by men.

KODACHROME © N.G.S.

ПОДКОВОК

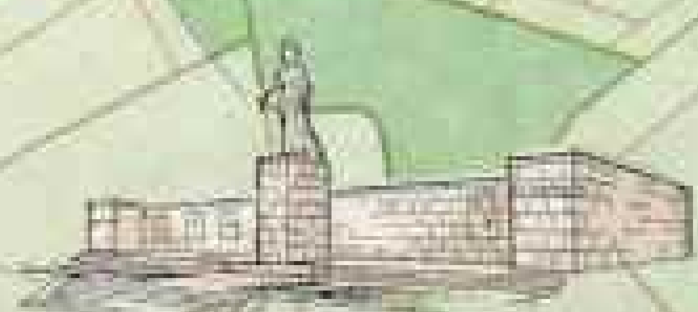
LENINGRAD

VENICE OF THE NORTH, Leningrad spills across the banks and islets of the Neva River delta on the Gulf of Finland, an arm of the Baltic Sea. Nearly 600 bridges lace the city together.

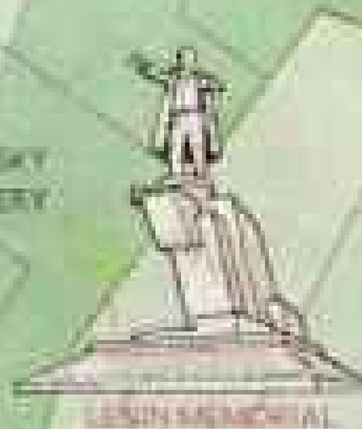
Built on marshy land wrenched from Sweden in the Great Northern War of 1700 to 1721, the city originated as a military stronghold; the first structure, Peter and Paul Fortress, rose in 1703. By 1707 Peter the Great was bringing in 40,000 workmen a year to build a new city. To speed construction, he forbade stonemasons to work anywhere else in the empire and levied a tax—paid in stone—on carts and barges coming to St. Petersburg. Peter hired foreign architects, among them Italians, Germans, and Frenchmen; their influence in shaping the style of Leningrad can still be seen. In 1712 the city succeeded Moscow as capital. Its original Germanic name, Sankt Pieter Burkh, was Russianized to Petrograd in 1914, when war with Germany erupted, and changed again to Leningrad a decade later.

Now the largest port and second largest metropolis in the Soviet Union, this showplace of Baroque and Neoclassic architecture vies with Moscow—once again the capital—in both industrial and cultural importance.

GOVERNMENT: The City Soviet of Working People's Deputies, a 605-member body headed by an executive committee of 25. **AREA:** 116 square miles. **POPULATION:** 3,798,000. **RELIGION:** The state permits worship, chiefly Russian Orthodox, but encourages atheism. **ECONOMY:** Grounded in the city's position as an industrial and transportation center. **CLIMATE:** Average January temperature 18° F.; July 64° F.; precipitation about 20 inches a year. The Neva River remains frozen four to five months. **CURRENCY:** One ruble (100 kopecks) equals U. S. $1.11.

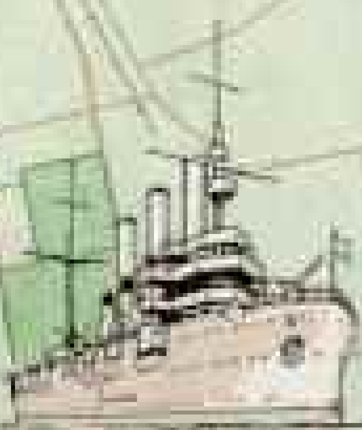


PISKARYOV MEMORIAL CEMETERY holds mass graves of nearly 500,000 victims of World War II siege of Leningrad



LENIN MEMORIAL

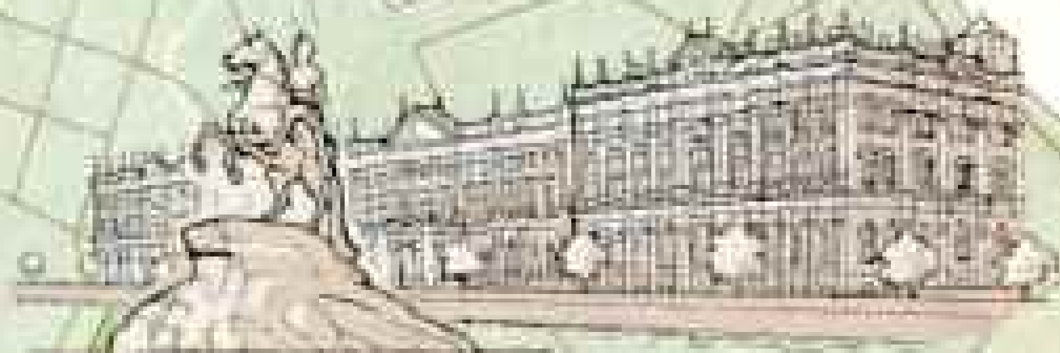
PETER AND PAUL CATHEDRAL AND FORTRESS



CRUISER AURORA Signaled start of the 1917 Bolshevik Revolution by firing a single blank round

SMOLNY INSTITUTE housed first Soviet Government in 1917-18

ADMIRALTY



PETER THE GREAT MONUMENT

STATE HERMITAGE MUSEUM (WINTER PALACE)

KAZAN CATHEDRAL today houses Museum of the History of Religion and Atheism

ST. ISAAC'S CATHEDRAL

PISKARYOV MEMORIAL CEMETERY
BOGOSLOVSKY CEMETERY
Bolshaya Nevka
Malaya Nevka
REATIONAL PARK
TRUDYASHCHIKHSYA ISLAND
APTEKARSKY ISLAND
KIROVSKY PROSPEKT
Botanical Garden
ISLAND
Zoo
Artillery Museum
FINLAND STATION
LENIN MEMORIAL
AURORA
PETER AND PAUL CATHEDRAL AND FORTRESS
Malaya Neva
Neva
Tauride Palace
SMOLNY INSTITUTE
Central Navy Museum
Leningrad State University
Academy of Sciences
PALACE EMBANKMENT
STATE HERMITAGE MUSEUM
Summer Garden
ADMIRALTY
Palace Square
PETER THE GREAT MONUMENT
Maxim Gorky Garden
State Russian Museum
Pushkin's Statue
KAZAN CATHEDRAL
Dom Knigi
Gastronom No. 1
ST. ISAAC'S CATHEDRAL
Gostiny Dvor
Bolshaya Neva
Palace of Weddings
ARCHITECT ROSSY STREET
Moika
Griboyedov Canal
Academic Choreography School
MOSCOW STATION
NEVSKY PROSPEKT
Kirov Opera and Ballet Theatre
St. Nicholas' Naval Cathedral
Fontanka River
VITEBSK STATION
SEMENOVSKY SQUARE
Alexander Nevsky Monastery
MOSKOVSKY PROSPEKT
Obvodny Canal
BALTIC STATION
WARSAW STATION
Elektrosila Plant area
To Pushkin 16 miles

STATUTE MILES
Illustrated features shown in red
Roads
Railroads
Subways
Parks and cemeteries

ILLUSTRATED BY ROBERT W. NICHOLSON
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KODACHROME © N.G.S., SOVFOTO (BELOW)

Let no one forget; Let nothing be forgotten

OLGA BERGGOLTS

"AGAIN ... FROM THE PLACE OF DEATH and ashes, will arise the garden as before," prophesied Leningrad poet Berggolts after devastation had rained on her beloved city during the German siege of World War II.

From the autumn of 1941 until January of 1944, Hitler's war machine shelled and bombed the blockaded city, destroying 3,200 buildings and damaging 7,100 more, including Petrodvorets (lower left). Postwar restoration has recaptured the original splendor of this former royal summer estate (left), which lies 18 miles west of Leningrad.

Russian military deaths during the siege totaled 200,000; a million more died of starvation. Here, hollow-eyed and gaunt, a Leningrader (below) picks up a $4\frac{4}{5}$-ounce bit of bread made largely from cellulose and other additives. The daily ration provided less than a seventh of the calories needed to sustain an average adult. Incessant hunger awakened an ingenuity that helped many people survive: They made pancakes of coffee grounds and concocted jellies from briefcase leather and library paste. Some even dined on cats and dogs.

To this day, Leningrad's citizens refer to their home as "Hero City," an accolade earned for their fortitude during the siege.

All, of course, are state-owned enterprises and—in accord with standard Soviet practice—bear dismal names like Gastronom (food shop) No. 6 or Stolovaya (cafeteria) No. 15. But many of the establishments lining the Nevsky Prospekt have managed to retain their individuality and flair.

The huge department store, Gostiny Dvor, contrives tasteful window displays, and the Café Sever (North) still serves the finest pastry in the U.S.S.R. "The Sever used to be famous throughout Europe and had a French name, Café Nord," a Leningrader told me. "But we Russianized it during the Struggle Against Cosmopolitanism"—a campaign to eradicate foreign influences.

Three unusually beautiful churches along the Nevsky Prospekt succumbed to the atheism that officially replaced the Christian faith after the 1917 Revolution. The buff-and-white Peter and Paul Lutheran Church preserves its ecclesiastical exterior, but the remodeled interior has become a swimming pool—"the best in the city," according to one of my Leningrad friends. No longer houses of worship, the Armenian Church and the Roman Catholic Church of St. Catherine, both erected in the 18th century, await equally secular futures.

AS AN AMERICAN, I found the Dom Knigi, or House of Books, to be the most interesting structure on the street. It stands on a corner overlooking the Griboedov Canal and is now one of the largest bookstores in the U.S.S.R.

But in its pre-Revolution existence, the edifice had served as Russian headquarters for the Singer Sewing Machine Company. In the brash American fashion of the time, Singer sought to erect an 11-story building that would have been the tallest in Petersburg. In view of the law limiting the height of all nonchurch structures, the city authorities refused permission. Undaunted, the foreign capitalists made a successful end run.

"The company," disapprovingly notes the official guidebook to Leningrad, "had to content itself with a building of modest height, but had it adorned with a pretentious decor in bad taste, which included a tower with a dome, topped by a glass sphere, the whole thing completely out of harmony with the sober lines of Nevsky Prospekt. In the evening, a light would appear inside the globe, and the name of the firm would sparkle round the metal ring."

The word ЗИНГЭР no longer flashes through the night sky, but time has worked its gentle magic and transformed the shamelessly vulgar building into a splendid period piece. Even the great glass dome, like a teardrop of God, presides with propriety and grace over the north side of Nevsky Prospekt.

The crowds that throng the street reminded me of a vast horde of lawyers hurrying to widely scattered courtrooms. For all the men

EKTACHROME (OPPOSITE) AND KODACHROME BY DICK DURRANCE II © N.G.S.

Thirsty worker picks up a mug of frothy beer at one of the city's sidewalk taverns.

Inequality of supply and demand packs the Gastronom No. 1 with eager customers. The food store, Leningrad's largest, catered chiefly to the aristocracy until nationalized in 1917. It makes 60,000 sales a day.

Housewives also patronize "private-sector" markets, where farmers sell fruits and vegetables raised on their own small plots. The produce, finer than that found in the state stores, brings premium prices.

carry briefcases and all the women clutch purses roomy enough for the thickest briefs. This luggage serves a real purpose. While most stores stock adequate inventories of staples, some items are always in short supply. Not a lemon, for example, entered the city during my month-long stay; the Russians —and I—drank our tea unflavored.

As a result, seasoned shoppers remain ever alert to targets of culinary or sartorial opportunity. Should you happen upon a vendor selling a freshly arrived shipment of Icelandic fish or Finnish eggs or Bulgarian grapes, your shopping bag is at hand.

It is difficult to translate the standard of living of a Leningrad family into Western terms. Wages tend to be much lower—ranging from the legal minimum of 60 rubles a month for guards and porters to 150 for a skilled worker. At the official rate of exchange, one ruble—consisting of 100 kopecks—is worth $1.11. A physician earns about 200 rubles, a factory director perhaps 400. Bonuses for exceeding the ever-present production quota swell many pay envelopes.

Rent for an apartment is only six to eight rubles a month, and medical and dental care is free. But a dressy pair of women's shoes

costs 45 rubles and a man's shirt more than ten. In a typical family, both husband and wife must work to make ends meet. They spend most of their income in the gastronoms. Meat remains a very expensive item—a roasting chicken sells for 4.50 rubles—and does not regularly adorn menus. Fish, cheese, and sausage figure in a large proportion of meals.

Although blocks of high-rise dwellings spread far into the environs (pages 652-3) and the city—fighting its way back from near-total devastation—opens a new apartment building every day, the housing shortage continues to pinch. A fortunate family will inhabit a two-room apartment with kitchen and bathroom. Young people who marry—usually having no premises of their own—move in with their parents. Privacy in the U.S.S.R. remains a luxury.

I discovered that more than half a century of socialism has not quite banished capitalism from the Soviet economy. Workers on every collective and state farm receive parcels of land for their own use. On these they raise fruits, vegetables, and livestock, which they market through what is euphemistically termed the "private sector" of the economy.

Each of Leningrad's 19 administrative districts boasts its private-sector market. That for my area occupied a huge courtyard off Moskovsky Prospekt. The stalls blazed with rich colors—the deep green of cucumbers, the scarlet and gold of fresh-picked apples. Tantalizing odors filled the air: the tart perfume of the apples, the earthen smell of potatoes, the dill used in curing pickles.

Prices ranged from 50 to 100 percent higher than those charged in state stores, although haggling is not unheard of. The quality of the produce, however, struck me as being infinitely superior. In place of the wizened pears available in the gastronoms, the private-sector entrepreneurs offered large, unblemished, and meticulously washed specimens.

MANY OF THE MERCHANTS hawking their wares obviously hailed from the sunny Soviet southland—Georgia, Armenia, and the Crimea. Their presence is a living critique of the cumbersome system of distribution employed in the U.S.S.R. The state finds it impossible to transport fresh food over long distances, but a Georgian can fill a suitcase with tangerines, fly from Tbilisi to Leningrad and back in a day—almost 3,000 miles—and turn a tidy profit in the private-sector market.

Despite the fact that supply often falls far short of demand, everyone I met in Leningrad expressed optimism about the economic future. "Look at it this way," one woman

KODACHROME © NATIONAL GEOGRAPHIC SOCIETY

Built to the glory of God, the Cathedral of Our Lady of Kazan now serves a godless regime. It houses the Museum of the History of Religion and Atheism, whose exhibits range from splendid icons to instruments of torture used by the Spanish Inquisition.

said. "You in the West have had almost 400 years to refine your system. Socialism, though, has been practiced for only 53 years; it's still very young and very prone to error. But we will eventually eliminate the errors."

Above all, no one would ever opt for a return to the pre-Revolution era. One day I visited Semonovsky Square, where in tsarist times, disobedient soldiers were flogged. Criminals were executed there, too, and an event of December 22, 1849, epitomizes the moral bankruptcy of tsarist rule.

The great Petersburg author, Fyodor Dostoevsky, had joined some fellow intellectuals, the Petrashevsky Group, in weekly discussions of political issues. The police swooped down and cast 43 members into the Peter and Paul Fortress. After eight months of confinement, they were tried and 21—including Dostoevsky—received the death sentence.

On the appointed day, guards conducted them to the square, where they donned white gowns—the vestments of death. As priests chanted their requiem, they were split into clusters of three. The procedure called for each "troika" to be tied in turn to the whipping posts and shot by a firing squad.

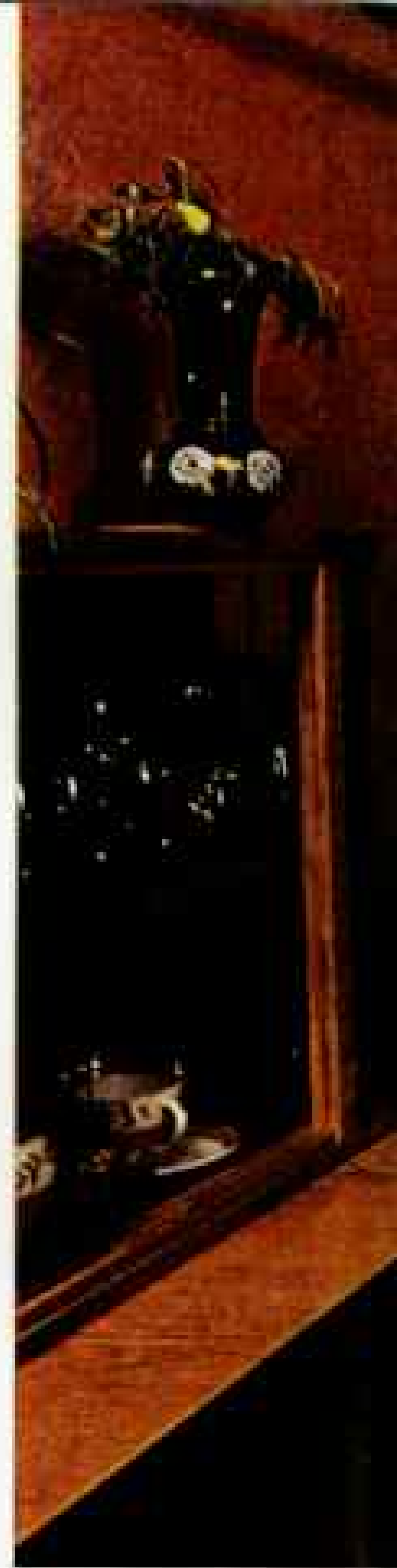
As the drums rolled and a large crowd watched avidly, soldiers blindfolded the first three and bound them to the post. The firing squad moved into position, and with slow gravity an officer issued the terrible time-honored orders: "Ready. . . . Take aim. . . ." But a moment before he barked the death-dealing command, a horseman clattered up bearing a commutation of the sentence. Too late for Grigoryev, one of the men lashed to the post: He went mad on the spot. Dostoevsky merely suffered an epileptic fit.

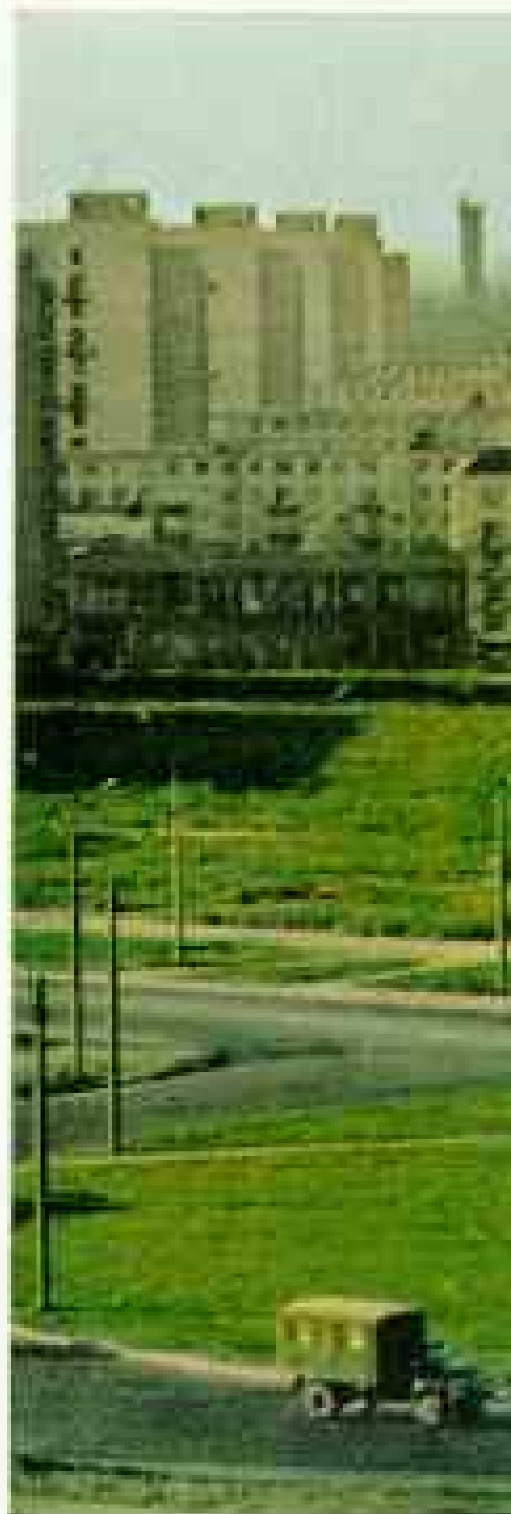
The entire performance had been pure sadism, for the tsar had actually commuted the sentences well in advance. He used the event to terrorize political dissenters.

The year 1905 found unrest seething throughout Russia. On Sunday, January 22,

(Continued on page 657)

Upturned urns mark the goals for a mid-city hockey match; the boys play in Maxim Gorky Garden, named for the unschooled Russian writer who championed the cause of the workers. The Admiralty stands at right. Russian youngsters participate in organized sports as well as in such impromptu meets; the state supports many well-equipped clubs and summer camps for youth groups. KODACHROME © N.G.S.





The fruits of labor grow ever sweeter

MODERN APARTMENTS, some luxury items, and food enough for all reflect the rising living standard of the Soviet workingman. Oleg Yegorov (above), holder of the Order of the Red Banner for Labor, earns an above-average 250 rubles a month (about $275) as a lathe operator. His salary is 25 percent higher than the average Soviet physician's. Oleg's wife Lyudmila, a metal technologist, brings home 90 rubles a month.

The Yegorovs, here dining with their daughter and Lyudmila's mother, seated, pay a monthly rent of ten rubles for a two-bedroom apartment in a new building like those on the city's south side (right); the government last year built 55,000 new housing units in Leningrad. Telephone and other utilities cost only 4½ rubles a month. Food prices, though, are exorbitant by U. S. standards; a roasting chicken sells for the equivalent of $5. The family owns a television set, a phonograph, and a record collection, including a cherished recording by pop singer Tom Jones.

EKTACHROME (OPPOSITE) AND KODACHROMES © N.G.S.

The Hermitage, Russia's treasury of art

SHIMMERING beside the Neva, Leningrad's regal State Hermitage Museum houses one of the world's great art collections—once a tsarist monopoly but now shared by all.

Started by Peter the Great, the treasure burgeoned after Catherine the Great ascended the throne in 1762. Acquisitions by later tsars and the confiscation of privately owned art after the 1917 Revolution added to the collection that now numbers more than 2,500,000 works.

Exquisite gold artifacts prized by Scythian nomads of antiquity comprise one of the museum's most cherished exhibits. Workmanship of the battle scene on the gold comb (left) has been compared with that of the Parthenon's sculptures. Experts believe a Greek living in Scythia crafted the comb

in the fifth or fourth century B.C.

Majestic stag of pure gold (right) demonstrates the famed animal art of the Scythians. Almost 18 inches wide, the 2,500-year-old plaque once decorated a chieftain's shield.

