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THE NATIONAL GEOGRAPHIC MAGAZINE

My Life in Forbidden Lhasa

Escaping from Internment in India to the Sacred Capital of Tibet, an Austrian Became the Dalai Lama's Trusted Tutor

BY HEINRICH HARRER

With Illustrations from Photographs by the Author

THE rocky trail led into the broad valley of the Kyi River. Exhausted, our shoes in tatters and our feet bleeding and blistered, we rounded a little hill. Before us lay the Potala, winter palace of Tibet's Dalai Lama, its golden roofs ablaze in the January sun.

Lhasa was only eight miles away!

I felt a sudden compulsion to sink to my knees and offer a prayer of thanksgiving, even as did the Buddhist pilgrims who were our companions. It seemed impossible that we had reached safety, that our agony of cold and hunger and danger lay behind us. We had walked more than 1,500 miles across the most forbidding terrain in the world and had climbed 62 mountain passes, some as high as 20,000 feet (map, page 7).

It is just as well, I have since felt, that no man can foretell the future. What would Peter Aufschnaiter and I have thought, when we left our native Austria in 1939 as members of the German Nanga Parbat Expedition, had we known we faced long imprisonment and a desperate escape into Tibet, where we were to roam fabled Lhasa with a color camera?

War had trapped our expedition in Karachi. Enemy aliens, we were interned in a British prisoner-of-war camp in India. We mountaineers decided to attempt an escape over the towering Himalayas.

I drew maps, studied Tibetan, hoarded money and medicines and other essentials. After several abortive breaks we reached freedom. Our comrades, appalled by the hardships, turned back, but Aufschnaiter and I had struggled and bluffed our way across Tibet's desolate Chang Tang, a wasteland that even the natives shun in winter (pages 6 and 10). We had subsisted on raw yak meat and yak-butter tea and dried meal. And now at last, after 21 months of wandering in which we had almost given up hope, the golden roofs of the Potala were in sight (page 8).

Even now our troubles were not at an end. We were trespassers in Tibet, unwelcome foreigners in a land where every man is forbidden to assist a traveler who lacks written authority to pass. Our clothes were in rags, our appearance unkempt and forbidding. We had no baggage animals and no money to hire them. Surely the gates of the holy city would be closed to us.

We decided on one last desperate gamble. At Shingdongka, the last village between us and Lhasa, we searched out the *bönpo*, or local official. With as much authority as one can command in filthy sheepskins, we introduced ourselves as the advance guard of an important foreign emissary and demanded pack animals and an escort to Lhasa.

Miraculously, the bönpo believed us. A donkey and driver were placed at our disposal. As in a dream, we walked the last few miles to Tibet's capital.

The valley of the majestic Kyi River fanned

2

The Potala, Fortress of Tibet's God-king, Broods over the Flooded Kyi Valley

Haggard and half-starved, the author and a companion, Peter Aufschnaiter, staggered to this spot early in 1946 after a hazardous 21-month flight from a wartime internment camp in India. Officials ordered them to leave, then relented. Extraordinary experiences befell Mr. Harrer during seven years in the veiled land beyond the Himalayas. Before Red China invaded Tibet, he became friend and tutor of the Dalai Lama, its spiritual and temporal ruler.

3 Kodachrome by Heinrich Harrer

Three Spired Tombs Mark the Western Gate to Lhasa, the Forbidden City

Nearing Tibet's capital, Mr. Harrer passed these groves of poplars and willows, transplanted like all other trees in the deforested Kyi Valley. Above him loomed the Dalai Lama's 300-year-old palace that Tibetans believe was created by spirits. Fearfully the author approached an archway in the center tomb. He felt sure guards would seize him or turn him back; instead he found only beggars standing vigil at the sacred portal (page 38).

before us like a great carpet. Tilled fields and marshes and parks bordered the flat plain that runs unbroken to a towering wall of naked, sloping mountains. In the crystal air of the Roof of the World the panorama seemed perfect beyond reality.