Early in her reign, Catherine the Great built the first Hermitage, a small building adjacent to her 1,100-room Winter Palace (above), but within 20 years was compelled to construct another for her mushrooming collection. Her successors added two more buildings, and in 1946 the Winter Palace itself became part of the Hermitage.

Lured by the lavish buildings as much as by the art they contain, some 3,200,000 people a year visit this largest of U.S.S.R. museums.

KODACHROME (TOP) BY DICK DURRANCE II © N.G.S. AND NOVOSTI

an Orthodox priest, Father Gapon, led a large body of striking workers toward the Winter Palace to lay a petition at the feet of their Little Father, the tsar. The workers, dressed in their best clothes and accompanied by wives and children, carried icons and sang "God Save the Tsar." Soldiers intercepted the marchers and pitilessly slaughtered many.

The explosion came in February 1917, when the citizenry, weary of World War I, took to the streets of Petrograd. Soldiers dispatched to suppress the mobs joined them. Tsar Nicholas II abdicated; rule passed to a democratic Provisional Government. But at the end of October, Lenin's Bolsheviks—majority wing of the Marxist party—drove the Provisional Government from power.

This decisive act of the revolutionary drama unfolded in Petrograd when the cruiser *Aurora*, on station in the Neva River, fired a blank round that launched an attack on the Winter Palace—then headquarters of the provisional cabinet—by revolutionary workers and soldiers.

On a drizzly day, just outside Leningrad's metallurgical center, the Kirov Works, I met a septuagenarian who had participated in the storming of the Winter Palace. For Vassily Alexeyevich Vasilyev that fateful night on Palace Square loomed as a pivotal point, both of his life and of Russian history.

"When I was 15," Mr. Vasilyev told me, "I joined an underground circle at the factory. And when Lenin came to Petrograd in 1917, I helped to guard the party meetings. We had three detachments at the plant, and we used to drill regularly. My unit joined other revolutionary groups in surrounding the Winter Palace on the 25th of October. When the shot came from the *Aurora*, nobody hesitated. We cried 'Hurrah!'—yes, just as you would in English—and charged across the square.

"Two units defended the Winter Palace, cadets from the military academy and a women's battalion recruited from the *peterburzhenkas*, elegant young ladies of good Petersburg families. Neither gave us much trouble, although the women were more effective.

"After we captured the palace, I went home. I'd been away three days and I was only 17, so my father was furious. 'Where have you been and what were you doing?' he demanded.

"'I was making a revolution,' I replied.

"'Well, why did it take you so long?' he grumbled. But he really approved wholeheartedly."

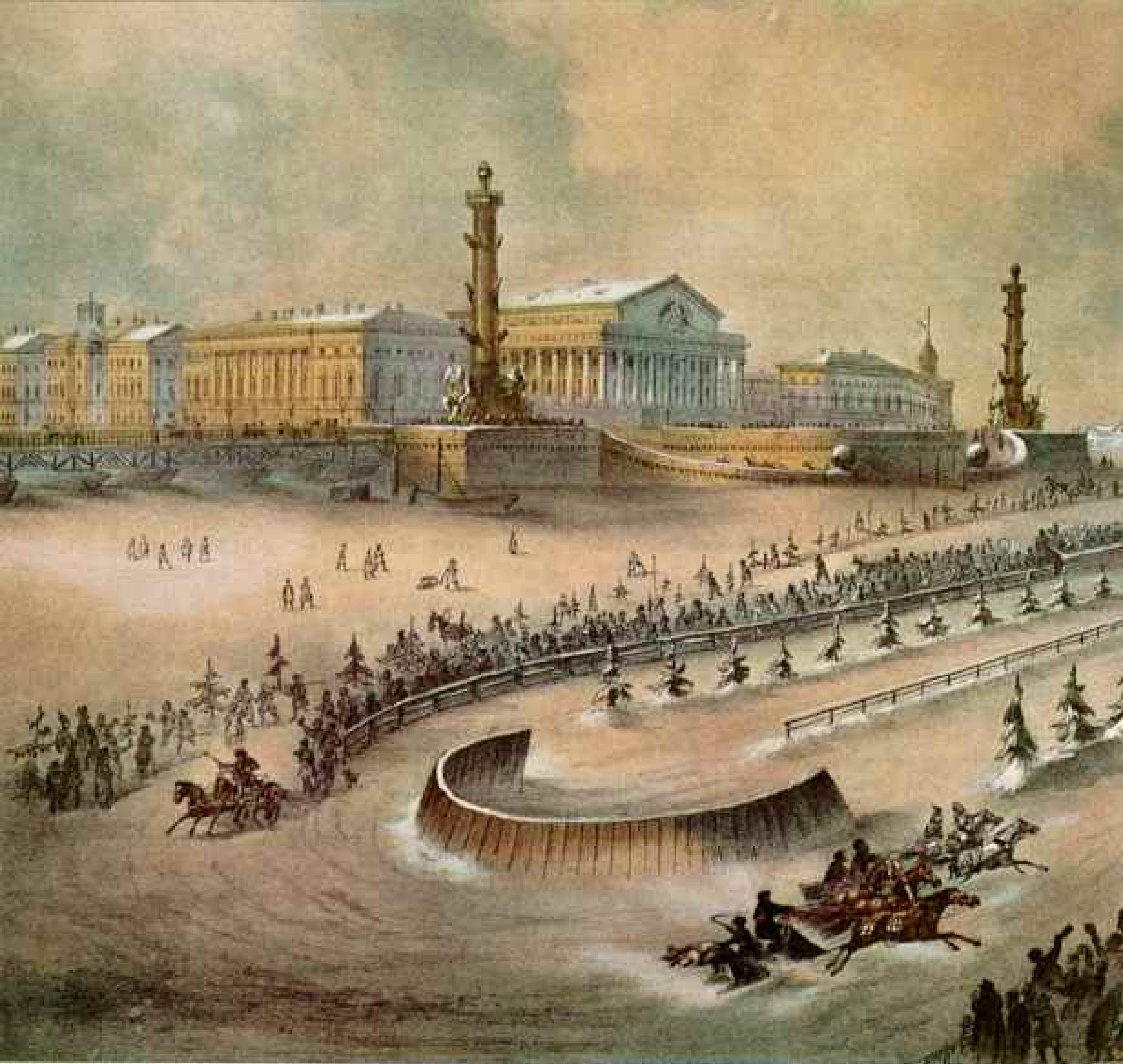
Almost everyone in Russia yearned for change. The Revolution seemed to inaugurate a sublime and noble era. Petrograd poet Alexander Blok articulated the aims of the revolutionaries, "To build everything anew, so that our lying, dirty, boring, monstrous life becomes a just and clean, a joyous and beautiful life." Another poet, Vladimir Mayakovsky—the laureate of Bolshevism—rallied his fellow artists to the red flag, "Comrades, to the barricades! . . . Streets are our brushes, squares our palettes!"

But between revolutionary ideals and the reality of dictatorship yawned a sad and sinister gulf. Blok died disillusioned in 1921. Mayakovsky committed suicide in 1930.

"MADONNA LITTA" BY LEONARDO DA VINCI, HERMITAGE

Enthralled by the wonder of art, Soviet tourists gaze at Leonardo da Vinci's "Madonna Litta." The Hermitage acquired the celebrated painting in 1865 from the Duke of Litta in Milan. Only after the 1917 Revolution did the general public gain access to the Hermitage and its rooms full of works by Titian, Raphael, Rubens, Van Dyck, and Rembrandt. Jointly, the Hermitage and Moscow's Pushkin Museum also own the world's largest collection of French Impressionist and Post-Impressionist paintings.

EKTACHROME (OPPOSITE) BY DICK DURRANCE II © N.G.S.



Hoofs hammer the frozen Neva at a troika race in front of the old Stock Exchange building, which now houses the Central Navy Museum. For a wealthy aristocrat, life in Imperial Russia was a series of lavish diversions: horse and yacht races, dazzling balls, water carnivals, embellishment of ever-grander mansions,

The anniversary of the Revolution has become the major holiday of the Soviet year. Leningrad, where it all happened, celebrates the day with particular zest. It falls on November 7, which is the Gregorian equivalent of October 25 on the Julian calendar used in pre-revolutionary Russia.

EARLY IN NOVEMBER workmen appeared in strength throughout the city. They swathed every lamppost on Nevsky Prospekt with red bunting and festooned the avenue with an electric canopy of light bulbs. From the façade of the Gostiny Dvor, huge portraits of members of the Central Committee of the Communist Party—including Comrades Brezhnev and Kosygin—peered noncommittally at the passers-by. Images of Lenin appeared everywhere (page 637).

On the eve of the anniversary, shoppers mobbed Nevsky Prospekt, buying provisions for the traditional feasts. The gastronoms bulged, and the Sever closed three hours early, its last pastry sold. In Passage, a store that specializes in feminine items, a 300-foot-long queue of women pressed forward to snap up a decidedly non-revolutionary product—blue lace brassieres imported from France.

DRAWING BY J. CHARLEMAGNE; COURTESY COLLECTION OF G. D. TALBOT, TUNBRIDGE WELLS

and trips to the country and abroad. An entourage of 24,000—noblemen with their families, servants, and household goods—accompanied the extravagant Empress Elizabeth whenever she moved the 400 miles between her palaces at St. Petersburg and Moscow. At her death in 1761, Elizabeth's closets contained 15,000 dresses.

The climax of the celebration came with a parade through Palace Square on the morning of the seventh. I watched the crack troops march by—marines in blue berets, black-clad sailors from the Baltic Fleet, the army in inevitable khaki. Then came the artillery and rocket launchers and, finally, huge nuclear missiles drawn by trucks. The silvery missiles seemed to absorb rather than reflect the sunshine; they shimmered, but with a sickly, wan quality like the luster of death.

After the armed forces came legions of athletes, most clad in sweat suits and bearing banners. Some rode atop floats, striking absurdly heroic postures. Ending the parade, the masses, marching in delegations from factory and shop, poured into the square.

THE WINTER PALACE, focal point of the celebration, has been incorporated into the State Hermitage Museum, largest in the Soviet Union and one of the most important in the world (pages 654-7). Among its treasures, the Hermitage numbers two Madonnas from the brush of Leonardo da Vinci and, along with Moscow's Pushkin Museum, the largest extant collection of French Impressionist and Post-Impressionist paintings.

Often during my stay in Leningrad I slipped into the Hermitage to escape monochrome winter days amid the blazing noontide colors of Matisse or the timeless tropic summer of Gauguin.

Or I would join the throngs of visitors—some 3,200,000 annually—streaming through those of the Winter Palace's 1,100 rooms open to the public ... ascending magnificent marble staircases to exquisite apartments where the tsars took their hibernal pleasures ... passing from vast room to vast room, where treasure succeeds treasure in incredible profusion, treading floors inlaid with floral medallions of richly varied wood ... eyeing the ivory-and-gold decor, the crimson damask on the walls ... pausing in the Malachite Room, veneered with two tons of that rare green stone from the Urals, and with doorknobs cut from massive semiprecious stones.

THE FRENCH SECTION was always best, for it occupied a corner of the first floor off the beaten track of the thundering tour groups from the hinterland. There you could linger free of crowds amid the splendors of Pierre Bonnard, or immerse yourself in the cool blues and grays of Picasso in one relatively small gallery that held 20 of his early canvases. Although a member of the Communist Party, Picasso—and many of his canvases—long languished in the shadows of official disapproval. After the death of Stalin the Hermitage brought these strange bedfellows of socialist realism out of the cellar.

One day, in the company of a Russian journalist, I called upon Vitaly A. Suslov, Deputy Director of the Hermitage. The offices occupy a wing of the Winter Palace overlooking the Neva; much of the ornate furniture here belonged to the royal family.

"The Hermitage is the national museum of the Soviet Union," Mr. Suslov said. "We have more than 2,500,000 items, including 14,000 paintings and 12,000 sculptures. Someone has calculated that if a person devoted one minute to each object in our 400 display rooms, he would require 12 years for his tour."

I asked Mr. Suslov how the museum had acquired its enormous collection.

"Much of it," he replied, "represents the old royal collection that became state property at the time of the Revolution. To us, the history of the Hermitage began in the year 1764 when Catherine the Great purchased 225 paintings from a German dealer. She went on to buy heavily in the West, receiving excellent advice from her friends Voltaire and Diderot. Her agents, in fact, operated on a grand scale and often bought complete collections. This is how we acquired our paintings by Rembrandt, Rubens, and Van Dyck.

"Our French Impressionists come from the private collections of two wealthy pre-revolutionary Moscow merchants, Shchukin and Morozov. In the early 1900's both were intensely interested in modern art. They were buying the paintings of Matisse and Picasso when neither enjoyed any popularity at all.

"The painters they patronized," Mr. Suslov added, "steered them to yet other unrecognized geniuses—Gauguin and Cézanne. Matisse had particularly good ties with the buyers, and we have 35 of his paintings. The Soviet Government nationalized the collections and divided them between the Hermitage and the

Invigorating! Hardy members of Leningrad's Walrus Club plunge into the Neva every day of the year, even when—as here—the temperature dips to 20° below zero F., and a channel must be hacked in the ice.

In summer the river remains cold, rarely rising above 43° as it passes through this chill northern city.

Pushkin Museum of Fine Arts in Moscow."*

Mr. Suslov stressed the wide range of the Hermitage's activities. "We have a library of more than 400,000 works. Each summer we send out 15 archeological expeditions to various parts of the Soviet Union. We offer 1,500 lectures a year here, and many of us address workers at factories and farms. For our mission includes educating the public."

IN VIRTUALLY ALL my conversations with mature Leningraders, one subject recurred and recurred—the bitter Nazi siege of World War II that lasted 900 days, leaving the city in ruins and nearly every family ravaged by starvation and violent death. In the Hermitage Mr. Suslov had touched upon the heroic labors of the staff in preserving priceless works of art through two and a half years of bombardment.

And the friend who had accompanied me once told me, "I'm ashamed of myself, but I can't help it. Meal after meal with my children becomes a hell. Because I eat bread ravenously—it's so good—and I remember when it was all we had and we never had enough. My kids just ignore it, or pick at a piece and leave it. And despite myself, I end up screaming at them to eat the bread."

Although Hitler hurled his Wehrmacht against the U.S.S.R. on June 22, 1941, World War II did not reach Leningrad until summer's end. By the time the first shells fell in the streets on a silvery afternoon in September, the Germans were enclosing the city in an iron blockade. Further bombardments destroyed most of the meager food reserves; when October ushered in the coldest winter in 140 years, the old capital of Peter faced starvation and freezing within, the merciless Wehrmacht without.

After the war, after a million citizens had been laid to anonymous rest in mass graves, a notebook came to light in a battered flat on Vasilyevsky Island. It had belonged to Tanya Savicheva, an 8-year-old schoolgirl; in a child's unformed hand, she had kept a grim and poignant chronicle, an aching lament for Leningrad's long agony.

Zhenya died on December 28 at 12 in the morning, 1941

The siege of Russia's old capital ranks as the most violent in history. More than 100,000 incendiary bombs and almost 150,000 artillery shells rained down on the city.

Granny died on January 25, 3 p.m., 1942

Leningraders rallied to the defense of their homes. Two hundred thousand volunteered for the *Opolchenie*, or People's Army. After a few days' training—or sometimes only a few hours'—they were thrown into the line.

The front swirled to within a few miles of the city's center, and often the troops rode clanging trams into battle. Russian poetess Olga Berggolts, who throughout the blockade frequently addressed her fellow Leningraders on the radio—sometimes with a poem she had freshly composed—described the peculiar poignance of going "to the front through the days of my childhood, along the streets where I ran to school."

Leka died on March 17 at 5 a.m., 1942

The worst days brought death to as many as 8,000 citizens. Countless bodies lay frozen

*See "An American in Russia's Capital," by Thomas T. Hammond, NATIONAL GEOGRAPHIC, March 1966.

KODACHROME BY DICK DURRANCE II © N.G.S.

in the streets, covered by shrouds of drifting snow. Some fell prey to cannibalism.

Reduced to a ration of one scant chunk of bread per day, the Leningraders supplemented their diet as best they could. Glue and linseed oil became delicacies, the paste salvaged from papered walls a rare treat.

Uncle Vasya died on April 13
at 2 a.m., 1942

Col. Fyodor Ovyechkin, who served in the defense of Leningrad, recalled the deadly shortage of matériel. "In the beginning we lacked everything," he told me. "Fortifications, food, weapons. Every land mine was a jewel to us, every round of ammunition like a pearl. Each rifleman received seven bullets a day and was strictly accountable for every one of them. I can assure you that Russian supplies did not stop the Germans. It was Russian heroism."

Uncle Lesha—on May 10 at 4 p.m., 1942

Driven by famine from their warrens in empty granaries and warehouses, emaciated rats suddenly appeared in the streets. The grateful citizenry scooped them up and, for a little interval, cooking pots bubbled.

Mother—on May 13 at 7:30 a.m., 1942

I met a small, gentle woman—Alexandra Lopatina—who had served as a Red Army nurse during the blockade. "I remember so many who were brave," she said. "There was a very young pilot I nursed who had purposely rammed a Nazi bomber over the city; and a geologist who had loaded himself with explosives and leaped on an enemy tank."

All the Savichevs died. Everybody died.
Remained alone, Tanya.

Leningrad's purgatory ended on January 27, 1944, when the Red Army lifted the siege and began the relentless westward advance that would end with the *Götterdämmerung* of Nazism in the exploding streets of Berlin. But Tanya Savicheva, orphaned and alone, did not see it. In 1943, she too had died.

WITH INDUSTRY and imagination, Leningrad has healed its wartime scars. Now the only visible reminder is the carefully maintained Piskaryov Memorial Cemetery, where an eternal flame flickers above half a million Leningraders crammed into common graves. I visited Piskaryov on a bright, frosty morning. A new-fallen snow cloaked the huge grave mounds in white anonymity and, as I crunched along, the adagio lamentoso of a Tchaikovsky symphony played soft and sad through a

Awesome grandeur of St. Isaac's Cathedral (opposite), now a museum, testifies to the enormous wealth of the tsars. Adorned with sculptures, paintings, mosaics, and precious stones, the church—completed in 1858 after 40 years a-building—was erected under the guidance of a French architect, Auguste Montferrand. Large enough to accommodate 14,000 persons, it rests upon 24,000 wooden piles driven into the swampy ground.

Assembly-line matrimony: New husband and wife descend a staircase of the state-owned Palace of Weddings as another couple starts up. The marriage mill operates ten hours a day, seven days a week. Principal wedding house in Leningrad, the palace charges $1.65 for the eight-minute ceremony. Flowers, photographs, and champagne reception are optional and cost extra.

speaker system. On the wall of the granite memorial, the chiseled epitaph written by Olga Berggolts stood big and clear:

LET NO ONE FORGET;
LET NOTHING BE FORGOTTEN

I looked out across the burial mounds, huge and squat like barrows from the prehistoric past. Here they sleep, entangled for eternity: the good and the bad, the party members and those who were not—all the gallant citizens who died to save the city of Peter.

More than a quarter of a century after the event, the memory of the siege still casts a grim shadow. But the new generation that has grown up in the city pursues the timeless preoccupations of the young—love and marriage. And marriage, in Leningrad, involves a short trip to the Palace of Weddings.

It is a real palace. Little did Grand Duke Vladimir dream when he built it beside the Neva in 1895 that he would become a socialist Cupid. But each day an average of 40 couples plight their troth in the duke's opulent sitting rooms.

I found the assembly-line aspect disconcerting; as one party sweeps down the marble staircase, another sweeps up (page 663). But I attended the wedding of a typical couple—Galina, blond and an assembler in a watch factory, and Anatoly, a skilled worker of the Elektrosila Plant. And I learned that the ceremony has the same quotient of solemnity, smiles, and tears as its American counterpart.

The couple had arrived in a maroon Volga sedan with entwined wedding rings emblazoned on its doors. The bride, radiant and tremulous in a floor-length white gown and a

Always ready for the fickle sun

LOVERS OF THE TRANSIENT WARMTH that smiles on them so rarely, Leningraders hie to the outdoors at every opportunity. A man and wife share a picnic lunch in Central Kirov Recreational Park (left) at the city's edge. A young Russian woman and her friend (below) venture some 15 miles to the Great Catherine Palace, once a summer estate of Russian royalty. Her modish sunglasses, unavailable in stores, may have cost as much as $20 on the black market. Closer to home, a monocled matron reads her newspaper on a park bench.

Outdoor activities—in winter as well as in summer—provide escape from crowded quarters. Ambitious building projects have only partly eased the housing shortage that often forces newlyweds to share living space with parents.

veil, carried a bouquet. The groom wore a neat black suit. Led by the couple, the party entered the ceremonial chamber to the recorded strains of Tchaikovsky's Piano Concerto Number One.

Weddings in the U.S.S.R. are, of course, civil affairs, and a member of the City Soviet—a motherly but smartly dressed woman with a pleasant manner—presided. She asked the couple if they were entering the marriage of their own free will. They replied affirmatively. Then they stepped forward to sign the registry, followed by their witnesses.

KODACHROMES © NATIONAL GEOGRAPHIC SOCIETY

Throughout the proceedings, a photographer—also supplied by the palace—recorded every phase. After registering, the couple exchanged rings. The lady of the City Soviet pronounced, "You are now husband and wife." The respective mothers of the bride and groom wept softly. Then everyone stood to attention as the haunting measures of the "Hymn to the City" swelled from the speakers.

The wedding ceremony was short and efficient, but it did not lack in dignity. And many an American father of the bride could regard it with envy. For, exclusive of the car and photographer, the fee totals $1.65.

Strolling through the byways of Leningrad, the granite skyline of buildings broken only by the domes and steeples of churches, I often wondered about the status of religion in this officially godless nation. One day I talked with an engineer—an atheist—who is a connoisseur of icons.

"I doubt seriously," he said, "that religion will ever completely disappear. The early antireligious frenzy has, happily, faded away. You know, in the 1920's and '30's Young Communists would smash the icons of their

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"Faith is the force of life," wrote Tolstoy. In that belief a Russian Orthodox priest of Leningrad prepares for Communion in St. Nicholas' Naval Cathedral. He is one of a dwindling number of clergymen who try to sustain the people's faith. Most congregations include mainly the elderly and the poor; the young usually profess atheism.

parents, and the government razed countless churches. Who will ever know how many masterpieces of what is, after all, the cultural heritage of the Russian people were destroyed in the name of building socialism?

"In my village the authorities converted the church into a school and slopped a coat of green paint over the frescoes. But a curious thing happened. The paint began to streak, and soon you could see the faces of the saints shining through. Suddenly believers by the hundreds began flocking to the church to stare and cross themselves. They hailed it as a miracle, although in my opinion it stemmed from the appalling quality of Soviet paint."