The Potala's red and white façade loomed larger and larger. The 300-year-old palace crowns one of two jagged ridges which rise like sentinels from the valley floor. It wore an air of supernatural grandeur, as if it welled up in massive slabs of stone from the earth itself (pages 2 and 19).

Gate Marks End of Flight

We stood before the three giant *chortens*, or *stupas*, that bridge a gap between the Potala and neighboring Chagpori. A red-robed monk emerged from an archway in the central chorten (page 38). Here was the gateway to Lhasa, the end of the torturous road we had traveled.

The monk turned aside, and Aufschnaiter and I looked at each other in anxiety. Where were the guards? I had visions of being thrown into a dungeon or, worse, turned back.

To our amazement, only beggars stood vigil at Lhasa's gate. It was, we learned later, believed impossible for unauthorized travelers to reach the sacred portals. No sentinels were considered necessary.

A wide street opened before us. Peddlers displayed a tempting assortment of delicacies, and the aroma nearly drove us mad. We had walked 25 miles that day without a bite to eat. But we had no money for food. Our last rupee must go to the donkey driver.

Low, flat-topped houses built of stone and mud lined the streets. Prayer flags fluttered from every roof. It was dusk, and the warmth of the afternoon sun yielded to the bitter chill of Tibetan winter. We must find shelter, but Tibet has neither restaurants nor inns.

Hesitantly we approached a house. A servant girl's face froze in horror. We retreated into the street, conscious of our fierce un-Tibetan beards and wretched clothes. At the next house another maid shouted abuse until we fled the courtyard.

Our donkey driver was bewildered. He could not understand why the advance guards of an important foreign personage did not go where they were supposed to and stop wandering around.

At the far side of town we reached a fashionable neighborhood and paused before a fine-looking establishment. We could go no farther; our weary limbs were through. We marched into the mansion's courtyard, paid off the donkey driver, and collapsed beside our scanty possessions.

A maid fled, screaming as if pursued by demons. An incredible number of people crowded into the courtyard. Dogs barked, servants and family alike shouted. And every voice was crying: "Do not come! Do not come!"

Aufschnaiter and I could not budge. Gingerly I pulled off the remains of my homemade yak-skin boots. My feet were covered with broken blisters, bleeding, hot, and raw.

The throng stared, incredulous, at our torn feet. They forgot their fear of punishment for aiding a forbidden foreigner. A woman who had turned us away from her own home, then followed us in curiosity, offered yak-butter tea. The emulsion of rancid butter, boiled tea, salt, and soda tasted like nectar. Others brought *tsampa*, a parched barley flour that with tea forms Tibet's staple diet.

"From where do you come?" someone asked.

"From the Chang Tang."

Journey Astonishes Lhasans

The word spread through the courtyard and into the street. The crowd was amazed that we spoke Tibetan, even more astonished that we had crossed the Chang Tang.

The jostling group parted to admit an imposing Tibetan in red-wool cloak and violet-silk robe.

"Tell me, please, who you are." He spoke in faultless English.

At first he refused to believe there were only two of us. News of our progress through town had spread like wildfire. Officials had

Page 5

With Beaming Smiles, Lhasa Lovers Greet Their Wedding Day

Before a marriage takes place in Lhasa, astrologers set a propitious wedding hour. Invitations are sent only to friends born under harmonious zodiacal signs.

Ragashar Sey Kusho, son of a cabinet minister, displays the single gold and turquoise earring of nobility. He may not twist his long hair into a top-knot until he passes examinations for Government service. Ceremonial jewels and silks adorn his bride, Samdrub Photrang Yangchenla. Beauty spots mark her forehead.

6

Breathless in Thin Air at 20,000 Feet, the Author Rests Buddha-fashion

Penniless on reaching Lhasa, Mr. Harrer soon found employment. He built a cinema for the Dalai Lama and a dike to stem Kyi River floods. He drew maps, landscaped gardens, gilded images, and monitored radio broadcasts. The Tibetan Government rewarded him with a salaried post in its hierarchy.

The Austrian mountain climber and skier preferred surplus U. S. Army clothing, though his rank entitled him to Tibetan silks. Here, dressed in parka and pants bought in a Lhasa bazaar, he sits on the flank of 23,996-foot Chomo Lhari, a sacred peak on the Tibet-Bhutan border. Binoculars fascinate his servant.

received so many reports of strangers stalking the streets that they had got the impression a minor invasion was under way.

The nobleman said he would take us into his house if the Government would permit it. He went to the magistrate to ask authorization. An excited woman identified our benefactor as Thangme, the Master of Electricity.

Permission was granted for our temporary shelter, and a servant led us to the nobleman's house. Thangme and his young wife greeted us warmly. Their five plump children gazed in wonder.

The next day the Foreign Ministry sent word that we could stay with Thangme, under house arrest, until the Tibetan Regent returned from a distant retreat. The Regent, ruler of the nation until the 11-year-old Dalai Lama reached his majority, would decide our future.

The Tibetans are, by nature, a generous and warmhearted people. Now that they could legally receive us, every luxury was heaped upon us. The Government sent us custom-made suits and shoes.

The Thangmes crowded themselves to give us a pleasant bedroom of our own. The sweet incense of burning juniper poured from its iron stove. This was a great luxury, for Lhasa has no forests, and wood is borne from great distances by yaks. Even noble families customarily burn only yak dung.

Strangers Become Social Lions

We became the sensations of Lhasa. Aristocrats in fur-lined brocades and silks streamed to the Thangme home, bringing gifts. Everyone took great delight in our tale of how we had hoodwinked the Shingdongka official.