Each Sunday I rode the No. 5 Trolley to the Nikolsky Morskoi Sobor, St. Nicholas' Naval Cathedral, to attend the divine liturgy. Worshipers jammed the great five-domed cathedral. But, as in every Russian church I've ever attended, the congregation tended to be old, work worn, shabby.

When laymen passed collection plates, I watched carefully. Most people deposited coins of five, ten, or fifteen kopecks. Perhaps it was all they could afford.

Never did I see anyone from the mainstream of Soviet society—the educated young men, the well-dressed girls who speak English and French, army officers, bureaucrats. In the churches you find the have-nots and the disaffiliated. Believers earn no honors and few rubles in the U.S.S.R.

Still, the Church somehow survives. And the dwindling company of the Orthodox gathers every Sunday. Among the flickering tapers and brocade vestments, the smoky incense and the sad-eyed icons, the golden vessels and the soaring glory of Old Slavonic chants, they nourish the faith that sustains them in the face of the complete secularization of public life.

A VISITOR to Leningrad never finds himself far from a theater or concert hall. The city boasts some 20 in all, and by far the most splendid is the Kirov Opera and Ballet Theatre, known in imperial times as the Mariinsky. Now in its 188th season, the Kirov numbers in its permanent company an orchestra of 113, a chorus of 100, and 40 operatic soloists, plus a ballet troupe of 186.

I attended the operas and ballets at the Kirov at every opportunity, not only for the quality of the performances, but for the sheer beauty of the theater itself. The building suffered heavy damage during the siege, but skilled craftsmen completed a major restoration last year. Almost 900 pounds of gold went into the gilding of the interior walls and façades (pages 670-71).

In the "white nights" of summer, singing and guitar-strumming students cluster along Palace Embankment. During the festive week of June 21 to June 27 the sun hides just below the horizon only from 10:30 p.m. to 3:30 a.m. Even during this short "night," its glow lingers in the sky.

At the Kirov I would sit in my chair of sapphire velvet —there are no conventional theater seats—surrounded by an ambience of ivory and gold, with the crystal chandeliers ablaze, and wait for the sapphire velvet curtain to rise. Save for a few discreet Soviet emblems replacing the imperial double eagle, I could have been in Petersburg about to watch the tsar's current favorite.

MOST OF THE DANCERS in the Kirov's ballet company are graduates of Leningrad's renowned Academic Choreography School. The school occupies premises on one of the world's most harmonious thoroughfares, Architect Rossy Street, named for the brilliant Italian-Russian who designed the avenue and every building that lines it.

Director Valentin Shelkov welcomed me to his unusual domain. "At this school," he said, "we combine the usual academic education with a firm grounding in classical ballet. You know of the national mania for ballet: Every mother wants her child to dance in the Kirov or in Moscow's Bolshoi. So we are bombarded by applicants. Fifteen hundred each year, and we can accept only eighty students. Now they are even coming from abroad!"

And how, I asked Mr. Shelkov, did he choose his students from among so many.

"We consider an entire complex of factors. The child should have a burning desire to dance and be between 10 and 12 years of age; beyond 12, they are hopeless. The body should be long and sturdy, with a natural grace of movement. And, frankly, we accept no ugly children. Above all, the child must not have had a single ballet lesson. It is too difficult to correct the harm of bad training."

As in all Soviet educational institutions, the choreography school charges no tuition, and students there even receive a stipend from the state upon reaching the sixth year. Of the eighty who start annually, about fifty complete the eight-year course. All are assured of instant employment. "We simply cannot meet the demand for dancers," said Mr. Shelkov.

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Laughter knows no frontiers: College students from the United States mingle easily with Russian counterparts at Leningrad State University. Sponsored by the Council on International Educational Exchange, enrollment of 29 American undergraduates in 1970 marked the first on a regular semester basis.

"We already spoke Russian and knew a lot about the country," one U.S. student said, "but it really came alive for us only after being here."

Nurtured by the nobility in the heyday of the Russian Empire, ballet, theater, and symphony have become passions of the average citizen. Here, amid the velvet and gilt of the recently restored Kirov Opera and Ballet Theatre, performers

EKTACHROME BY DICK DURRANCE II © N.G.S.

of *La Bayadère* take a curtain call. Tickets sell for as little as $1.11. Despite the exalted position of top dancers in Soviet society, Kirov ballerina Natalia Makarova—like Rudolf Nureyev before her—defected to the West in 1970.

Later I observed several classes in action. The teachers, all former dancers, embody the autocracy that characterizes the entire world of ballet. The boys bow formally to them at the beginning and end of a class, the girls curtsy. All pretense of socialist equality ends at the doorway. In the classrooms there are no comrades, merely masters and pupils.

On a bare stage with barres along all three walls, I watched six barely adolescent girls in black leotards. The teacher demonstrated a sequence of glissades and jetés, then, to a piano accompaniment, the pupils attempted to duplicate them.

The teacher abruptly stopped the music and pointed accusingly at a slender, pretty girl with ash-blond hair. "You, Lyena! You *threw* your leg out."

Another try, and again the teacher singled out Lyena for criticism. "You dance unwillingly. Your body is leaden!" The girl fought back tears. Yet again the piano struck up. And yet again the teacher snapped at the hapless Lyena, "You don't flow. You just move." This time the tears came.

In an advanced class a boy and a girl were practicing a pas de deux in a large studio. From the rear corner the couple came spinning toward the teacher in a series of arabesques and pirouettes, smiles masking the sweat and strain behind the dynamic elegance.

As the couple glided to a halt, the teacher shook her head. "Lyuda," she addressed the girl, "instead of better, you grow worse. As for you," she said sourly to the boy, "you dance like a hockey player."

Actually, he danced beautifully. At the end of the lesson I asked him why he had chosen to become a dancer. He stood there panting, covered with sweat, furrows of fatigue etched on his face.

"When I was a little boy," he said, "I saw *Swan Lake* at the Kirov and I loved it, particularly the role of the prince. Ever since, I've dreamed of dancing it there myself."

"Will you?"

"Yes," he answered simply. I believed him.

At the theater now when the conductor raises his baton and I watch the ballerina in her still beauty awaiting the first chord, I experience a small heartbreak. After my day at the Academic Choreography School, I know the tears, the agony, and the dedication that underlie this art—so fragile, so transient, so ineffably lovely.

IN THE END, who can hope to portray Leningrad's glowing mosaic of joys and sorrows? The sorrows are obvious enough from the Western standpoint: the restrictions on liberty, the frequent queues in the shops, the indifferent quality of products, from shoelaces to dachas.

But who can convey the quiet loveliness of dusk over the Neva in the smoke-colored autumn? The smell of wet leaves in the Summer Garden or the early October snow that joins the bridges and steeples and statues in a chaste, white embrace?

How can you know of evenings in the blazing elegance of the Kirov Theatre where, for the small space of a performance, all of us can be aristocrats lost in the soaring wonders of ballet and Chopin?

Who can tell of Sunday afternoons in the parks with the timed chess games and the lovers on the benches lost in a world that knows no norms? Of the sailors of the Baltic Fleet swinging up the Nevsky Prospekt from the Admiralty, their eyes alert for girls? Of the very old man with the cane who comes every day to the little park surrounding Pushkin's statue to scatter grain across the snow for the pigeons and sparrows?

Who can describe the enchantment of a midnight walk along the Neva embankment, after rain, with thick clouds riding low over the gilded glory of St. Isaac's Cathedral dome; of the reflected light of streetlamps shattering across the swift surface of the river; of winter's first ice—in crystalline new-minted wafers—tumbling toward the Gulf of Finland like a torrent of diamonds?

Of Leningrad, one can only echo the words of Pushkin:

Be beautiful, City of Peter,
Stay as unshakeable as Russia!
. . . And let no vain wrath
Trouble the eternal dream of Peter. □

Alone with his memories, an old man of Leningrad shuffles along crowded Nevsky Prospekt, perhaps recalling the pomp of the tsars, the brief flame of democracy before Lenin's Bolsheviks seized power, Stalin's deadly purges, and the postwar reconstruction of this queen of Soviet cities.

EKTACHROME © N.G.S.

Buck Island – Underwater Jewel

ARTICLE AND PHOTOGRAPHS BY

JERRY AND IDAZ GREENBERG

IN A TURQUOISE WORLD of sunlight and shadow, we swim through a multihued garden: clusters of golden elkhorn coral with antlers tall as a man; towering sea fans and feathers swaying in the current; and giant heads of convoluted brain coral. We are exploring a skin-diver's paradise, the fascinating underwater trail of Buck Island Reef National Monument in the U. S. Virgin Islands.

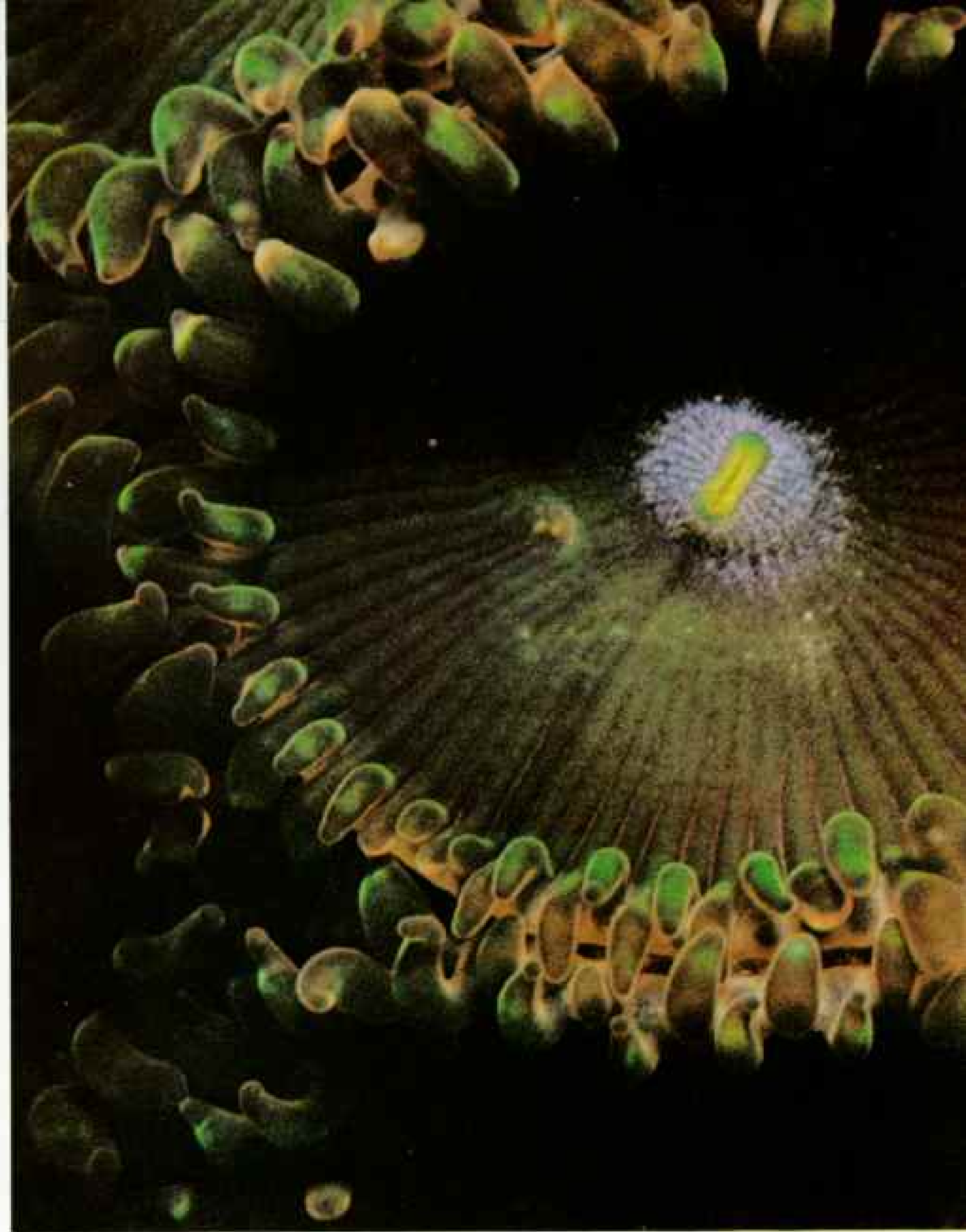
Following a series of submerged markers that point the way, we flipper through seas relaxingly warm and so clear that we can see 100 feet ahead. Everywhere we roam in this coral city, brilliant tropical fish keep us company: yellowtail snappers, blue tangs, French angels, Atlantic spadefish, striped porkfish, varicolored parrotfish, and foureye butterflyfish named for markings that resemble extra eyes. Tiny but pugnacious damselfish nip our flippered feet if we come too near their territorial nooks. Occasionally we spy an ill-tempered spotted moray eel lurking under a ledge in wait for a spiny lobster.

I've been an underwater photographer for more than 20 years. My wife Idaz and our children Susy, 14, Mike, 12, and Mimi, 10, have logged countless hours diving in Florida waters. Yet as we glide past outcroppings crowned with stinging coral and above twisting alleys carpeted with white sand, we are dazzled by this shimmering playground. We move with little or no fear of sharks or barracudas; Buck Island has never known an attack. With numerous shallow spots and deeper sections of 25 to 35 feet, the reef is a favorite training ground for novice snorkelers.

Even after hours of plumbing the marvels of this Caribbean realm, the youngsters plead to stay a few more minutes. Only one rallying cry—"Lunch!"—lures them shoreward across sandy shallows (**below**).

THIS PAGE FOLDS OUT

KODACHROME (BELOW) AND EKTACHROME (FOLDOUT) BY JERRY GREENBERG © N.G.S.



Submarine showcase of Buck Island Reef shelters an amazing variety of life, including sea anemones (enlarged ten times). Like their coral relatives, they are polyps, with a mouth opening and tentacles that trap food.

Miniature barrier reef almost rings humpbacked Buck Island (right), a mile and a half off the northeast coast of St. Croix. Visitors reach it aboard West Indian sloops piloted by local skippers.

KODACHROME © NATIONAL GEOGRAPHIC SOCIETY

FANTASTIC CORAL FORESTS reach toward the light on Buck Island Reef. Flippering above a giant brain coral encircled by elkhorn, Susy feasts her eyes on the reef's living colors of green and gold.

This underwater metropolis is the patient work of billions of tiny creatures. Each coral polyp divides into two or three of its kind, thus perpetuating a chain of survival centuries old. The outer layers grow atop a mass of limestone cups—the skeletal remains of generations of ancestral polyps.

Live polyps contain hordes of microscopic plants in a mutually beneficial partnership. The coral produces carbon dioxide and other wastes useful to the plants; the plants provide the polyps with oxygen in a convenient arrangement called symbiosis, from Greek words meaning "living together."*

*To learn more about coral reefs, see twin articles on Florida's John Pennekamp Coral Reef State Park by the author and Charles M. Brookfield in the January 1962 GEOGRAPHIC.

KODACHROMES BY JERRY GREENBERG © N.G.S.

EYES RIVET on junglelike brush when a sudden rustling stops our family as we climb to the 330-foot crest of Buck Island. Then a land crab scurries across our path. Bananaquits and warblers flit overhead, and an emerald-throated hummingbird probes brilliant blossoms. We follow a cactus-studded trail past acacia and poisonous manchineel trees, whose milky sap can burn the skin like lye. Mike likens the tortured branches of turpentine trees to "octopuses in knots."

On our daily run to St. Croix aboard *Sea Angel*, Mike rides the boom (**lower left**), getting a cool

dunking in each wave. Mimi likes to believe that our vessel was once a pirate ship, and our skipper says nothing to disenchant her. All of us taste the thrill of lying back against the canvas as we ride the trade winds.

Adding to the fun, tour-boat captains engage in good-natured races on the morning run to Buck Island and on the evening return. Blowing conch horns when passing one another, they exchange tart advice, "Hey, mon, put out yo hat 'n cotch mo wind for yo sail!"

On the clearest days we strap on tanks of compressed air for a leisurely hour of movie-making on the underwater trail. Aiming a super-eight camera, Mike frames a yellowtail snapper drifting above a trail marker. Susy and Mimi like to feed the fish and try to pet them. They watch helmet shells and starfish gliding across the reef and see a parrotfish nibble a snack of coral. Then our hour of magic is spent, and we are back ashore, the girls in excited torrents of talk about what they saw, and Mike eager to identify an unfamiliar fish he spotted. If only he can swim Buck Island's underwater trail often enough, he's sure he'll discover a new species someday. □

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The Condor, Soaring Spirit of the Andes

By JERRY McGAHAN Photographs by LIBBY McGAHAN

Flight practice for a fledgling: Gronk, a year-old Andean condor, learns to ride the winds of the arid Peruvian plain. A hundred feet of line tethers the pet lest 20-mile-an-hour gusts sweep him away. The author and his wife spent two years in South America studying and photographing the giant vultures, whose numbers steadily decline in the face of continuing slaughter. KODACHROME © N.G.S.

The Condor, Soaring Spirit of the Andes

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Parading live condors through the streets, devout villagers of Cotabambas, Peru, hold Cross and Madonna high. Each December farmers roam the hills to capture birds for Yawar—the celebration of blood. At the climax of the fiesta, the vultures are tied to bulls for a wild ride around the plaza. Released unharmed to fly again, they represent the triumph of the Indian spirit over Spanish conquerors.

Stylized male condor (left) adorns a 1,500-year-old bowl fashioned by an artisan of Peru's Nazca people.

I MUST HAVE DOZED, though the cramped quarters in our underground blind in an Andean gully weren't conducive to napping. My wife's whisper startled me into awareness.

"There's a condor overhead," Libby said. "I think he's coming down."

On edge, we watched and waited. Would the great bird land, or would this be just another of our failures?

For five months we had been climbing about the rugged slopes near Pasto in southwestern Colombia in our search for a nest of that elusive creature, the Andean condor. But not one had we found.

We also had logged more than 150 hot and lonely hours in brush-covered tent blinds; five times we had bought aged stock animals to sacrifice as bait. But not one of the great vultures had come to our offerings.

All we had for our troubles were distant views of the birds, soaring effortlessly over the 2,000-foot-deep canyon of the Rio Pasto. Or we had heard the whine of the wind in wing pinions as a condor glided over our blind. Or looked with awe at the immense shadow cast by a ten-foot wingspread.

Rain had fallen the night before Libby and I first squeezed ourselves into the newly finished pit blind. Water stood nearly knee-deep. But I set up my tape recorder and sharpened my pencils. To a forked-stick tripod Libby anchored the camera that the National Geographic Society, through the intercession of my former adviser, Dr. John Craighead of the University of Montana, had supplied for our studies.

The bait lay staked a hundred yards away. An hour passed before the sun's warmth set the condors stirring. Now, after Libby's whisper awoke me, we tensely watched the shadow of the descending condor grow larger and larger. Then its shape changed; he had lowered his legs, perhaps as a gentle air brake. Then his wings flexed in a final spilling of lift. He was down.

Soon he was on the bait. He peered around, twisting his naked head and red neck above the white ruff of feathers that gave him a downy collar. The white of his wing patches gleamed against the black of his body. He tore at the carcass with his powerful hooked beak.

Bird's History Interwoven With Man's

Our first condor spent only 13 minutes at the bait. To Libby and me, busy with our camera work and note taking, they seemed only a moment. But we went home that night elated. We knew our study had really begun.

We had come to South America on a National Science Foundation grant to study this endangered species—to learn how the condor lives and to record some of his strange

(Continued on page 691)

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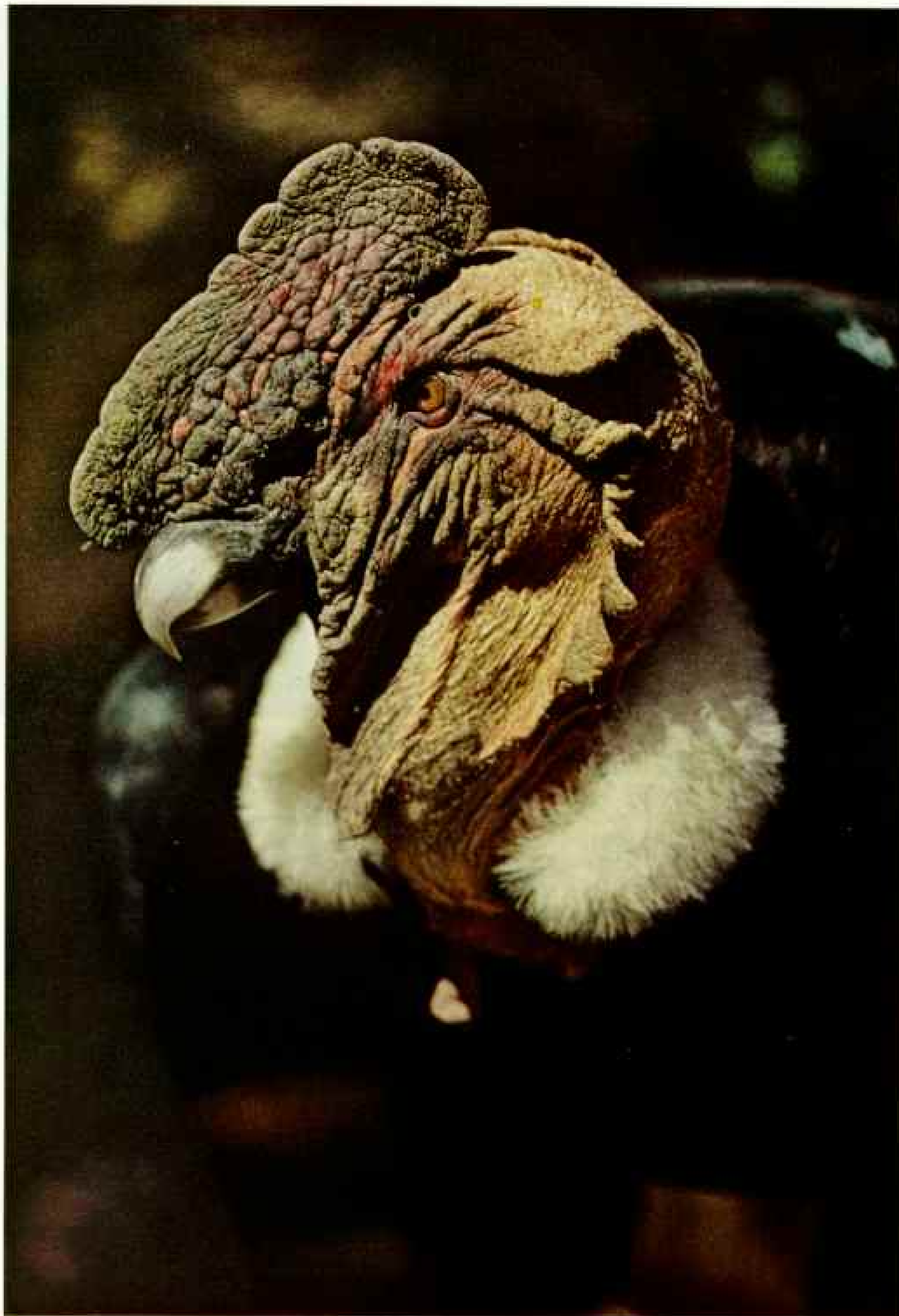
Bright-red eye and unadorned pate mark the female condor. As if pulling up a fur piece, she contracts her white ruff to warm a huge muscular neck. The birds mature at eight years of age; thereafter the female may lay one egg every other year. The chick spends six months in the cave nest, but remains dependent on its parents much longer.



Pale-brown iris and crinkled crest distinguish the male. At maturity he weighs 25 pounds, slightly more than the female. The powerful beak can tear a hole in the hide of a horse carcass or pierce the tough skin of a dead sea lion. The author once watched a bird pulling a 37-pound seal and estimates that it could have dragged an even heavier load.

Symbol of power and health among rural Peruvians, a condor skin commands a high price—1,000 soles (about $25). Libby McGahan inspects this skin at Ica. Villagers believe that the bird's ground bones relieve rheumatism, that its stomach cures breast cancer, that the eyes—roasted and eaten—sharpen sight, and that placing its feathers under the blanket wards off nightmares.

Melody trills from a quena, *a flute carved from the foot-long wing bone of a condor. Peruvians use another hand-fashioned instrument, the mournful* wajra-pukara, *made from cow horns, to call villagers to their condor-bull festival.*

EKTACHROME (UPPER) AND KODACHROME BY JERRY MCGAHAN © N.G.S.

relationships with ancient and modern man. That study would take two full years.

We would meet *Vultur gryphus* in pottery designs drawn by nameless artists 1,500 years ago (page 686). We would find his figure woven into ancient tapestries, engraved in the rocks of Inca ruins, worked into the coats of arms of four present-day South American nations. We would watch him as a youngster growing up in a cave in Colombia, witness him drown as an adult off the Peruvian coast. We would see him tied to a bull, riding the maddened animal in the plaza of an Andean village. And we would be onlookers at a savage ritual where he dangled from a rope, slowly beaten to death by horsemen.

With the encouragement of Dr. John T. Emlen, my adviser at the University of Wisconsin, where I was a graduate student, and with the counsel of Dr. F. Carlos Lehmann V, noted Colombian ornithologist, we had chosen the Rio Pasto area to begin our field studies. It is one of the few remaining retreats in Colombia where the once-plentiful birds can nest and forage. Perhaps no more than 200 remain in the country. Though more numerous in Ecuador, Peru, Bolivia, Argentina, and Chile, they are threatened there as well.

Should the condor disappear, man will be the poorer for the loss of a fascinating creature. Further, he will be robbed of an important link with earth's past. As Dr. S. Dillon Ripley, zoologist and Secretary of the Smithsonian Institution, puts it: "The condor represents ... one of the very few remaining natural genetic reservoirs, unchanged since Pleistocene times a million years ago. It should be preserved as a biological resource."

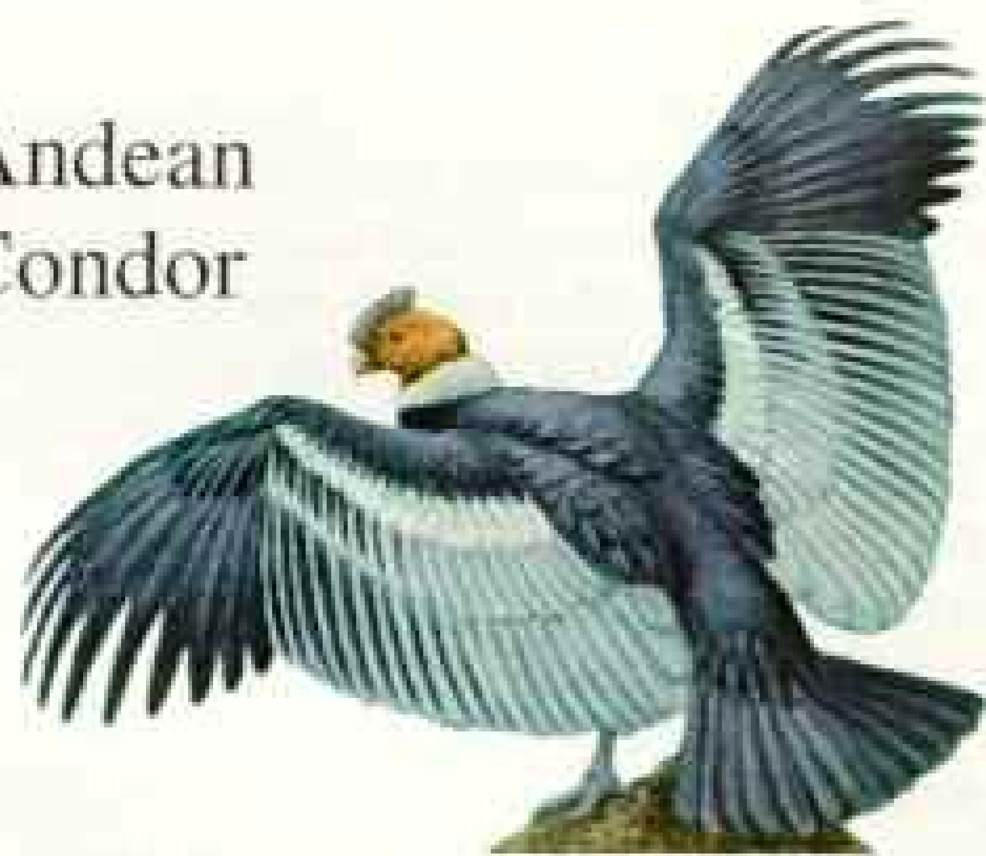
Condors Not Fooled by Man-made "Bush"

During our first frustrating months in the field, we used a pop-tent blind, camouflaged with foliage. But it must have looked to the condors like a bush that had suddenly appeared. Suspicious, the wary birds shied away. At last I reasoned that what we needed was a blind that wouldn't change the landscape in any way—and I began to dig.

I had the help of Miguel Pinta, caretaker at a ranch on the Rio Pasto canyon rim. Its owner, Gerardo Luna Delgado, had generously turned his house over to us to live in. He called the ranch Sal Si Puedes, meaning "escape if you can"—a sincere challenge when rains make the precipitous road to the outside world a muddy thread.

Miguel and I dug the pit in early morning,

Andean Condor



WALTER A. WEBER © N.G.S.

FROM TIERRA DEL FUEGO to northern Colombia, *Vultur gryphus* rides the Andean updrafts on his ten-foot spread of wings, alert for a meal of carrion—a dead sea lion on a Peruvian beach, a calf carcass in Ecuador, a llama in Chile. Song or call: none except for hisses and guttural clucks. Mating and nesting: generally every other year; one whitish egg laid on the ground, usually in a lofty cliff cave; about two months' incubation. Color: juvenile, brown; adult, black with white trim.

to avoid detection by the condors, for then they lack the updrafts they need for flight. Aerodynamically, the condor has evolved a delicate balance between body weight and wing size. This ratio, a marvel of nature's working, governs how—and when—this giant carrion eater flies.

The larger the bird, the greater proportionately must be the wingspread required to support it in soaring flight. For his 25-pound body the Andean condor has a ten-foot spread that blots out almost 20 square feet of sky. He is one of the biggest of birds that fly.

The condor rides the air like a glider. He can flap his wings, but not for long. To do so would require larger breast muscles, and thus a heavier body.

Free Ride to 15,000 Feet on Rising Currents

When the condor does flap his wings, it usually is in bursts of three, four, or five strokes, with pauses between. He reserves flapping for an added boost while crossing an area that has no updrafts, for taking off or landing, or for use in emergency situations. He prefers not to flap; he'll walk a hundred yards from a feeding site just to get to a ridge crest or hillock where, with a leap, he can launch himself on outstretched wings.

In flight he moves silently in vast circles or descends in long, straight glides, the wind in his wings becoming audible at a hundred yards or so. Almost imperceptibly his broad tail or the slender, sensitive "fingers"—primary feathers—on his wing tips shift to feel the air and control precisely his direction and speed. He rides air currents to altitudes of more than 15,000 feet and can sail steadily at speeds averaging 35 miles an hour (right).

This dependence on currents aloft restricts the condor's range to rugged mountain terrain where steep slopes assure strong flows of air and to regions where ocean breezes meet coastal cliffs and hills and sweep upward. Before the morning sun rises enough to heat the land and power such wind machines, the big bird remains at his roost.

That first condor to visit our blind was an adult male. Sex of the Andean condor, unlike that of its North American counterpart, the California condor, can be determined easily in the field. Males carry a fleshy red or black crest. The adult female is smaller and has a red eye, while the adult male has a light-brown iris (pages 688 and 689).

Like a feathered sailplane, a female condor soars above Río Pasto canyon in Colombia. The wind whines through her pinions as she rides a warm updraft; the birds rarely flap their wings except on take-off, in landing, or in emergencies. "The condor relies on thermal currents as cars do on gas stations to get from place to place," says the author. He clocked its air speed at an average 35 miles an hour. Perched on a 2,000-foot cliff, Mrs. McGahan used a telephoto lens to photograph this bird as it glided 200 feet below her.

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KODACHROME BY LIBBY McGAHAN © N.G.S.

Immature birds are brown, compared to the black and white of adults. Subadults lose their brown gradually, attaining the white trim first and then later, at the age of eight years, adding the black.

Condors belong to the family Cathartidae, the New World vultures. Some ornithologists believe they are closely related to storks, in contrast to Old World vultures, which are members of the hawk family. The nasal septums of condors are perforated—making a hole through the base of the bill. Feet are suitable for walking, or bracing while tugging against food, but not for grasping prey. Contrary to fanciful folk tales, the condor cannot fly off with young calves or lambs.

Hierarchy Reduces the Need for Fighting

For a year we remained in Colombia. Fourteen condors ranged the Río Pasto canyon and came to our baits. Within their different age and sex categories, we could recognize individuals by distinct markings, usually located on the head or neck. An established pecking order existed and was quietly maintained. Pugnacious black vultures came also to our baits, but they squabbled and fought in a noisy frenzy. When condors fed, peace usually reigned. Often a dominant and subordinate condor fed together. When the dominant bird stepped to the part of the carcass where the subordinate bird was feeding, it moved there without hesitation. Then followed a ritual nibbling action made beak-to-beak by both birds, after which the subordinate condor would yield the spot quietly. Rarely did we record a bona fide fight, such as the one at left.

One day Libby saw an adult male and female walk off together up a little hill near the bait. At its top they began a courtship ritual. They spread their wings and lowered their heads. They turned to display the wing patches that gave their bodies a striking black-and-white design. Then they mated. We had been searching for a nest intently, and now we redoubled our efforts.

Rare display of rivalry: Two adult males fight with feet, beaks, and wings in a struggle for supremacy. "Condors are generally even-tempered," reports the author. This was one of the few real battles the McGahans witnessed. Black vultures in the background, feeding on a dead horse, stop to watch the skirmish.

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KODACHROME © N.G.S.

"Surprisingly," says Jerry McGahan, "we found the condors to be clean birds. When feeding, they couldn't fail to smear blood on their heads and necks, but they always wiped it off in grass or sand."

On a rocky Peruvian beach, the female at upper left banquets on a dead porpoise. She ate almost three pounds before departing with a distended crop (left). Climbing a steep slope (above), she stops frequently to clean her upper body in the loose gravel.

Of all the condors the McGahans watched, this bird came nearest their blind. "I was hunched in a hole scooped in the sand and covered with seaweed," Libby McGahan recalls, "and she almost walked over me."

The nest of the Andean condor is incredibly difficult to locate. The shy birds choose sites not easily accessible to man. The female lays a single egg on the ground, usually in a cave. Male and female take turns incubating the egg. After the chick is born, adults returning with food seldom are visible around the entrance for more than a few minutes at a time.

Thus in sheer country where a multitude of caves pock the cliffs, odds are great against observing the right opening at the precise time an adult arrives or leaves.

Crisis Arises When Parents Disappear

Our searches were long, hot, and seemingly endless. The pair that mated near the blind continued to mate regularly in the neighborhood of their roost, but no egg was laid. Yet during the weeks we watched this pair, by chance we discovered a nesting couple.

Three pairs of condors, including our honeymooners, frequented a green amphitheater where palisades on one side dropped vertically to the river bed. Libby and I, often on alternate days, watched from the opposite side of the canyon, a mile away.

"I saw the female of one pair land near a small cave twice today," Libby reported. "We should watch them more closely." She sketched the location of an opening, barely four feet across, that made an unobtrusive dot among the many on the immense cliff face.

We added the pair and the cave to our observation routine. Two weeks later, just as I swung my telescope across the opening, something moved. I squinted my eye and refocused. A condor chick, barely distinguishable in his brown plumage from the brown of the rock around him, stepped out on the ledge that fronted the eyrie. His crest marked him as a male, and I judged him to be about five months old.

We observed the drama of condor life in that Andean cave for a month, including a week in a blind we built on the cliff face. We saw the chick flap his wings and jump about as if testing himself for his first flight. We watched him crouch and move his wings in a begging motion when one of his parents appeared in the sky. We looked on as the adult alighted and fed, preened, or nuzzled him.

Then one day the parents failed to come. Had they abandoned the chick? Had we disrupted this family unit with our presence? Merely approaching the nest of California condors can be enough to frighten the birds away for days; apparently Andean condors

Suspended 250 feet below the lip of a canyon wall in Colombia's highlands, Jerry McGahan grapples with Gronk, a 24-pound chick. For a month the McGahans had watched the parents—called Nikos and Helen—feed and tend the juvenile in a lofty cave. But when the older birds failed to appear for three days, Jerry feared the offspring might starve and rappelled down the cliff to capture him. Struggling to escape, Gronk tore the shirt off Jerry's back, but at the McGahans' field camp he quickly accepted his foster father (right).

EKTACHROME (OPPOSITE) AND KODACHROME © N.G.S.

must also have undisturbed wilderness for successful reproduction. And this protection should be for the full year, since the nesting cycle probably lasts the calendar around. Incubation takes about two months, then the chick lives in the cave for six; even after leaving the nest, the fledged juvenile depends for a time on the parents for food.

Concerned lest the parents had forsaken the chick, I decided to capture him and take him to the ranch for study. I knew that—wary though the condor may be in the wild—he adapts well to captivity. Zoos have raised them successfully; one bird in Milwaukee has lived for more than 50 years.

Foster Parents to a Baby Condor

I rigged climbing gear and, carrying a burlap bag, rappelled 250 feet down the cliff to the cave opening (left). Through the scope from across the canyon the chick had appeared to be the size of an eagle. When I stepped down onto the ledge, I was astonished to find a youngster that stood almost four feet high—as big as an adult female. He hissed and opened his wings. I grabbed one of them. He bit at me and I seized his neck, thrusting his head under my arm. While he tore at the back of my shirt, I wrestled his body into the burlap bag. That evening he was safely at Sal Si Puedes, his new home.

Libby and I named the ungainly youngster Gronk. The first day I stayed with him constantly, offering a kind of peace. I spoke quietly, avoided sudden motions, stroked him with a feather, gave him bits of raw chicken to eat. By nightfall he had accepted me, and a few days later he would nestle in my arms like a friendly dog.

Gronk liked to lie in our laps. He also seemed to enjoy being near us and would follow us around the ranch when we were there. Apparently he considered Libby and me as parents, for he begged when we brought food.

Gronk loved to bathe. Every day we took him to the nearby irrigation ditch where he would flap awkwardly for as long as half an hour. I was reminded of an Inca legend that a condor carried the sun aloft each dawn from its resting place in sacred Lake Waynaqocha.

Much of Gronk's behavior seemed to be regulated by the temperature. In the morning, or after cool spells during the day, Gronk would sun himself, opening his wings to the sun's rays. Thus he could increase his body warmth without expending his own energy. One means he used to cool himself was even more singular. Instead of excreting white uric acid on the ground, he would drop it on the naked tarsi of his legs. Evaporation of the liquid served to cool that surface.

We still are learning about condor behavior from Gronk. As I write these words, he lives near us in Wisconsin, a pet we find endless delight in studying (page 709).

Condor calisthenics on the rim of Rio Pasto canyon: A few days after capturing Gronk, the author holds the bird aloft to exercise his wings; many more months must pass before Gronk will be able to fly. Morning fog envelops the valley below this desolate plain. Nearly five feet of rain falls annually on these mile-high uplands, but vegetation is so sparse on the eroded land that only the hardiest of cattle can survive.

The days of Gronk's kind in Colombia likely are numbered. When we left the Rio Pasto canyon, work had just begun on a new section of the Pan American Highway that would cut through the heart of this condor retreat and drive the birds away (map, page 691). In general, however, encroachment by the burgeoning human population poses a less immediate threat than hunters' guns. The condor's large size and steady flight make him a tempting target. Some persons count him a major trophy. Others kill for a different reason.

Condor Friend Meets a Condor Foe

On a hike along a canyon trail one day I almost collided with an Indian carrying a vintage shotgun. He asked what I was doing.

"Looking for condors," I answered.

"Where's your gun?"

"I'm not shooting them, I'm studying them." He shook his head incredulously. "Have you shot any condors?" I asked.

"Yes. They're good eating. Each has three kinds of meat. One tastes like horse, another like beef, and the third like condor."

"How does the 'condor' condor taste?"

"Well, like . . . ah . . . condor. You'll just have to eat it to see."

"Twenty-five pounds of condor is a lot of meat. Do you eat it all yourself?"

"No," he answered. "I sell part of it. I sell the heart and bones and stomach for medicines. I grind the bones; the powder is good for curing rheumatism and paralysis. The inside of the stomach cures breast cancer. The heart is good for everything."

Peruvian and Bolivian highlanders believe dried, pulverized condor heart cures epilepsy and cardiac defects. The eyes are roasted and eaten to correct human eye ailments.

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Drinking condor blood lengthens one's life, and wing bones are used to make the Inca *quena*, or flute (page 690).

We had picked Peru for a continuation of our condor studies after I had scouted sites in several countries. Peru offered large seasonal congregations of condors on the desert coast—conditions most divergent from those of Colombia. In addition, live condors figure in traditional festivals in some Peruvian villages. We wanted to see them.

Villagers Excited by a Violent Spectacle

Near Cuzco, ancient capital of the Inca Empire, on certain nights of the year you can hear the mournful, trembling cry of the *wajra-pukara*, an instrument made from cow horns fitted together. Its wail echoing across the canyons announces that bull and condor are to meet, and Indians from the mountain valleys filter into the central village for the Yawar fiesta—the celebration of blood.

Libby and I traveled with one crowd into Cotabambas, a cluster of adobe huts and tile roofs. There we were welcomed as special guests and overwhelmed with hospitality. For a week we ate, drank, and danced with the festive villagers, and learned about the Yawar fiesta from the local schoolteacher.

"Several weeks before the fiesta, teams of men go up into the mountains to trap condors," he explained. "They sacrifice an old stock animal for bait, and hide around it. If any condors alight, the men rush out, throwing their three-stringed *liwis*—bolas—at the birds. Should a condor be brought down, the men subdue it by covering it with their woolen ponchos. Then they tie its beak shut and bring it to the village."

There a strange competition takes place.

Bedding down for the night

On the Peruvian coast, 400 feet above the Pacific Ocean, more than a dozen condors congregate. It is summer in South America, and the birds have migrated 40 to 50 miles from mountainous inlands to feed on sea lions that die and wash ashore. Not a speck of green brightens the harsh landscape. Sunset gilds the cliffs above the ocean.

As wild as its few remaining habitats may be, the condor in Peru is threatened by the rapid encroachment of man. The author advocates that the Peruvian Government limit killing of the bird and establish preserves where it can feed and nest unmolested.

"From the Paracas Peninsula, groups of condors can be seen daily in summer on Zárate Island," says Mr. McGahan. "A national park there would provide an excellent site for viewing—and protecting—the magnificent birds. Peru lacks funds for starting such a refuge, but contributions from the United States could help do the job."

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Each year two respected citizens are elected *dueños del cargo*—the ones in charge—of the festival. Each must finance half of the fiesta-week activities—paying the teams that capture the condors, securing bulls, importing bands from Cuzco, buying food and drink for all. Each dueño attempts to outdo the other.

"To be a dueño is a great honor and a great burden," the teacher said. "Those who have held the post are deeply respected. People will save money all their lives to be a dueño once. Some even have sold all their belongings to finance the undertaking."

On the fiesta's fourth day, events reach a climax. Then condor "rides" bull in a furious contest fraught with symbolism. For the condor, like the Inca a native of the Andes, represents the Indian. The bull, imported to the mountains by Spanish conquistadors, represents the foreign invader.

Libby and I had seats with the town fathers on the edge of the bullring. We watched while attendants, using a special needle, pierced the bull's hide and threaded a rawhide strip through it to which the condor's legs were tied. Then both animals were released. Amid shouts from spectators the bull plunged and twisted and hooked, trying to dislodge the bird. The condor's immense wings flapped wildly as he sought to free himself, biting at the bloody hide of the infuriated animal. And above the brassy music of the Cuzco bands, two wajra-pukaras moaned.

Freed Birds' Flight Symbolizes Hope

After 10 minutes both condor and bull were exhausted. The bull was roped and led away, the condor untied and taken to a dark room to recuperate. Two days later all the fiesta's condors were borne in pompous procession to the top of a nearby peak for the *despedida*, the farewell celebration.

Men and women in the procession sang and danced until the freed condors—adorned with necklaces and tipsy from being fed *chicha*, a native corn beer—at last took wing. Then the villagers returned home. A good omen had been cast. The condor had met the bull, and he still flew free.

In years past the bull would have been sacrificed after the condor's ride. But today bulls are too few and too valuable. Time has altered, too, the villagers' concept of the festival, until few now are aware of the symbolism behind the confrontation of bird and beast.

Time, however, has not changed the barren landscape of the Paracas Peninsula, our major study area in Peru. Near the town of Pisco, an ancient people once fished the cold waters. Several times we camped amid their bones; their 2,000-year-old cemeteries had been opened by archeological expeditions and treasure hunters seeking the high-quality textiles preserved in the dry air of the tombs. Condor motifs figured in beautiful tapestries, and in simple but expressive designs on the polychrome pottery in the region's museums.