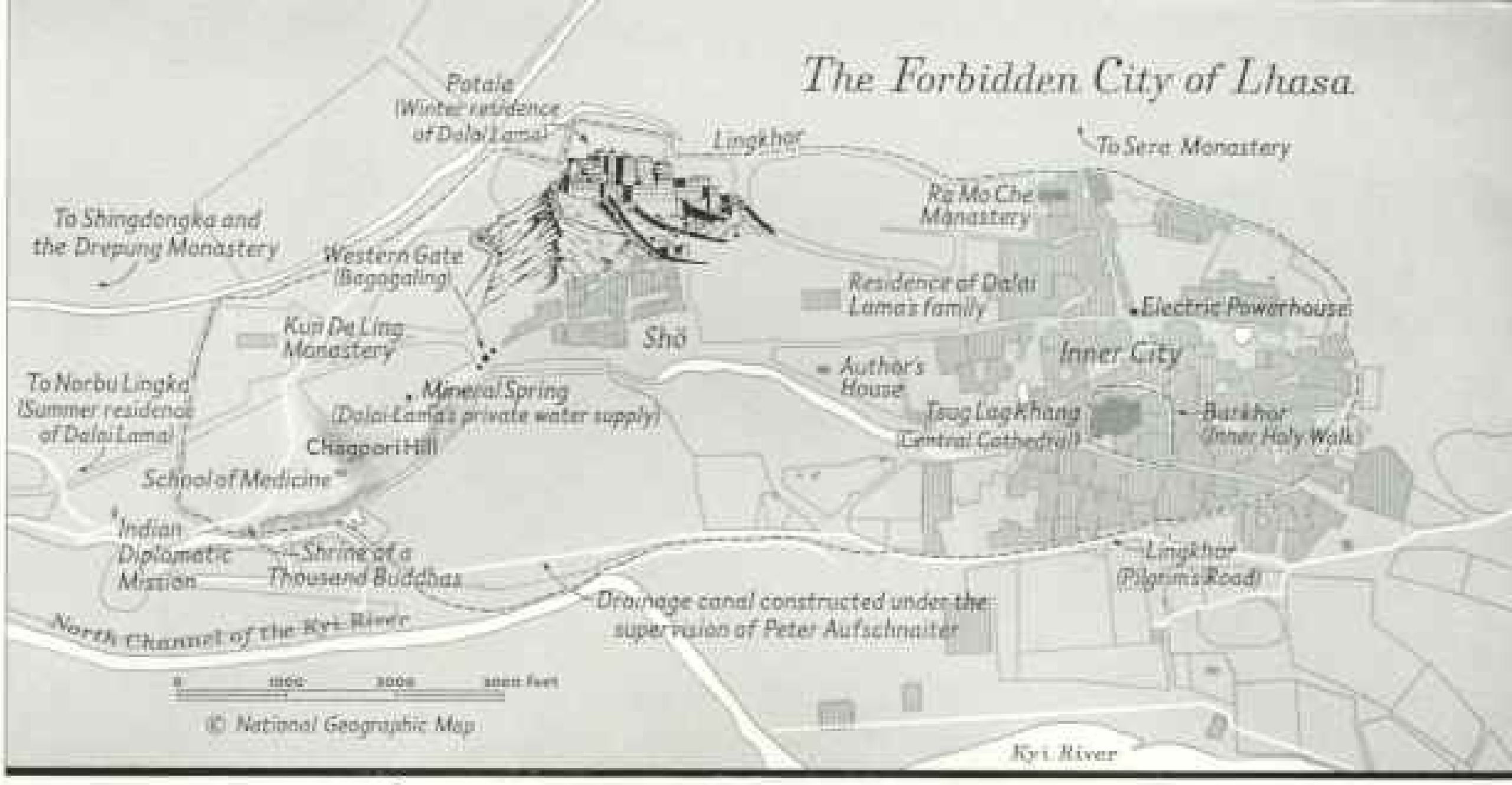
The visit of George Tsarong, a Government official and the son of a former grand minister, set the house in an uproar. Tsarong was of higher rank than Thangme, and under Lhasa's rigid protocol would not ordinarily visit his home. The young aristocrat, however, proved a diverting guest. He had learned English in a British school in India, as had Thangme.

Tsarong listened daily to news on a radio, powered by a wind-propelled generator, which he had put together himself. From him we learned of the events that followed World War II. Despite the end of hostilities, we were not anxious to return home.

Yangchenla, Tsarong's wife, bubbled with laughter and questions. One of Lhasa's fairest women, she customarily dressed in a rainbow-striped apron and a triangular Lhasa-style headdress studded with turquoises, coral, amber, and seed pearls. She knew the use of rouge, lipstick, and powder (page 14).

Other ranking nobles came to see the strangers and stayed deep into the night. Aufschnaiter and I worried lest we inconvenience our host and hostess, but they assured us they had never known such an exciting time.

Our status as minor celebrities, however, did nothing to ease our worry over the future.