We felt strangely close to this Paracas past when we watched condors glide along coastal beaches, soaring above naked bronze bodies of men overturning rocks in the surf in a search for octopus and crabs—a daily scene unchanged for thousands of years.

Beach Feeders Reveal Gliding Secrets

One such beach gave us a unique opportunity to study closely the flight of condors. The mile-long strand separated two rocky promontories. Sea breezes deflected by the rocks produced updrafts that supported the condors. The birds crossed the beach regularly, always in a straight line; thus we could record many aspects of condor flight as they passed over. Anemometers rigged on a tower monitored wind conditions. When we have analyzed the data, we will be able to compare the flight performance of the condor with that of other birds and of man-made gliders.

Off the coast of Peru vast numbers of sea birds feed on the abundant anchovy population. Peruvians since the age of the Incas have mined the lavish stores of guano the birds deposit.* The most productive sites are islands off the Paracas Peninsula, where cormorants, pelicans, and gannets congregate.

Condors, turkey vultures, and gulls feed on these guano birds when they die. Condors also have been seen eating eggs and nestlings of cormorants. When the great vultures fly over, hysteria erupts and many eggs are broken inadvertently by the parent guano birds themselves. However, an ecological study set up with the help of Dr. Joseph J. Hickey, who visited us from the University of Wisconsin for a week, argues that the condors pose no major threat to the guano birds.

Methodically during a six-month period Libby and I counted condors and made a food

*Robert Cushman Murphy explained how "Peru Profits From Sea Fowl" in the March 1959 GEOGRAPHIC.

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Cormorants by the millions inhabit dozens of islands off the Peruvian coast (top). Annually, the National Fertilizer Service of Peru, better known as "the Guano Company," mines thousands of tons of nutrient-rich excrement on these bits of land.

Condors once frequented the isles, feeding on eggs and chicks and frightening away nesting birds. Peru appointed guardians to slay or scare off condors, and today the big birds seldom visit the guano islands. Nevertheless, one island caretaker goes to the mainland each year and kills 50 or more condors to justify his job as protector of the guano birds.

On one such trip the McGahans saw him pursue a male and a female (above). His shots struck nine condors in a single day. Shouldering a slain bird (right), the caretaker's Indian carrier heads for a boat that will take him back to the island.

"Killing condors on the mainland accomplishes nothing," protests the author. "The National Fertilizer Service should ban condor shooting except on the islands themselves."

Arranque del cóndor

Each February in Peru's Callejón de Huaylas region, 10 to 15 birds meet violent death in the "pulling of the condor." The celebration is also called Cóndor-rachi*—"tearing the condor to pieces."*

In the village of Cashapampa (below), men with faces festively painted bring in a captured vulture. As the bird hangs suspended and helpless from arched poles (opposite), horsemen charge back and forth, striking it with their fists. At the final moment, one man grasps the condor by the throat and bites its tongue out. Then the dead bird is lowered into the crowd, where it is torn apart in a struggle for talismans (left). To the early Spanish in the New World, killing a condor symbolized the death of the Indians' pagan gods, a meaning lost in modern times.

KODACHROMES (TOP AND OPPOSITE) & EKTACHROME © N.G.S.

survey along 25 miles of coastline. We found that although condor diets often include dead birds, porpoises, and sea turtles, the primary food was sea lions—dead adults washed up on beaches or young animals that had died on the birthing grounds. The number of condors appeared to be related to the number of sea lions available as food.

Peru's Servicio Nacional de Fertilizantes, a nationalized organization that mines the fertilizer deposits, conducts annual hunts for guano-bird predators—Peruvian gulls, kelp gulls, and condors. Thousands of gulls have been killed, but still they maintain sizable populations. Condors, on the other hand, steadily decrease in numbers. One spring Libby and I went to Santa Rosa Island to see a condor hunt.

Maximileno Ormeño, the servicio's guardian on Santa Rosa, is a likeable man who enjoys his lonely job. When he asked why we were studying condors, I told him about our interest in endangered species. I mentioned that in the United States only about 50 California condors remained.

"Fifty!" he exclaimed. "Why, I kill that many every year." He was proud.

"Do condors still get eggs and nestlings on your island?" I asked.

"No, there have been no condors on Santa Rosa for six or seven years. I go to the mainland to shoot them."

"If they don't bother your birds here, why do you shoot them?"

"Well, I don't want them to start again. But more important, condors are all I can get. See that island? The guardian there gets thousands of gulls. There are no gulls here. When the servicio's biologist comes, I would have nothing to show for my work unless I went after the condors."

Hunter's Shots Hit Nine in a Day

On a trip to the mainland the guardian killed several sea lions and left them for bait. At dawn two days later we struck off with him on a windy sea. We landed and hiked for two hours to sandy cliffs near the bait. Suddenly the guardian crouched, and crept to the cliff edge. Libby and I followed. Below us two adult condors, a male and a female, stood together, wings touching. The guardian lifted his shotgun. At the movement the male bird cocked his head. The gun fired. Hit, the female flapped clumsily away. The male crashed into the sea. I saw him struggle toward a rock through a mass of kelp. Then a wave washed over him and he disappeared.

One shot, two condors hit, and one killed. I saw nine birds hit that day.

Festive Air Accompanies Ritual Killings

A bizarre Peruvian event takes the lives of ten to fifteen condors a year in public executions held each February. Near the end of our fieldwork, Libby and I drove north into the mountains to the Callejón de Huaylas region to view these rites.

We had to hike seven miles to reach the village of Cashapampa, where an *arranque del cóndor*—"pulling of the condor"—was to occur. We arrived a bit early, and met an American missionary who talked with us about the fiesta.

"The condor is trapped on the puna [tableland]," he said. "Men waiting in a covered pit reach through a fist-size opening to grab the leg of any condor attracted to the bait. Comrades then rush up to complete the capture."

While we talked, men finished an arch of poles. They tied fruits, presents, and bottles of chicha to one end of a rope that ran through a pulley at the top of the arch. Later the condor would be suspended alive from the same rope, and blows rained on him.

"Some people believe this celebration is a form of the *cortamonte*," our friend said.

"Isn't that where they dance around a tree decorated with gifts and fruits and chop at it until it falls?" Libby asked.

"That's right," the missionary said. "Apparently this fiesta came with the Spanish. In Spain it symbolized destruction of the pagan god that resided in the tree. To destroy the pagan god of the Incas, they beat a condor to death instead of chopping down a tree. But for most people here time has erased the ceremony's origin and meaning."

A long file of horsemen had entered the arena, preceded by a band playing quenas and drums. Now the mounted villagers began to gallop through the arch, grabbing at the objects tied to the rope. An individual on foot jerked at the rope's opposite end, trying to snatch the prizes out of reach at the last moment. Shouts from the crowd greeted any successful grab.

"Here comes the condor!" Libby cried. Two men rode into the arena, each holding the condor by a wing. They tied his feet to

A condor goes to college: Brought to the United States, Gronk now occupies a room in the biology building at the University of Wisconsin, where the author completes doctoral studies. Every Sunday the condor flies around the campus, sometimes enjoying a bath in Lake Mendota. He displays no fear of humans, but is terrified by squirrels and falling leaves.

the end of the rope where the objects had been. Then they released the bird. He tried to flap skyward.

Riders began circling through the arch again, this time flailing at the great bird with their fists (page 706). At first the condor's flapping, and tugs on the rope, kept all but a few from striking him. But as he became exhausted and the pace of the circling increased, more and more blows fell true. Clouds of dust hid the mounting frenzy as rider after rider pummeled the spinning mass of feathers until the condor was dead.

A knot of horsemen gathered beneath the arch. One of them pressed his mouth to the condor's gaping beak. With his teeth he ripped out the condor's tongue. Next year this man would have the honor of dispatching the team to catch another condor.

Dazed by the savagery, Libby and I were silent as we headed down the rocky trail toward the valley in the Andean evening. My thoughts wandered. I remembered the condor designs painted on the delicate bowls we had seen in Peruvian museums. The thought struck me that I had never seen the condor represented in modern artistic forms.

It seemed to me then, as it does now, that until the condor can evoke in modern man the kind of emotion known to those ancient artists, the future of this colossal Andean bird is seriously imperiled. □

Britain's "French" Channel Islands

By JAMES CERRUTI
ASSISTANT EDITOR

PHOTOGRAPHS BY
JAMES L. AMOS
NATIONAL GEOGRAPHIC PHOTOGRAPHER

"THE QUEEN, OUR DUKE!" "The Duke, God bless her!" Odd toasts, indeed. I began to suspect that things are not always what they seem in the quirky, paradoxical Channel Islands. By cherished tradition the islanders drink their sovereign's health as Duke of Normandy, regardless of sex, though they may toast Elizabeth II as Duchess on state occasions. But they *never* lift their glasses to her as Queen of England.

"Don't you *dare* say we're English! England never conquered us. *We* conquered England!" My informant was mettlesome red-haired Jennie de Sausmarez, beautiful daughter of the Seigneur de Sausmarez, one of Guernsey's feudal lords.

Jennie has a point. When William, Duke of Normandy, seized England in 1066, the Channel Islands—already part of Normandy for more than a century—shared the glory of the conquest.* In the 13th century, the French took Normandy from John, King of England and Duke of Normandy. But they failed to get the Channel Islands, and so, by virtue of possessing these fragments of the great duchy, the English King—or Queen—is still Duke of Normandy. In return for this honor, the British liege must endure the islanders' inclination to regard England as *their* oldest possession.

Under the Duke, and within the British Isles (in which England, they correctly insist, is just another party), the islanders rule themselves through venerable

(Continued on page 715)

*Historian Kenneth M. Setton wrote "900 Years Ago: The Norman Conquest" for the August 1966 NATIONAL GEOGRAPHIC.

Brave British lass, vacationing at Vazon Bay on Guernsey, noses up to a new friend—one of the

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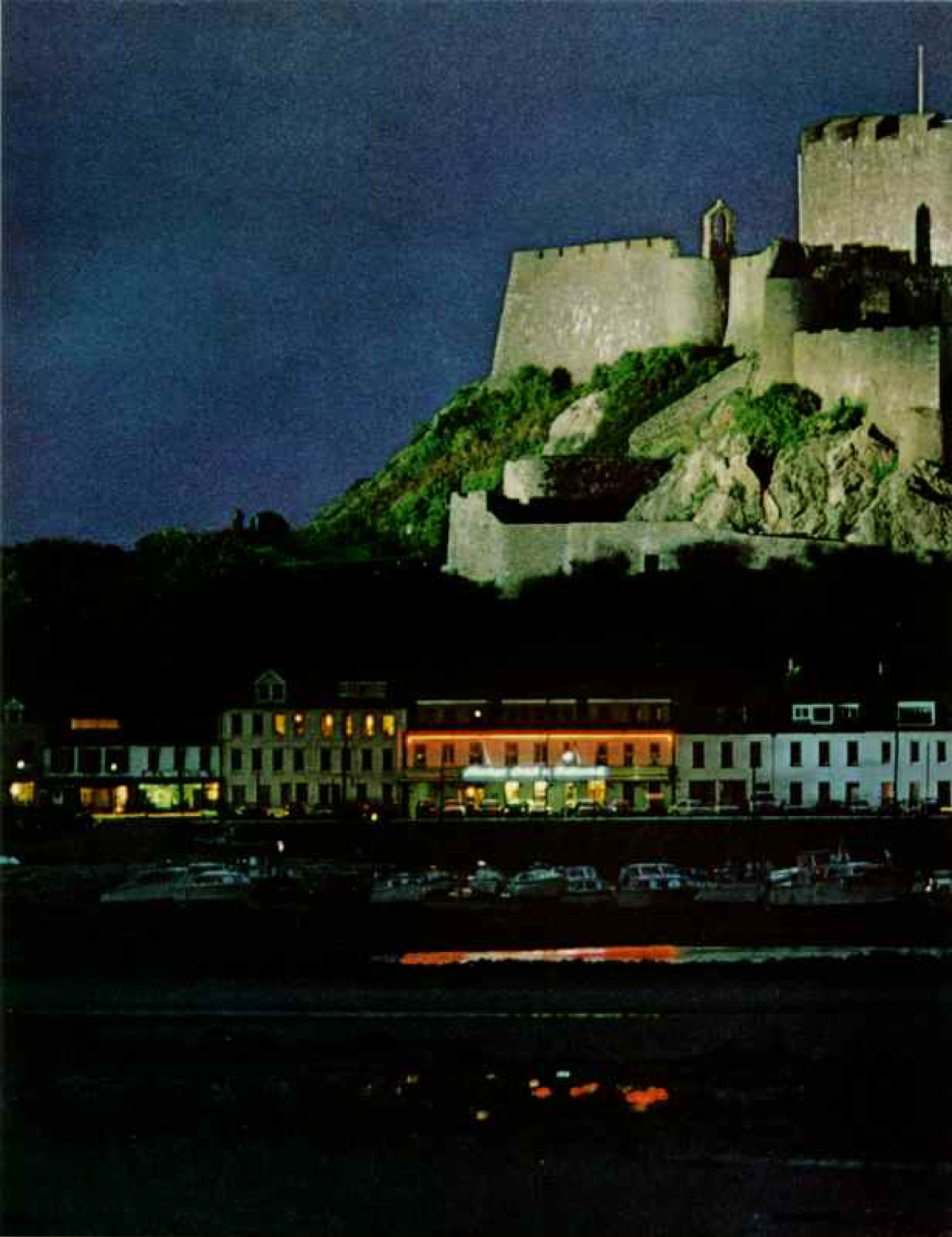
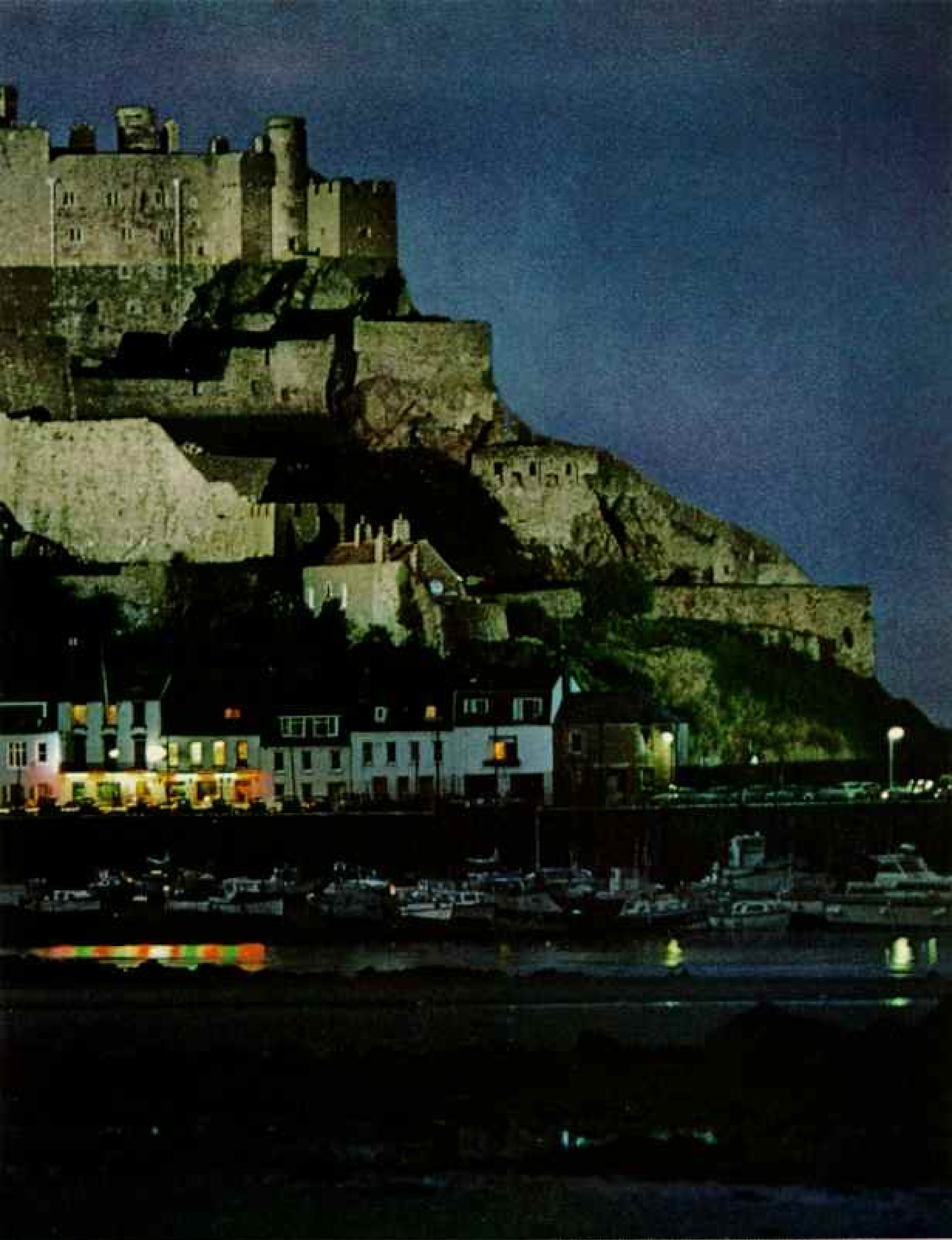
island's famed cows. Sleek cattle and lush farmlands enrich the pastoral life of Channel Islands residents. Free-port prices and a climate tempered by the Gulf Stream's gift of warmth lure a lively flow of tourists.



Relic of bow-and-arrow days, venerable Mont Orgueil Castle still guards the seaside town of Gorey on Jersey's east coast. Begun about 1200, the crenellated fortress helped defend the islands for some 300 years;



KODACHROME BY JAMES L. AMOS © NATIONAL GEOGRAPHIC SOCIETY

today it houses waxwork exhibits. Most of the row houses along the waterfront date from the early 1800's, when offshore oyster beds—soon to be exhausted—brought unprecedented prosperity to the little port.

Gallic bits of Britain, the Channel Islands all lie within sight of France. Six main isles, plus an undetermined number of islets and rocks, add up to only 75 square miles. Severed from the Continent by rising seas less than 10,000 years ago, they have served in historic times as steppingstones for incursions of Romans, Bretons, and Vikings. William of Normandy was their ruler when he conquered England in 1066, and Britain has held the islanders' allegiance ever since. During World War II the Germans garrisoned the islands as forward sentry posts for their Fortress Europe.

Reaping the sea to enrich the soil: A Jersey farmer spreads *vraic*—pronounced "wrack"—a seaweed used by frugal islanders as fertilizer.

parliaments which they call the States or the Chief Pleas. Their officers of government bear feudal Norman titles: bailiff (both leader of the States and chief justice), sénéschal, greffier, connétable, and douzenier.

Attending a session of the States of Jersey, still opened with a prayer in French, I noted an empty throne beside the bailiff's. "That's for the lieutenant governor," the Jerseyman next to me said. "He's the Queen's representative, but he takes no role in civil affairs. The people's representative is the bailiff. So there can be no mistake about who's boss, we made the bailiff's chair six inches higher. But the Queen sends tall governors. Sometimes you can't see the difference."

The real difference is there nonetheless. In most respects, laws of the British Parliament do not apply to the islands. Some laws the bailiffs uphold predate Parliament. An islander who feels his property rights are being violated may call for justice in the name of Hrolf—also known to history as Rollo, Viking founder of the Norman dynasty in 911. On the site of the alleged offense, the supplicant falls on his knees and cries: *"Haro! Haro! Haro! A l'aide, mon Prince! On me fait tort."*

"Haro" is thought to be a contraction of "Ha! Rollo!" and so the appeal would mean: "Ha! Rollo! To my aid, my Prince! Someone does me wrong." Some authorities feel, however, that the cry is older than Rollo and derives from the Frankish word *haran*—to shout. In any case, this *Clameur de Haro* leads to an injunction and trial. It was last "duly raised" on June 4, 1970, in Alderney to prevent the construction of a garden wall.

With such Norman-steeped traditions, many Channel Islanders understandably resent being called English. Some will not even admit that the islands are in the *English* Channel. They maintain (with some justification) that all the islands except perhaps Alderney are actually in the Golfe de St. Malo.

If, therefore, the Channel Islands are not English and not in the Channel, what are they? They are six major islands—Jersey, Guernsey, Alderney, Sark, Herm, and Jethou, each with tiny satellites. On any one of summer's many crystal-clear days (which the natives contrarily insist portend six weeks of rain), the big islands all lie within sight of one another, with Jersey and Alderney, separated by 31 miles, the farthest apart. Together the islands comprise 75 square miles and support a population of 120,000, who in the course of a year are hosts to a million visitors.

Warming Sun Has a Market Value

From every island I could glimpse France—29 miles from Guernsey, the farthest off, and 9 from Alderney, the nearest. Alderney is also nearest to England, but it is still 57 miles away. From this geography, I understood why the Norman influence survives.

Attracted partly by flavorful Norman ways, hordes of British vacationists crowd the isles in July and August. Tourism, Jersey's leading industry, produces half the island's income. In summer only London has busier airports in all the British Isles.

For chilblained British visitors, the islands'

PLAYER'S
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Blooms and balloons enliven the Battle of Flowers in Jersey, where participants and onlookers once bombarded one another with blossoms. Lavish floats now highlight St. Helier's annual midsummer carnival (left), first held in 1902 to celebrate the coronation of Britain's Edward VII. At last year's festival, the float in the foreground won high honors for the Parish of Grouville. As many as 60,000 spectators witness the event.

To help create such elaborate entries, the rain-drenched youngster above carries bouquets by the bucketful from a St. Brelade field. Guernsey stages a similar spectacle in August.

chief lure is, of course, the remarkable climate. Warm waters from the Gulf Stream make even winter mild (a day or two of frost a year), and in spring and summer blue skies prevail. Jersey holds the sunshine record for the British Isles: 1,900 hours annually.

At the latitude of Newfoundland, flowers riot and, amid bracken, heather, and gorse, subtropical palms flourish. Even the chill surrounding waters (60° F. in summer) look like emerald-and-amethyst Caribbean seas.

In these flowery havens taxes are as gentle as the weather. Purchases are duty free, or nearly so, and alcoholic beverages are hardly dearer than soft drinks: Scotch costs less than $3 a bottle. The restaurant cuisine, touched with Gallic genius, comes at bargain prices. I grew so sated with lobster and Dover sole "on the bone" that, even at $3 per four-course dinner, I passed them up for cheaper fare like filet mignon and baby lamb chops (three). Besides all this, low income-tax rates and the absence of death duties have turned many wealthy British tourists into residents.

But long before tax advantages—or even taxes—tourists came to the Channel Islands and decided to stay. Near La Cotte Point, which looms above St. Brelade Bay's eastern shore, Neanderthal man dwelt in a cave when Jersey was part of the French mainland.

Stone Tomb Stripped by Unknown Looters

In other Jersey caves even earlier men lived 110,000 years ago. But these cave dwellers vanished during successive ice ages. Within the past 10,000 years the sea cut Jersey off from the mainland, and not until about 3000 B.C. did Neolithic boatmen dare the crossing.

These immigrants built elaborate stone tombs throughout the Channel Islands, and Jersey has the finest, La Hougue Bie. When it was excavated in 1924, it yielded only a few skeletons and bits of pottery. Who had stolen the furnishings? Were they subsequent

inhabitants—Romans, Bretons, the followers of the Celtic monks who brought Christianity in the sixth century? Most likely, they were Vikings—the Norsemen or Normans—who raided the islands for a hundred years before their chieftain, William Longsword, annexed them to Normandy in the tenth century.*

Many Normans settled in the islands, and so, I was told, I would see on every side the Jerseymen resembling the Frenchmen a few miles across the water: shrewd, thrifty, stubbornly independent, tight-lipped, communicating in a Norman-French tongue as archaic as the Anglo-Saxon of Beowulf. I went in search of such a man, beginning, logically I thought, in Jersey's capital, St. Helier.

This town of 27,000 clusters round the harbor, and on some summer days at least twice that number choke its narrow streets. I sought my Norman exemplar among them in vain. These crowds babbled extravagantly of low-duty bargains, not in Norman French but in more British dialects than I thought existed. Indeed, I recognized only one, when a gentleman—surely from within sound of Bow bells—spelled his name for a saleslady: "Aylmer, miss, . . . 'i' . . . as in 'happle.' . . ."

The typical Normans I sought were no doubt hiding out—shrewdly, stubbornly, tight-lippedly—until these seasonal Anglo-Saxon invaders withdrew. Or, perhaps, on second thought, they were counterattacking before my eyes. Those cars that careened madly among shoppers as they jostled each other off the crowded sidewalks. . . . Were their near misses merely coincidences?

To Channel Islanders a car is a souped-up Viking dragon ship, intended for alarums rather than excursions. Recently, Jersey's rivalrous sister Guernsey invented annual mudlark meets, in which old "bangers"—near-wrecked automobiles—are raced across

*Howard La Fay traced the saga of "The Vikings" in the April 1970 NATIONAL GEOGRAPHIC.

KODACHROME © N.G.S.

Following their leader, winsome Jersey cows amble to pasture in St. Mary's Parish. Many owners tether them for browsing; the animals must be moved several times a day to avoid overgrazing.

Jerseys lead the bovine world in the richness of their milk. To protect the purity of the breed, local law allows no other cattle on the island, and to prevent the introduction of disease, none of the many cows shipped abroad may ever return. Guernsey applies the same rules to the larger brown-and-white cattle that bear that island's name.

Solitude still beckons on Jersey, though visitors number some 820,000 a year.

the oozing sands at low tide, turning turtle, dropping engines, shedding bonnets, and even bursting into flame (pages 724-5).

It is hoped this havoc will get the bangers off the roads, but, alas, it does not get banger-type drivers off the roads. The average road in both Jersey and Guernsey appears about a car-and-three-quarters wide, locked in on both sides by the walls with which citizens edge their property. Under the varying encroachment of the walls, every road not only twists but expands or contracts unexpectedly like a snake swallowing a rabbit.

On this tricky field drivers play the game of Channel Islands chicken. All cars hog the road's center. When an approaching car is sighted, maximum speed is laid on. The car that swerves into the wall loses.

You cannot refuse to play. If you stop suddenly to let an oncoming dragon car roar past at its own peril, the boot bumper (tailgater) behind you tags you out.

Gallic Verve Under a "Puddin' Hat"

At some risk, therefore, I combed Jersey's 6 by 12 miles—scrutinizing many of its 64,000 inhabitants. Finally, at Ashley Court, I found my Norman exemplar, standing outside his

KODACHROME BY NATIONAL GEOGRAPHIC PHOTOGRAPHER JAMES L. AMOS © N.G.S.

This rider guides his mount across lonely tidal flats at St. Aubins Bay.

tall and stately 18th-century house of polished Jersey granite. His name was Philip Le Cornu, and he looked and acted so buoyantly French that I had to call him monsieur. A short, solid, rosy-faced man in his 60's, Monsieur Le Cornu wore a white cloth hat with an immense crown and a wide floppy brim.

" 'Tis me puddin' hat—75 years old," he explained in the tongue he reserves for foreigners. " 'Twas one of me uncle's. But I'm havin' the remainder of it."

With his son, Philip, Jr., he walked me round a farm enclave so enchantingly old-time Norman that any Disneyland scout would make a bid for it. Here three generations of Le Cornus live and work together.

I followed M. Le Cornu into his farmyard, as he scattered corn to the chickens (following pages). They zeroed in, as did a tiny three-year-old blonde. With a kiss and a laugh M. Le Cornu turned the feeding pan over to his granddaughter.

Suddenly a Chinese goose, honking belligerently, hightailed straight for me. " 'Tis Old Dick," Monsieur said, "a fine watchdog," and shooed him off.

Frustrated, Old Dick retreated to the pasture and gave one of the Jersey cows a sharp

peck on the knee. We followed him, and several of these winsome creatures came to investigate us. The most feminine of cows, Jerseys are accordingly the most curious. One, enraptured by my wristwatch, followed me about, licking it with her rough tongue.

Glamour Queen of the Dairy World

Even Guernseymen, who have their own proud and bigger breed, have been known to admit that the Jersey is the world's prettiest bovine. Small, with deerlike legs, a dished face, elegantly incurving horns, and immense amorous eyes black-rimmed as if with kohl, she looks like a Walt Disney idealization of a cow (pages 718-19). But she is a champion, too.

"Our Jerseys hold the world's record for butterfat content," M. Le Cornu bragged, then grudgingly conceded, "Guernseys come next. But our Jersey cream is so thick we don't pour it—we *spooooon* it!"

Like Jersey and Guernsey, Alderney also used to have a distinctive breed, but it died out during World War II. Now Alderney, as well as Sark, Herm, and Jethou, since they are all administratively part of the Bailiwick of Guernsey, may raise only Guernseys—absolutely not Jerseys!

Leaving the cow pasture, M. Le Cornu and son led me through a lofty stone barn, lined all round with trays of seed potatoes.

"I do 50 *vergées* of potatoes a year," Philip, Jr., said. The vergée, an old Norman measure, is still the legal land unit of the Channel Islands. On Jersey, two-and-a-quarter vergées make one English acre, but Guernsey disagrees, and counts two-and-a-half to the acre.

Potatoes and tomatoes are Jersey's leading crops, though daffodils and anemones are

Inquisitive cows saunter up as Philip Le Cornu feeds his chickens at Ashley Court. Much of the farmer's income derives from potatoes, Jersey's major export. The island annually produces some 42,000 tons. Mild winters enable growers to harvest as early as April, and thus benefit from high off-season prices in British cities.

Lone resident of Les Ecréhou, a chain of rocky isles only nine miles from France, Alphonse Le Gastelois lives on the islet of Marmoutier. Tides, rising and falling as much as 42 feet, alternately drown and bare all but three of the crags, the largest a mere 300 yards long. To buy the supplies he needs, the recluse traps lobsters and helps the occasional visitors who come to watch the bird life or to search for ormers, edible shellfish similar to abalone.

KODACHROMES © N.G.S.

gaining. Whatever the crop, it benefits from the fact that Jersey's greatest elevations are in the north, as high as 437 feet, so that the land slopes southward and sunward. This not only makes Jersey's beaches the Channel Islands' warmest, but also gives Jersey farmers the advantage of marketing early crops. (North-sloping Guernsey, having to try harder, produces its early crops in glasshouses.) The Jersey farmer sends early potatoes to British markets in April, and cauliflowers and flowers all through the winter.

"Joooce" Mellows in Farmhouse Cellar

Having completed our rounds, we descended to a dim stone cellar containing huge casks and racks of dusty bottles. M. Le Cornu tapped a cask and handed tumblers of a mild, delicious amber liquid to me and to three of his neighbors who had suddenly materialized.

"This," he said, holding up his glass admiringly, "isn't cider. 'Tis joooce, *joooce*. . . . Phil, be so kind as to lay your hands on that joooce we put in the champagne bottles."

Phil returned sad-faced with an empty champagne bottle, its cork still wired down. "It's all gone off—right through the cork!"

M. Le Cornu, more impressed by the feat than the loss, exulted, "Ah, the power of it! You know, one grooop always used to ask us specially for that batch. They found it excited the party. Well, you'll have to try this instead."

"This" turned out to be rhubarb juice, followed by an elegant black-currant juice. The party becoming moderately excited, I found myself thinking that Jersey's farmers—particularly M. Le Cornu and his cronies—were the heart of Jersey, the salt of its earth.

Taking another sip, I inquired of M. Le

Cornu whether he had ever observed that his juices produced an effect remarkably like that of alcohol. But he chose not to reply, for he was talking animatedly with his friends of the shameful passing of old Jersey ways. I chimed in with the remark that the old Jersey French seemed to be vanishing too.

"Well, we don't like to speak it in front of people who don't understand—it's rroood," M. Le Cornu said. " 'Tis certain every Jerseyman speaks English, but I have a friend as old as me who's never said a word to his wife in anything but Jersey French. It's a family language, you know. We have no *vous*, meaning 'you'—everyone is *tu* to us; that's the 'you' the French only use with friends and kin. We're an informal people, not like the French or the English—more like you Yanks. Maybe you even got your ways from us. We used to own New Jersey, y' know."

Prince Charles Finds a Refuge

In a way M. Le Cornu had it right. When Charles I lost the English throne, and his head as well, only Jersey and Virginia, of all Stuart dominions, remained loyal to the crown. During Oliver Cromwell's rule, Jersey Bailiff Sir George Carteret twice gave refuge to exiled Charles II. These kindnesses were remembered gratefully after the Restoration; Sir George and another favorite, Lord Berkeley, were granted all lands between the Hudson

and Delaware Rivers, a domain that became New Jersey.

Jersey's loyalty was in line with the Channel Islands' traditional predilection for British royalty. The islands' special privileges stem from the 13th century, when the French took Normandy from King John of England. Every island remained loyal to John—for which kindness he seized hostages to make certain they stayed that way. Later he showed proper gratitude by confirming the islands' rights of self-government.

The French, annoyed at the *dis*loyalty of their island kinsmen, tried for centuries to reabsorb them into Normandy. With all their power, the French failed. But paradoxically,

Junkyard in motion: Careening, colliding, and sometimes turning over, silt-spattered "bangers" race across the tide-bared bottom of St. Sampson's Harbour on Guernsey. The ship that seems to be chasing them actually lies solidly aground.

To protect their jalopies in smashups, some owners install radiators on car tops. One of the few rules for the free-for-all: No competing vehicle may cost more than $24. Called mudlarking, the sport attracts as many as 100 wildly colored near-wrecks for a single meet. Mask of mud disguises the driver below.

EKTACHROMES © NATIONAL GEOGRAPHIC SOCIETY

Gardens under glass: Greenhouses of Guernsey shelter some 1,100 acres of fruits, vegetables, flowers, and ferns, most destined for shipment overseas. The island exports as many indoor tomatoes as Jersey does outdoor potatoes, but the local fruit earns several million dollars more than the rival root. To conserve space and provide maximum exposure to the sun, growers train tomato plants into overhead arbors. Hothouse flowers rank as Guernsey's second crop in both value and volume, with irises, freesia, roses, and chrysanthemums among the more popular varieties.

EKTACHROME (ABOVE) AND KODACHROME © N.G.S.

it was French weakness that indirectly laid the islands open to the worst blow in all their history. The day after France fell to the Germans in 1940, the British Government, foreseeing an invasion of the islands, demilitarized them as indefensible. Almost all of Alderney's 1,500 people were evacuated, and about a third of the population of the other islands. The Germans moved briskly in, and the islands became the only part of the British Isles occupied in World War II.

Fishermen Risked Death to Aid London

The islanders did what they could to harass the invaders. Jersey stonemasons ordered to repair a pavement laid the granite blocks to incorporate a large "V" for victory. Fishermen slipped across the Channel with intelligence about German preparations for invading England, and the Germans shot some of them—when they caught them.

I met a Jersey fisherman, Cecil Dorey, who had managed to survive. Cec and his son Brian took me lobster fishing, and I marveled that lobsters could still be bargains on the islands. We were out from nine to six, lifting and resetting 257 pots, each weighing 40 pounds, for a net catch of just 30 lobsters.

Cec put me ashore on Les Ecréhou—treeless, shingle-rimmed rocks some five miles northeast of Jersey and nine off the French coast (map, page 715). There Jersey and France are both defied. The islets' only year-round inhabitant is Alphonse Le Gastelois, called the King of Les Ecréhou (page 723). White-bearded Alphonse explained: "We belong to Britain. Jersey has got no authority here." And indeed, the International Court of Justice so decreed in 1953, when France and Britain were contesting ownership.

Back in Jersey, ankles aching from the shingle of Les Ecréhou, I relaxed on the soft sands of St. Ouen's (pronounced "Wanz") beach. Its five-mile arc affords a striking demonstration of tidal action. Though Channel Islands maximum tides fall 11 feet short of the world's

Eyes of the past watch over the present at Sausmarez Manor, where Mrs. Cecil de Sausmarez poses in the dining room of the historic Guernsey estate. Her husband the Seigneur of Sausmarez St. Martin, a tiny fiefdom that dates from 700 years ago, now serves his people as an elected representative to the States, the island's democratic legislature.

Formulator of Parkinson's law—that work expands to fill the time available for its completion—Dr. C. Northcote Parkinson (left) now makes his home on Guernsey.

KODACHROMES BY JAMES L. AMOS © N.G.S.

record—53 feet in the Bay of Fundy—they are startlingly visible. At highest water St. Ouen's Bay laps the wall behind the beach. At low tide I paced off 450 yards to water's edge.

For boatowners the huge, swift tides are at times convenient. At low tide in the old harbors of Jersey and Guernsey, moored craft sit smack on the harbor bottoms and owners walk out nonchalantly to scrape and paint.

Most of these seamen still wear the traditional "fisherman's jersey," a sweater that is naturally called a guernsey on Guernsey. The islands' knitting industry, though, began not with sweaters but with stockings. Elizabeth I reputedly clothed her royal limbs in hand-knitted jerseys, and cousin Mary Queen of Scots was executed in them. (Guernsey claims she wore guernseys.) So profitable was the trade that farmers left their fields to knit, and in 1608 the Jersey States decreed the stocks for anyone over 15 caught knitting at harvest time.

Smaller Isles Join in War of Gibes

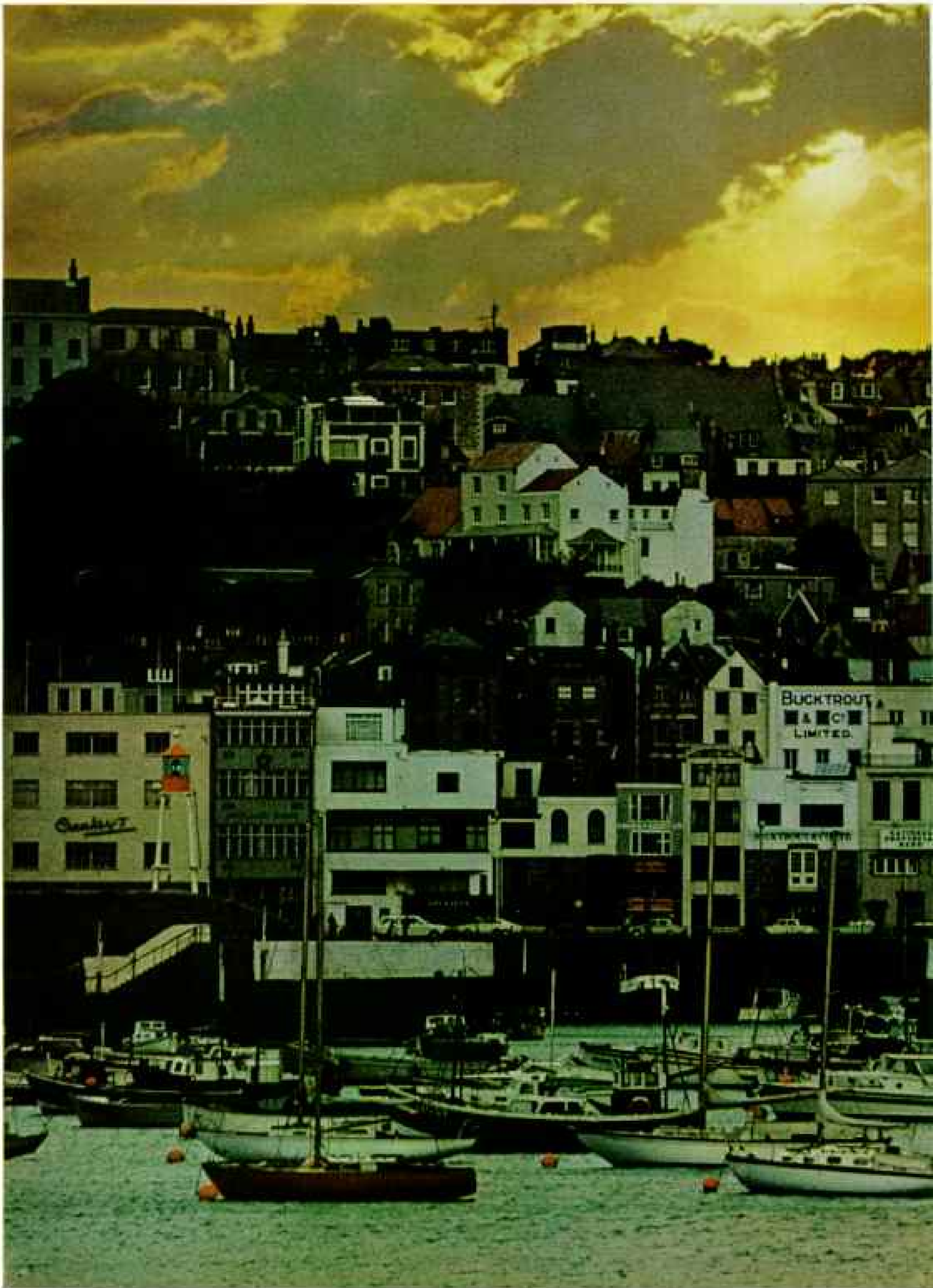
That "jersey" has been the generic term for fine knitted wear since the 16th century strikes Guernseymen as only another instance of Jersey's unfair competition—though one Guernseyman did insist, "We're not competitive; we just hate each other."

The rivalry that rends the two largest islands is as rife on the smaller ones. On Sark I was told, "Oh, you don't want to go to Alderney. 'Tis but one street and every second house a pub." On Alderney they said, "You come from Sark? How could you 'bide it. They're dotty there y'know—from inbreeding." The Sarkees said, "Herm? You won't like that—it's got as many day trippers as rabbits, and there's a million of *them*." Hermites said of Jethou, "Don't go there—it's haunted"; and Jethouites are so unimpressed with Herm, a mere 400 yards away, that they send a boat there only once a week.

But the "friendly enmity" between Jersey and Guernsey makes the smaller islands' rivalries seem good-humored. "Guernsey donkey!" the Jerseyman cries. "Jersey *crapaud!*" the Guernseyman retaliates, naming a toad *(Bufo bufo)* found on Jersey. Above all, Guernseymen deplore Jerseymen's bustle.

Bedecked in feudal elegance, the Bailiff of Guernsey, Sir William Arnold, presides at a function at St. Peter Port, the island capital. Chosen by the British monarch—who must name a Channel Islander—the bailiff heads both the States and the Royal Court of the Bailiwick of Guernsey, which includes Alderney, Sark, Jethou, and Herm.

Ties to England remain strong, but local governments operate independently, and residents escape most taxes that burden other Britishers.



Stair-step center of Guernsey, St. Peter Port climbs house upon house from its waterfront, where pleasure craft cluster and ferries ply to nearby Herm, Jethou, and Sark. Turreted towers of Elizabeth College crown the heights. Exiled French author

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Victor Hugo, who lived in the town from 1855 to 1870, dedicated his novel *Toilers of the Sea* "to the rock of hospitality and liberty, to that portion of old Norman ground inhabited by the noble little nation of the sea; to the island of Guernsey. . . ."

"We are all very slow here," Guernsey's Seigneur de Sausmarez told me proudly. "That is why the English want to come here —*to . . . slow . . . down!*"

In his person, the seigneur demonstrates how well bustleless Guernsey blends feudalism and democracy. His inherited title privileges him to take what he calls a "rakeoff" of 2 percent on all land sales in the fief of Sausmarez. In return, he must fortify his fief and raise troops to defend it, if the Queen so demands—an order he does not anticipate. But *Mister* Cecil de Sausmarez is proudest of the fact that the people of his parish have elected him their deputy to the Guernsey States. "This is the most classless society I know," he says.

As a bustle-prone American, I enjoyed slowing down on little Guernsey (24 square miles, 46,000 people). After Jersey's frenetic St. Helier, Guernsey's capital, St. Peter Port, seemed a restful country town. From St. Peter Port Harbour, a short walk out Castle Pier took me to Castle Cornet, a granite jumble dating from the 13th century. It looks like a stage set for a historical drama, and its history has indeed been dramatic.

During England's long Civil War, when

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Flair for cutting hair fills the spare time of Jack Le Feuvre, a farmer of Sark, who caters to customers in the kitchen of his home. His wife Phyllis looks on with obvious approval as he finishes a trim for William Carré.

Guernsey declared for Parliament, island Royalists holed up in Cornet and, during almost nine years, lobbed some 10,000 rounds into St. Peter Port. This bit of Guernsey was the last Royalist outpost in the British Isles to fall to parliamentary forces—a great irritation to Jersey, which was next to last.

In the 18th century, Cornet saw hosts of privateers file out in pursuit of prizes. Not pirates, be assured, but proper privateers, armed with letters of marque that authorized them to seize ships of the king's enemies. They labored diligently: In 1800, with dozens of armed ships, Guernsey seized vessels and cargo worth £2,000,000 from the French and Americans. (Obviously, though Americans were no longer at war with him, the king did not consider them friends.)

From Cornet, I enjoyed Guernsey's second best view: St. Peter Port rising in tiers of many-colored houses, the harbor gay with sailing craft (pages 730-31). Guernsey's foremost view, connoisseurs informed me, was from the height on which stands the house of Victor Hugo.

M. Hugo's mansion so stunned me that I forgot to look at the view. The great French *littérateur* worked on *Les Misérables* there in 1861. Expelled from France for calling Napoleon III "Napoleon the Small," he was shortly also expelled from Jersey for defending a newspaper's right to print a derogatory reference to Queen Victoria. Bringing his mistress as well as his wife, he moved to Guernsey.