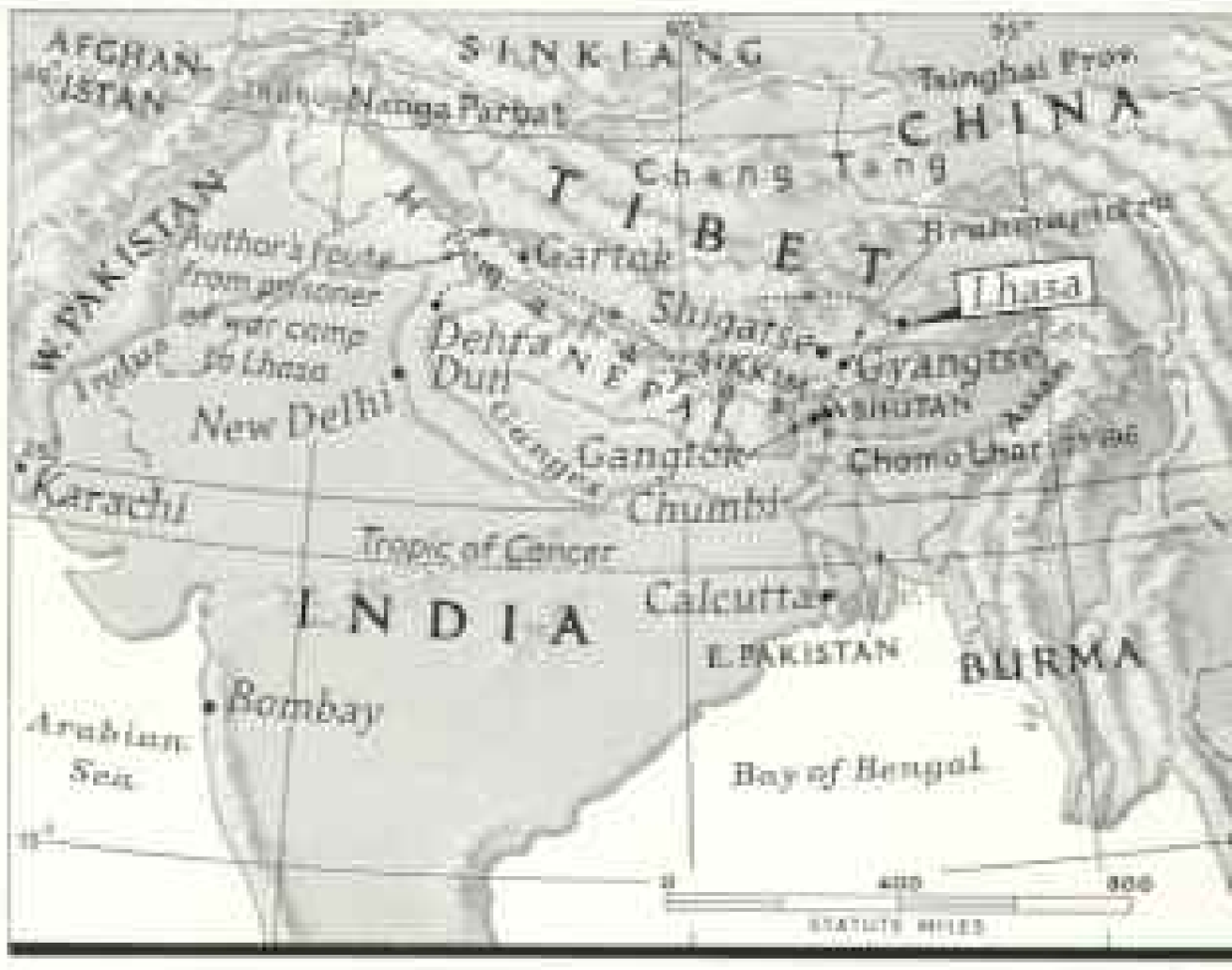
7

Westerners Aufschnaiter and Harrer Drew the First Detailed Map of Lhasa

National Geographic photographer Volkmar Wentzel, on assignment in India, learned of the Austrians' plan to survey the holy city. Via Tibetan traders, he sent them a new theodolite as a gift of The Society. The instrument proved of great value to the project.

The Lingkhor, a sacred five-mile walk, circles Lhasa's inner city (above, right), the Potala, and the near-by walled hamlet of Shö. During much of his residence in Lhasa the author lived on the outskirts of the inner city. A drainage canal laid out by Mr. Aufschnaiter parallels the Lingkhor to the south.

Lhasa, saucered on a 12,000-foot plateau amid soaring peaks, lies at approximately the same latitude as Cairo and New Orleans. Mountainous Tibet, superimposed on the United States, would stretch from western Texas to the Atlantic and from the Gulf of Mexico to Illinois.



The Regent had not yet returned to Lhasa, and until he made his decision we were living on borrowed time.