"C'est moi qui parle!—It is *I* who speak!" Hugo used to thunder at persons who interrupted his table talk, and this egomania pervades his ornate home, adorned everywhere with the initials "VH."

London Landmark Harks From Guernsey

Like the vast majority of Guernsey homes, Hugo's house was built from Guernsey granite, which is still quarried. From the late 18th century, quarrymen have gouged every Channel Island for the tough, beautiful stone that went into the islanders' homes and walls. Guernsey also used to export as much as 100,000 tons of granite a year, and is proud of its contribution to London monuments.

"The steps for St. Paul's Cathedral were quarried right here," Stanley Green, branch secretary of Guernsey's Ronez Quarry, told me.

Quarrying has declined, and rising shipping costs have cut into the profits of exporting so dense a product. The 20,000 tons of Guernsey granite shipped abroad each year is exceeded two and a half times by the tonnage of tomatoes, and those "Guernsey Toms" bring in many times more island income.

Early glasshouse tomatoes are Guernsey's main industry. If all the glasshouses on the seven-mile-long island were laid end to end,

Cliff-girt Sark rises from the sea seven miles east of Guernsey. Cave-pocked bluffs ring a fertile plateau that stands some 350 feet above the water. Beyond necklike La Coupée—the Cut—the southern end of the island widens into an area called Little Sark.

A royal charter to the De Carteret family in 1565 specified colonization of Sark by 40 men; a later edict forbade subdivision of their lands forever, and today's islanders still observe the ban.

Needlework absorbs Sibyl Hathaway (right), the Dame of Sark, whose duties include serving in the island's parliament, called the Chief Pleas. She also acts as an arbiter in civil disputes.

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they would stretch 320 miles (pages 726-7). Jerseymen contend that vitreous horticulture has devastated Guernsey's rural charm, but Guernseymen pay them no mind, for the 100-year-old industry now employs a third of their adult population.

At Plaisance, Ltd., manager Guthrie (Guff) Martel showed me 8½ acres of glass, each acre shielding 14,000 of the 16,000,000 plants Guernsey "pricks out" every November. Plaisance's tomatoes move to the United Kingdom as early as March. Shipping ends by October, when perfidious Jersey's outdoor tomatoes undercut prices.

In tomatoes Jersey-Guernsey rivalry runs especially high. I asked a Guernseyman how indoor Guernseys compared with outdoor Jerseys. He replied, with hauteur, "I wouldn't know. I've never eaten a Jersey tomato."

Guernsey's glasshouses also produce masses of flowers for winter sale, the island's next big crop after tomatoes. From Christmas to March, Guernsey sends the flowerlorn British Isles 45,000,000 irises, the leading crop, plus millions of 15 other varieties.

While waiting for the boat to Sark, I fell into conversation with some Guernseymen who had tried to revolutionize fishing as glasshouse farmers had revolutionized agriculture. They were scuba divers who were setting out to explore a wreck.

"That's what we're reduced to—wrecks," Brian Cable said, "because the States has just about wrecked our real business. We made scalloping into an industry here—about ten of us. Used to take crayfish, too—and, sure, some ormers. But the regular fishermen screamed we were too efficient. So the States has stopped us."

"It was the ormers that caused the trouble," Guernsey meteorologist and Sunday fisherman Jimmy Janes told me. "The ormer is our 'sacred fish'—a univalve related to your larger abalone, and just as great a delicacy. Every family has an ormering stretch it considers its own. The divers were restricted to certain areas, but some poached, lugged off the ormers to where they were allowed to fish, and claimed they caught them there.

"We had probably the world's only undersea arrest because of ormers. An off-duty policeman, out scuba diving, saw one of these fellows where he shouldn't be. He dived after him, caught him ormer in hand, and arrested him on the spot—40 feet down."

Sark Preserves Its Feudal Privileges

Such complications of modern life seem centuries away on Sark, seven miles east of Guernsey. The Channel Islands' most feudal fief, Sark bans motorcars, street lights, bitches, and doves. By ancient privilege, however, the Seigneur (at present a Dame, God bless him) exercises the right to keep the island's only "unneutered" bitch and its only dovecote. She also retains other feudal privileges, such as taking a *treizième* (a thirteenth) of all the sales of real property.

In 1565 the first Queen Elizabeth appointed Jerseyman Helier de Carteret Sark's Seigneur, on condition that "forty men at least, our subjects," be kept there. Today Sark still has

its original 40 parcels of land, called *tenements*, which by law may not be divided (page 734). The tenants comprise the majority of the local parliament—the Chief Pleas; the others are the Dame, sénéschal, greffier, prévôt, and 12 deputies elected by non-tenants.

Deputy John La Trobe-Bateman, a non-tenant, told me, "It may seem undemocratic that most members hold their seats by right of property, but even so we are perhaps the world's best-represented community. With our population of 575, we have one legislator for every 11 people."

Mr. La Trobe-Bateman, father-in-law of the Seigneur-apparent (the Dame's grandson), is a leading island official and especially concerned with tourism, Sark's first industry. "Everyone wants to get in on it," he said.

Even the island's 20 farmers literally jump on the touristic bandwagon. When I landed at Maseline Harbour, I was astounded to see several tractors loading tourists, luggage, and supplies. How could this be, on an island fanatically opposed to motorized vehicles?

Once an island doctor defiantly imported a car, insisting it was vital medical equipment. The Chief Pleas banished it with a judgment worthy of Solomon: The auto could only be used if drawn by a horse.

The Pleas even battled the crippled Dame's plea for a motorized wheelchair. Finally yielding, it re-resisted when another citizen demanded equal treatment with the Dame. No, the chair, like the bitch, was the Dame's special prerogative. But spineless sentimentality has since prevailed, and now five handicapped citizens of plebeian status roll briskly over Sark roads, crowding the island speed limit of 5 miles an hour.

Spurning the tractors, I hired a waiting

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Singing dog entertains patrons of a pub on Sark. Beaming Fred Baker accompanies his pet on the accordion. Breeding of dogs on the island is forbidden; only the Dame of Sark may keep an unspayed female—a rule put in force centuries ago to prevent the propagation of unwanted animals.

horse and carriage. My driver explained that the tractors were originally admitted as indispensable agricultural equipment, but since Sark now has twice as many tractors as farmers, something has slipped.

The steep climb up Harbour Hill dramatizes Sark's topography; the island rises precipitously from the sea to a tableland 3½ miles long by 1½ miles wide. At the crest my driver stopped beside an inn. " 'Tis here we always halt, by ancient tradition, to wind the horse." We went in and had a drink.

When we came out, two tractors were unburdening themselves of passengers. "And are they also 'winding' the tractors here, by ancient tradition?" I asked.

"No, 'tis by modern law. The tractors may carry passengers only to the hilltop. They walk from here."

I walked from my hotel to visit the Dame of Sark at her modest seigneurie (page 735). Sibyl Hathaway, a very *grande* Dame indeed, met me at the door with her famous bitch, a black poodle named Maxine. Dame Sibyl's eyes sparkled keenly, and I could well understand how the German Occupation Forces had found her hard to handle.

"I usually got my way," she said. "They insisted we must plant potatoes the same day they did in East Prussia, insisted we must fish according to the tide tables of the North Sea, finally stormed that our own engineer couldn't touch the island generator. I simply said, 'When one talks business in Britain one does not shout.' If they still went on, I said, 'Who is your superior? I'll discuss this with him.' The Germans were terrified of the man above them, and that always did it."

The Bailiwick of Guernsey, of which Sark is a part, has also caved in under Damely psychology. A few years ago, so many outsiders caroused round Sark that the unpaid "honorary" constable was up most of the night and too tired to cope with his regular daytime job. In 1969 the Dame declared she was disgusted and would return her charter to the Queen.

Had she done so, Sark would have fallen wholly under Guernsey's sway. Guernsey, aghast at the thought of trying to govern the anachronistic Sarkees, hastened to lend a full-time policeman, paid for by Sark.

Thousands of Rabbits Spell Trouble

Saying "a big toe" to Sark (Sercquais for *à bientôt*—goodbye), I departed for Herm, three miles away. There Benjamin and Rupert Wood, teen-age sons of Maj. Peter Wood, who leases the entire island from Guernsey, led me over its half square mile. As six bold conies suddenly popped up a yard ahead, Rupert at once countered a calumny. "We do *not* have a million rabbits—more like 15,000—but that's trouble enough. They eat everything in sight."

The conies are at least more predictable than the local wind, which can blow Herm pounds or pence. "An east wind means rough weather and the day trippers from Guernsey stay away," Rupert said. When the wind is in

a benign quarter, the Woods may have 1,000 day trippers on their beaches, 100 guests at their hotel, and 200 tenters.

The Woods live year-round on Herm with their 65 golden Guernsey cows, each of which answers to her name at milking time—Buttercup, Florabelle, Jezebel, and such.

"We once had a farmer who refused to learn their names, and the milk yield fell way off," Benjamin said.

I accused him of giving a city slicker a cow-and-bull story, but he insisted, "No, a loved cow is a contented cow."

Brandy Smuggler Loses His Lease

Leaving for Jethou, I was unable to make connections with the direct weekly boat. I therefore crossed to Guernsey, transferred to the Jethou ferry, and retraced my wake—a journey of seven miles to go 400 yards.

From the sea, 20-acre Jethou appears a barren hump of rock, but Mr. and Mrs. Angus Faed, who leased it in 1964, prayerfully farm it. The Faeds also operate the island's ferry and a pub-cafe.

Jethou's former tenants sometimes made the island pay in more colorful ways. "Col. Montague Fielden—he was tenant in the 1870's," Mr. Faed said, "he used to fire on passing fishermen. His lease was terminated when it turned out he had been using Jethou as a depot to smuggle brandy from France to Dorset."

The island may be haunted by Neolithic ghosts as well as by illicit spirits. Mr. Faed took me to the Druid's Stone in Fairy Wood. This menhir stands at one end of a bare ellipse surrounded by tall trees. Nearby, he patted a thick low sycamore branch.

"Solid, you'd say? Well, here it is in a picture I took—and it's not a double exposure."

The branch was only a ghostly outline, through which the rest of the wood and the ominous Druid's Stone were clearly visible.

"It's like a spell's been put on this place," Mr. Faed said.

Spell or no spell, he intends to stay. "We sold a property on Jersey to buy here. All those rich tax avoiders have driven house property sky high. But we got this whole island, the cafe, and the manor for what a four-bedroom house would cost there."

On Alderney, the northernmost island, rich tax avoiders can still pick up bargains, for the wind blows there as hard as the sun shines, and the island draws mostly visitors with a taste for spacious solitude. The very lornness of Alderney intrigues. On its country roads, if you pass another car every half an hour it's a traffic jam.

The population figure, 1,500, is the same as before World War II, but the people are not at all the same. Many of the old Norman families never returned; many English families took their places. On Alderney now no one speaks Norman French.

In the peaceful capital of St. Anne I failed to find the celebrated "one street and every second house a pub." On half a dozen charming cobbled streets, every second house was, instead, a gem of 18th-century architecture.

A Man's Home May Be His Fort

Elsewhere on Alderney, the chief architectural motif was military. Alderney is by far the most fortified island I have ever seen. During much of the 19th century, the "Gibraltar of the Channel" bristled at the wicked French but rarely fired a shot in anger. Many of the fortifications have been converted to flats and homes (opposite). One, Fort Clonque, bought four decades ago for $131, recently sold for more than $50,000.

Few Alderney properties have appreciated to such an extent, and a dedicated bird-watcher can still rent the hut on unpopulated Burhou, two miles off Alderney, for 60 cents a day. There he may commune with the thousands of clown-nosed puffins and Mother Carey's chickens—properly storm petrels—that nest in rabbit burrows. He may also observe the amazing gannet colonies on Les Etacs and Ortac. These rocks are so dense with the white birds that they look snow-covered.

Will such charms of nature still attract visitors if Britain joins the Common Market?

Potted plants bloom where guns once bristled. Grim reminder of World War II, this German blockhouse on Alderney now does duty as a weekend cottage. Before the Nazis arrived for their five-year occupation, Britain evacuated every islander who wished to leave, including virtually all of Alderney's population. Those who remained, deprived of outside help from both friend and foe, suffered most from hunger.

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Tempted by a handout, gulls wheel gracefully in the wake of a passenger boat bound for Guernsey from Sark, where a lighthouse perches on a peninsula. Uninhabited islets of granitic rock rise in the distance like battleships at anchor.

If she does, the now largely duty-free Channel Islands would have the same tariffs as other members, and island prices would go up. In agriculture, Britain would have to remove tariffs that protect the Channel Islands against the Netherlands and other Common Market mass-producers.

As usual, Jersey and Guernsey view the situation differently. Jerseymen say that when hotels, food, and drink cost the same in Jersey as in England, tourists will switch to Spain, Greece, and Portugal, low-priced, non-Common Market countries. Some demand that Jersey assert its independence and refuse to join even if Britain does.

Guernseymen generally feel it is wrong to assume tourists come only because drink and food are cheap. "Why, I've even seen some teetotalers!" one told me. The most optimistic expect to have more tourists than before—from Common Market countries.

I asked Guernsey Bailiff Sir William Arnold (page 729) why Jerseymen and Guernseymen have such opposite views on the question.

"Oh, they're different from us over there," the bailiff said, "less placid."

The far-from-placid, joooce-pressing M. Le Cornu was not surprised: "What can you expect of Guernseymen? They're different from us, you know—kind of *simple*."

M. Le Cornu was being humorous, for he calls himself "a simple man." It is simplicity in its broadest sense—honest, direct human kindness—that makes all the Channel Islanders so attractive to a visitor from an overcomplicated Great Power. □

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COVER: Gronk, a pet Andean condor with 9½-foot wingspread, frolics with his master (page 684).

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MYSTERY SURROUNDS the exact whereabouts of Arthur's castle; legends set Camelot at various places in England. And, for that matter, no one knows who Arthur really was or whether he actually lived.

Historians speculate that the ruler was Arturius, a sixth-century warrior, and that his stronghold may have occupied a hill near South Cadbury in Somerset, England (top). With a grant from the National Geographic Society, Leslie Alcock (right), archeologist of the University of Wales, and students dig for proof (far right).

Discoveries to date: from Arturius's time, the remains of an impressive fort with a "great hall." From earlier ages, flint axes and arrowheads used by Neolithic men 5,000 years ago, half a gold bracelet of the eighth or seventh century B.C., Iron Age fortifications that endured 400 years until destroyed by Roman invaders in the first century A.D., and a gold coin (left) minted in the same century for King Antedrigus of the Cotswold Hills region.

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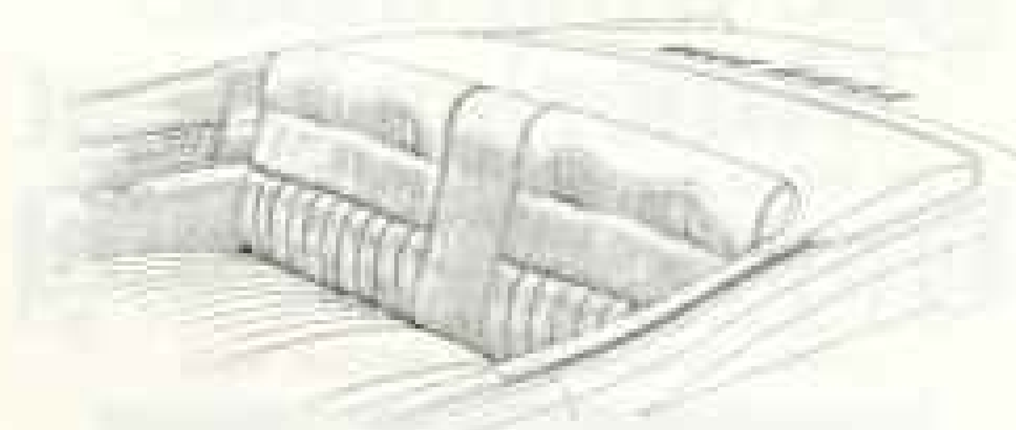
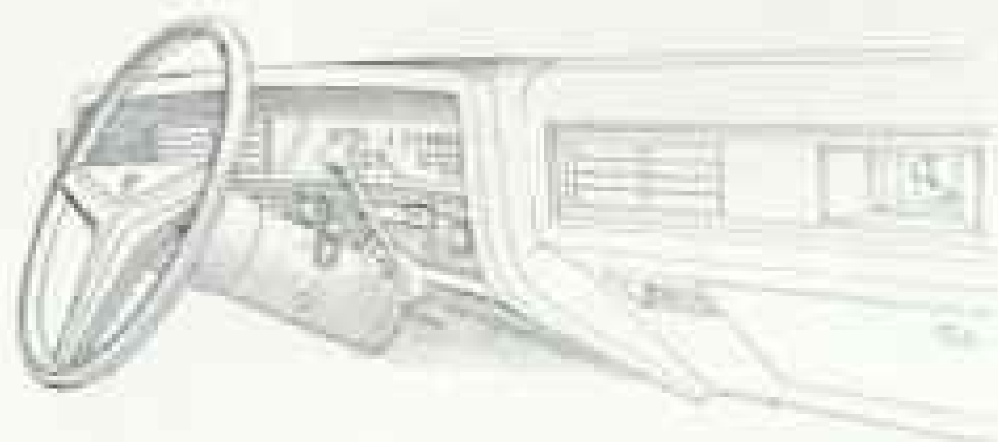


Eldorado Convertible. In all the world there's but one car to equal it.

In many ways, the all-new 1971 Fleetwood Eldorado Convertible by Cadillac is unique.

As the only luxury convertible now built in America, it is both dramatically beautiful and remarkably responsive. Young. Glamorous. Every inch an Eldorado—from its jewel-like standup crest to its beveled rear deck. It is truly one of the world's two most elegant personal cars.



Slide behind the wheel, and you quickly become aware that this is like no other convertible you've ever seen. The richness of the soft, pliable Sierra grain leather upholstery is available in a total of ten colors. The newly designed steering wheel sounds the horn when pushed anywhere in the padded center area. The gracefully curved instrument panel allows you to see all the gauges at a glance.

Turn the key, and you quickly become aware that this is like no convertible you've ever driven. Its 8.2 litre V-8 is the world's largest production passenger car engine. Yet it runs efficiently on no-lead and low-lead gas to reduce exhaust pollutants. You'll feel the difference made by front-wheel drive, variable-ratio power steering, power front disc brakes and Automatic Level Control.

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"And what other car," you might ask, "has credentials to match these?"

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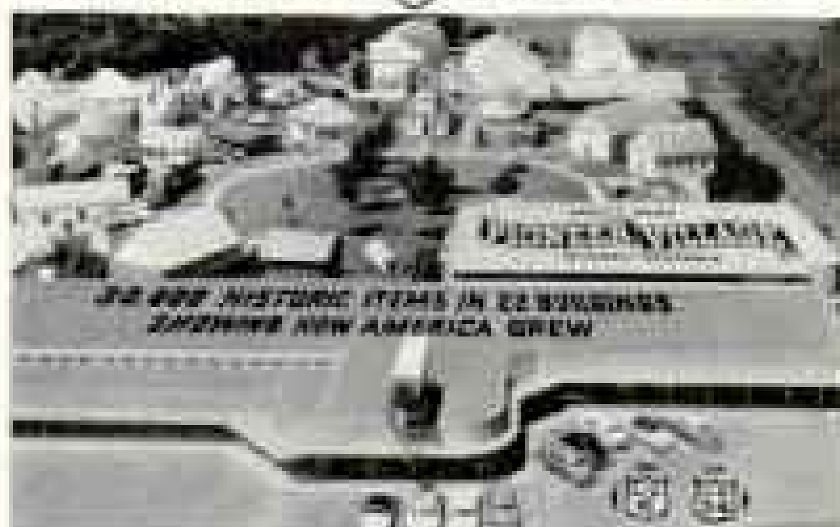

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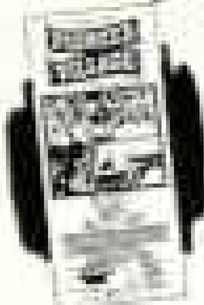

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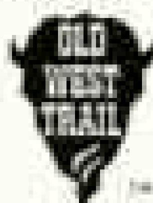

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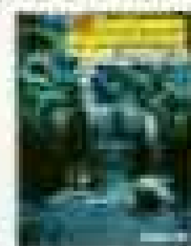

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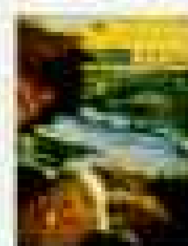

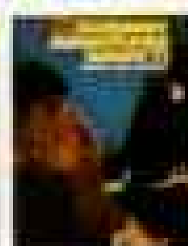

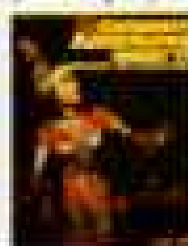

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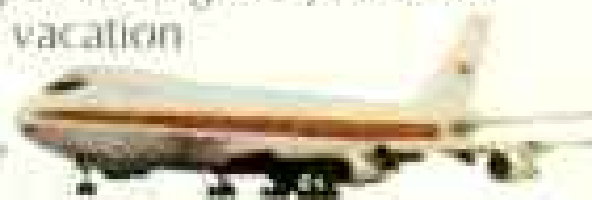

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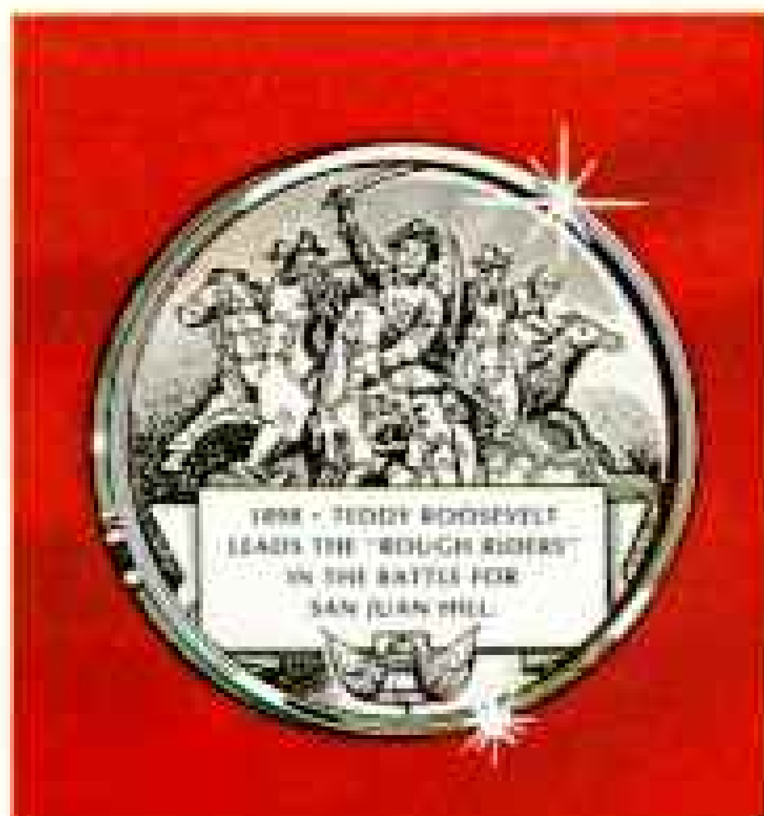