Then, eight days after our inauspicious arrival, we were summoned to the home of the Dalai Lama's family. The impression we made, we felt, might influence the Regent's decision. We listened intently as the Thangmes instructed us how to behave. Generously they supplied us with white silk ceremonial scarves to present to the "Great Mother" and "Great Father." Tibetans of all ranks exchange these scarves, called *khatas*, in the manner of calling cards (page 48).

At the door of the family's three-story mansion, standing in a garden at the foot of the Potala, we found an eight-foot prayer wheel that is turned day and night by men hired for the job. We ascended to the second floor.

The *Gyayum Chemo*, the Dalai Lama's mother, sat in queenly grace on a modest throne in a room vivid with frescoes and carved pillars. Stretching our arms full length, we offered the silken scarves. She smiled; then, unexpectedly, she shook our hands, a custom alien to Tibetans.

Mother of Three Living Gods

The First Family proved as eager as the Thangmes' guests to hear of our crossing of the Chang Tang. The Dalai Lama's father, a tall, pig-tailed man with thinning hair, joined us for tea. Lobsang Samten, their 14-year-old monk son, set upon us with questions and made it perfectly clear that the Dalai Lama expected to hear from him a full account of our visit. Lobsang later became one of my best friends.

The Great Mother has led a remarkable life. Until the recognition of her son as the incarnation of Chenrezi, Tibet's patron god, the family had been simple farmers in a moun-

8

← Horned Dragons Spout Rain Water from a Lama's Shrine

These gargoyles seldom get heavy use, for no more than 20 inches of rain falls on the Roof of the World in an average year.

Summer particularly brings scorching days to sky-high Lhasa. Then everyone prays for relief, and the Government summons the Oracle of Gadong, a revered rain maker. When the medium goes into his trance, Tibetans have no doubt that a god has entered his body to hear their prayers.

Tibetans abominate hail as the mischief of devils and believe that it must not strike the Potala and other holy buildings of Lhasa. The Government hires magicians to prevent such disaster and punishes them if they fail.

← Hammered Gold Tiles Gleam Atop the Tombs of Lamaist Saints

Footsore pilgrims know they are nearing the sacred city when they glimpse sun striking fire from these glittering pinnacles.

From deep inside the monumental Potala rise the gold-capped mausoleums of seven Dalai Lamas. Tibetans import gold to glorify the holy monuments. They scratch some gold from the ground with gazelle horns, but resist wholesale mining lest they anger the spirits of earth.

Red-robed monks, some of 250 living within the Potala, stroll in meditation on the gravel-and-mud roof.

↓ Tinkling Bells and Magic Images Repel the Spirits of Evil

These good-luck symbols watch over the Potala's most magnificent tomb. Four stories below lies the body of the 13th Dalai Lama; jewels and a ton of gold encrust his mausoleum.

The three gilded spires represent baskets holding Buddhist scriptures. Bells ring out the doctrine; slender forks promise its permanence. Beaked and horned monsters and winged angels frighten away devils.

10

Hiking near Lhasa, Peter Aufschnaiter Jests with a Nobleman's Daughter

Mr. Aufschnaiter, a skilled mountaineer, frequently roamed the Lhasa hills with Tibetan friends. Accompanied by Tess-La, daughter of Tsarong Shape (page 13), he pauses en route to a pilgrims' shrine. Tess-La later married Jigmie Dorji, son of neighboring Bhutan's prime minister (see "Bhutan, Land of the Thunder Dragon," by Burt Kerr Todd, NATIONAL GEOGRAPHIC MAGAZINE, December, 1952, pages 742-3).

tainous border region of China's neighboring Tsinghai Province, where many Tibetans live. She attained almost regal status overnight. Yet she bore herself with the confident poise of a lady born (page 14).

"It has been our privilege," she smiled, "to give three sons to the Church. Our eldest son, Tagtsel Rimpoche, was recognized long ago as an incarnation. Lobsang, here in the robes of a monk, is destined to a celibate life and service as a Government officer. Another boy is in school in China. Our fourth son was found to be the Esteemed King when he was two years old."