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By David Humphreys,
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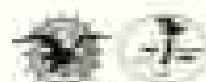

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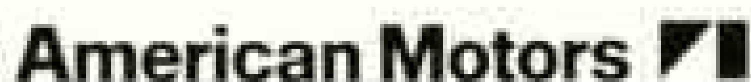
American Motors



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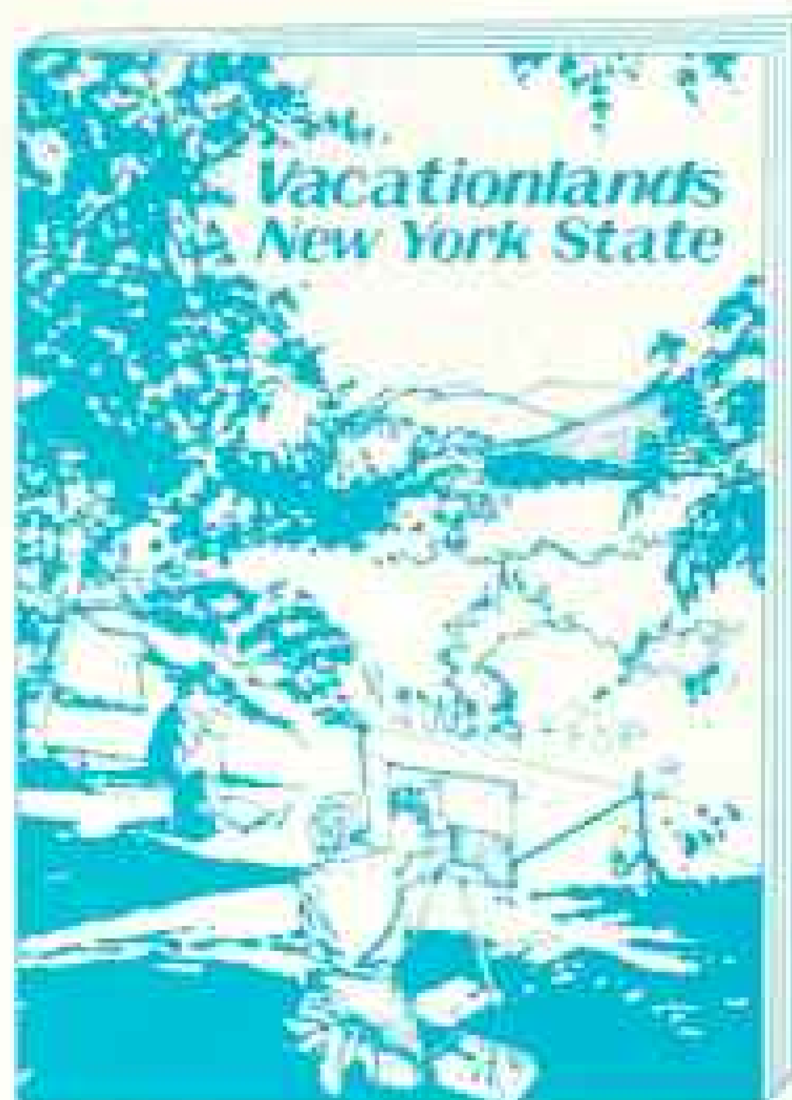

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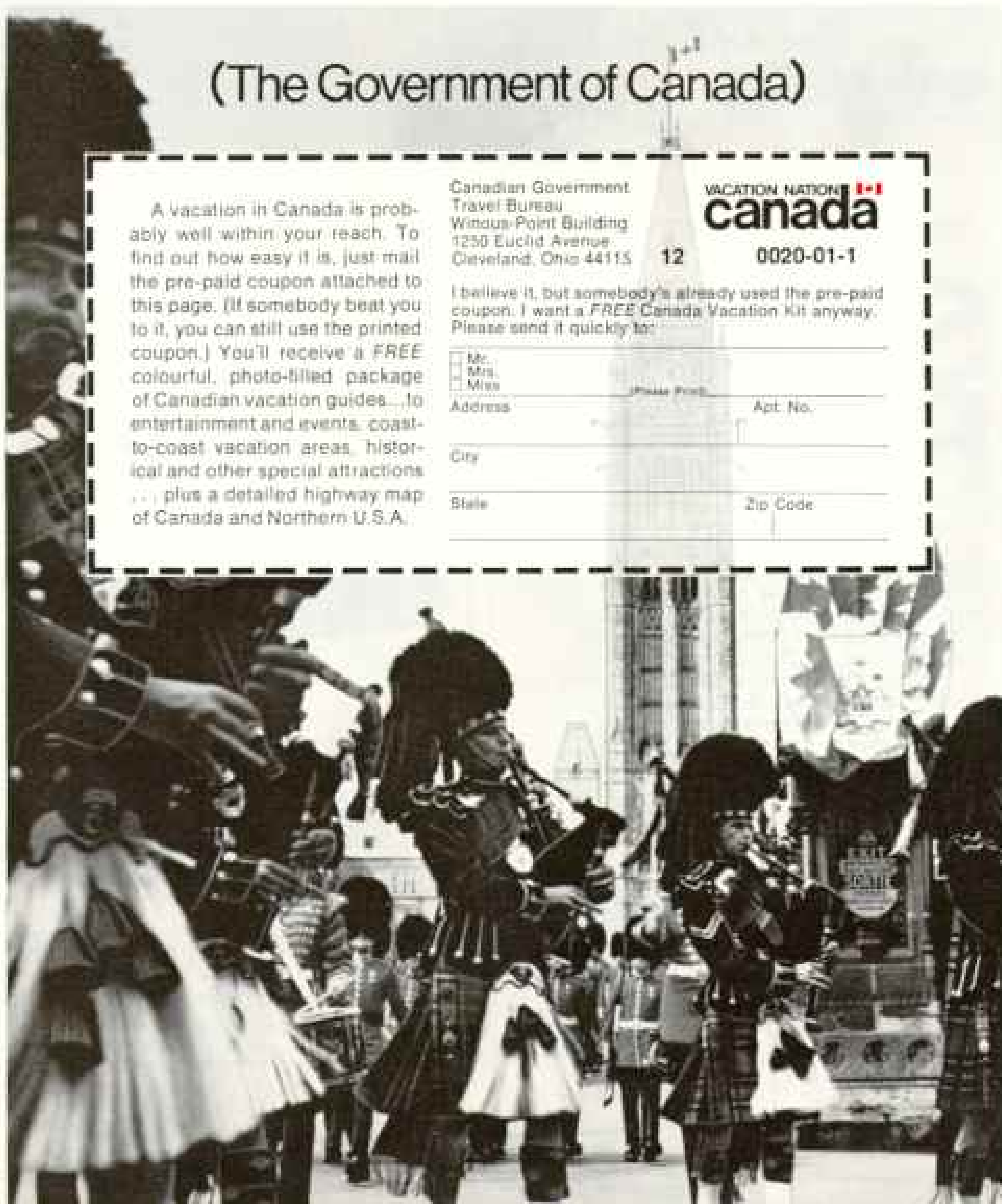
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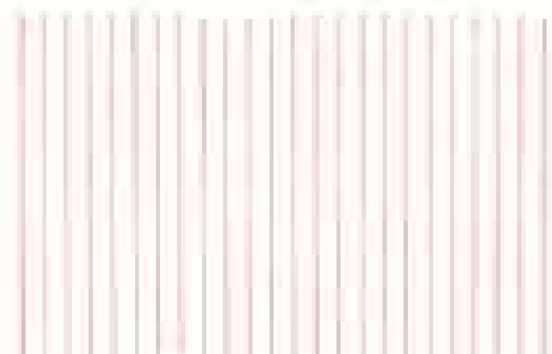

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Is North Slope oil

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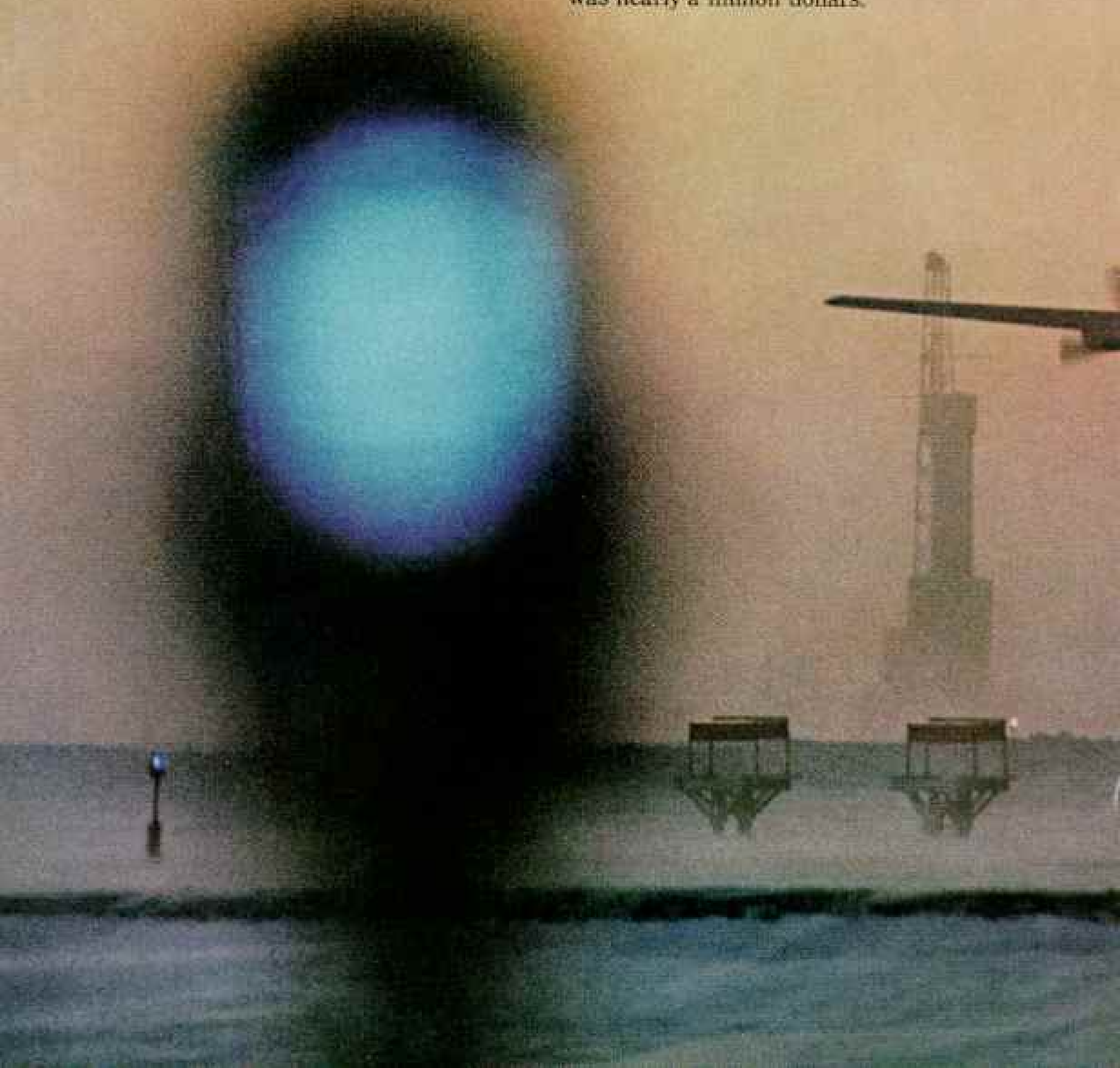
Humble had been drilling in Alaska for fourteen years. Our last hole had cost four-and-a-half million dollars. And it was dry.

We hope this will give you an idea of what a gamble it is to look for oil these days. In America, most of the oil near the surface has been found long ago. Now we have to drill deeper, sometimes as deep as three miles or more. We have to drill far offshore. And we have to go to places as remote as the North Slope of Alaska.

And the farther we have to go and the deeper we have to drill, the greater the financial risk.

It takes thirty days to erect a rig on the North Slope, compared with three days in Texas. And, it costs six times as much to drill.

Roads scarcely exist. And, in winter, when sea lanes are choked with ice, all equipment must be flown in, twenty tons at a time. The freight bill *alone* for our first North Slope well was nearly a million dollars.



really worth the risk?

Temperatures plunge to seventy below. This slows a man down below his normal efficiency. And you have to pay plenty to get him to work in such conditions. Our derrick men get $20,000 a year and earn every penny of it.

Following the discovery of oil on the Slope, we faced the problem of how to get the oil out of Alaska with a minimum disturbance of the Arctic environment. The solution is the most carefully engineered and constructed crude oil pipeline in the world. Until it is built, profits will wait. And so far, not a penny has been earned from the millions of dollars invested on the North Slope.

Are the rewards worth the conditions, the frustrations and the risk? We think so. For you. And for us.

If America's energy supply is to be assured in this unpredictable world, the search for domestic oil must go on. The Alaskan oil strikes are big. But so is America's need for energy. At the rate this country is now using oil, the oil discovered to date in Alaska represents just three years' supply.

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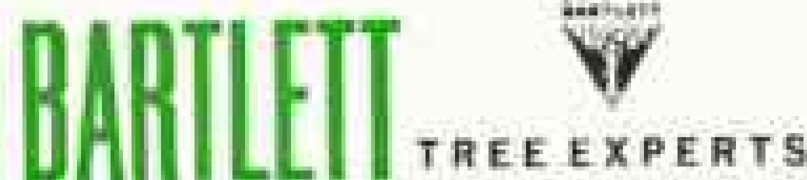

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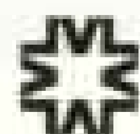
Since then, we've spread the word about vaccinations against smallpox, tetanus, whooping cough, polio, measles and now rubella.

So that today, mothers just read about diseases like diphtheria and smallpox, instead of watching their children die from them.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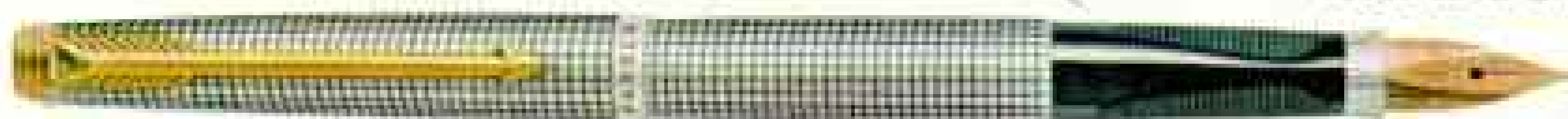

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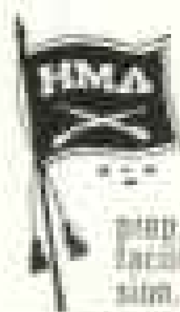

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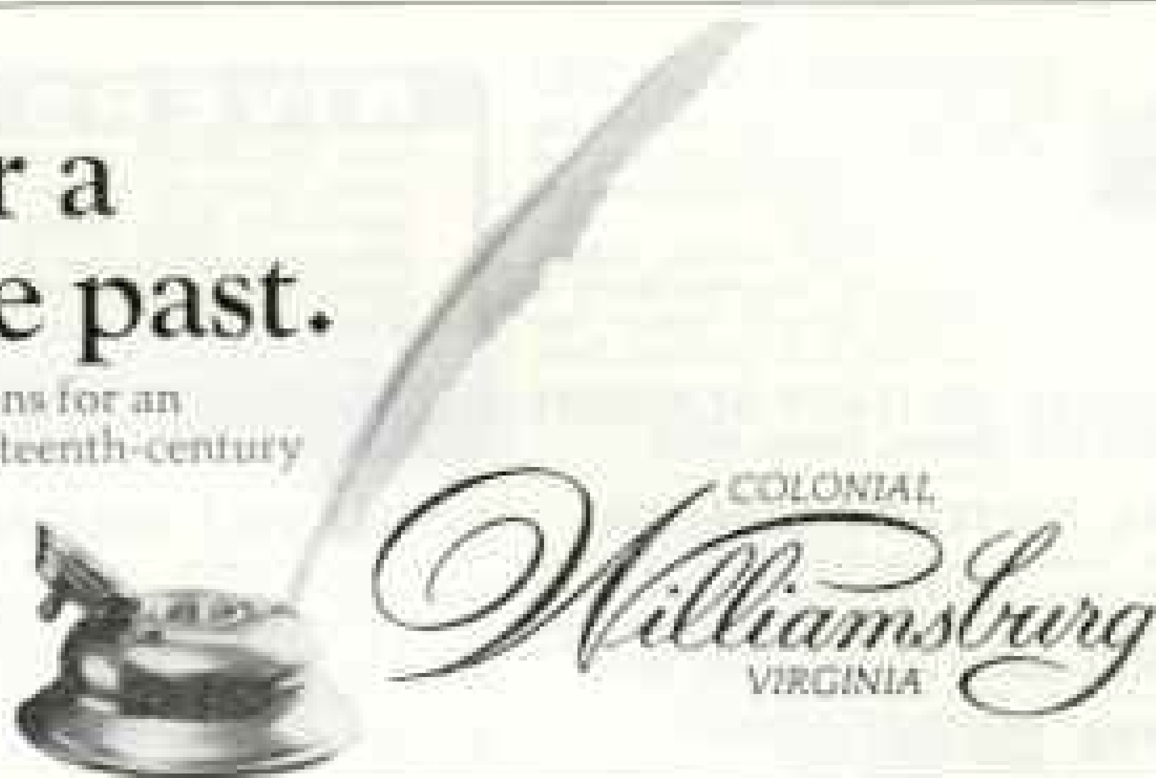

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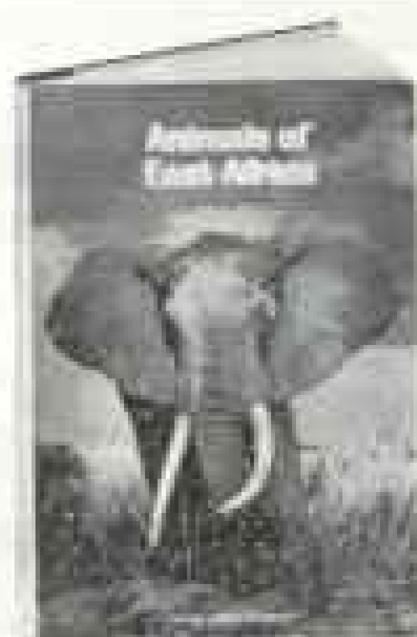

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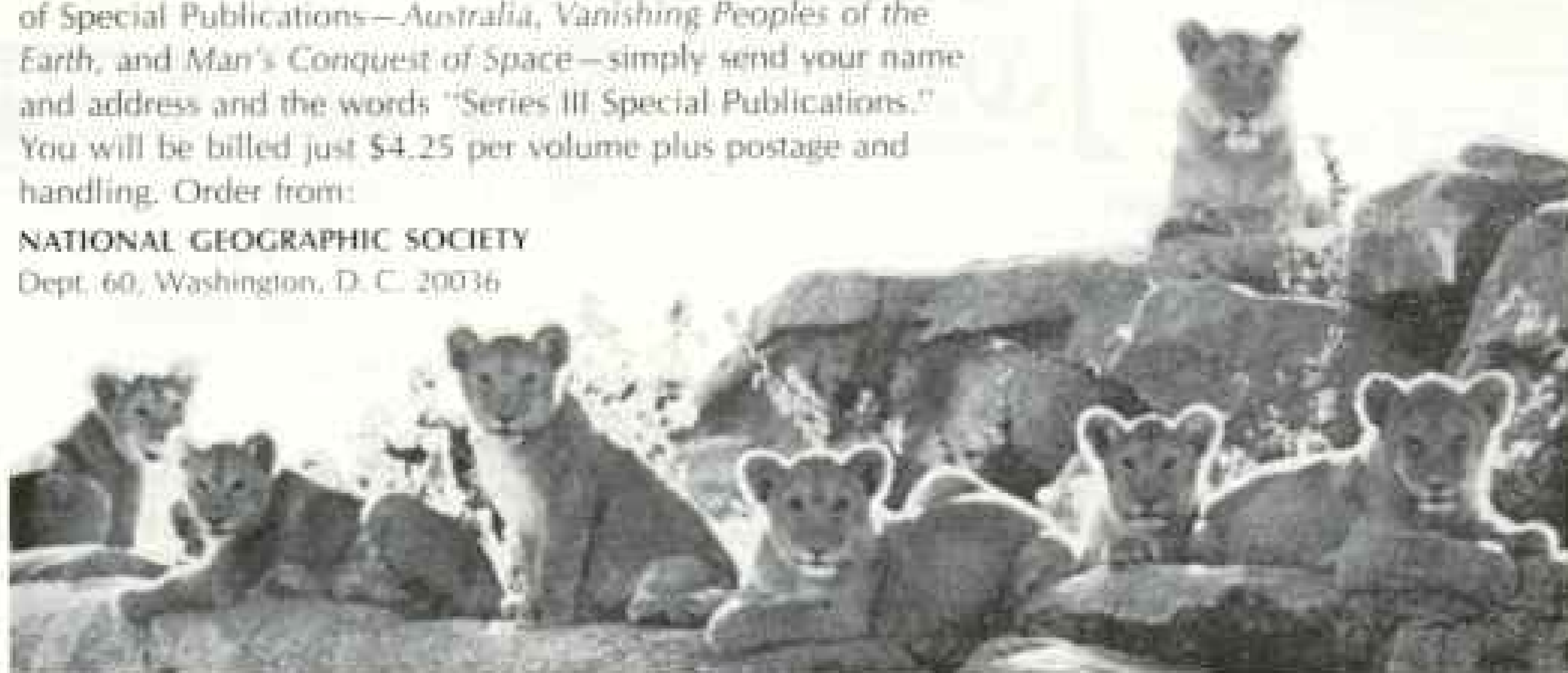

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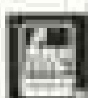

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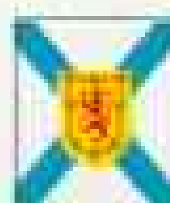

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