A month later the Gyayum Chemo gave birth to a fifth son. He, too, was recognized as an incarnation.

Unconsciously, the Great Mother minimized the existence of two daughters, both living in the family home. Despite their happy dominance of the household, women have no voice in Tibet's public affairs.

Ruler Has Many Names

Tibetans, our hosts explained, never use the expression "Dalai Lama," Mongolian for "Wide Ocean." His subjects speak of the venerated ruler as *Gyalpo Rimpoche*, "Esteemed King." To his immediate family he is *Kundun*, "the Presence." Later, I also was allowed to use this familiar term.

Our hostess indicated that our interview was ended. She presented each of us with a 100-*sang* note, the equivalent of about $5.

"I have an order from the Kundun to help you in every way," she smiled. "Whatever you need, it is my wish that you tell me."

Aufschnaiter and I strolled home in an exuberant mood. Servants bobbed behind us carrying gifts: sacks of tsampa meal, skin pouches bulging with yak butter, and luxurious Tibetan wool blankets.

Soon after our visit, the Foreign Ministry sent word that we were free to roam in Lhasa. Immediately we learned the overpowering sounds, sights, and smells of the sacred city.* I explored shop after shop, a series of open cells in the thick walls of private homes.

* See, in the NATIONAL GEOGRAPHIC MAGAZINE: "The World's Strangest Capital," by John Claude White, March, 1916, and "The Most Extraordinary City in the World," by Shaoching H. Chuan, October, 1912.

11

Banqueting in Lhasa: Marathon Courses, Many Cups, and Hours of Conversation

Four empty thrones (rear) await grand cabinet ministers at this leisurely Government party. Lesser officials sit cross-legged at squat, square tables. Guests use chopsticks, a custom imported from China.

Kodachromes by Heinrich Harrer

↑ Guardian Deities Glare with Unblinking Eyes at All Who Enter the Potala

Amid nomads and pilgrims the author ventured into the palace to receive the Dalai Lama's blessing at New Year. Inside he found the handiwork of generations of artists, their vivid designs obscured by dust and gloom.

↓ "In a land that shunned bicycles, cars, and all modern inventions, the prayer wheel [lower left] was the only wheel in daily use," Mr. Harrer says. "Stuffed with written supplications, the drums stood in every home and temple. The devout never passed without spinning the cylinders to send petitions on their way to heaven. At work or play, Tibetans frequently muttered the magic prayer, 'Om mani padme hum' (O thou jewel in the lotus, amen!)."

I never ceased to wonder at the variety of goods available in Lhasa bazaars: brick tea, silks, and brocades from China; American cosmetics and fountain pens; aluminum and copper ware (page 34), luxurious furs, Swiss watches, yak meat and butter, and ornaments of the dark Tibetan gold that is still scratched from the earth with gazelle horns.

At dusk each evening I found everyone promenading around the Barkhor, a main street that encircles Tibet's holiest cathedral, the Tsug Lag Khang. I passed flirts and pilgrims, smelled sacred incense and barley beer. Laughter echoed with the cathedral's perpetual chorus of drumbeats, oboes, and deep-throated prayers.

Monk Offers Support

The fascination of our daily explorations could not erase the uncertainty of our position. First, we needed permission to remain in Lhasa. If that was granted, we would still face the necessity of earning a living. And then, one day on the street, a servant in a scarlet-fringed hat stopped us. He stuck out his tongue and hissed, that most surprising Tibetan gesture of respect, and announced that his master wanted to see us (page 45).

The *Trünyi Chemo*, one of the monk secretaries who supervise Tibet's priesthood, questioned us about our education. Aufschnaiter's experience as an agricultural engineer seemed to impress him.

"I would like to see you stay," he said. "We in Tibet could use men like you. Unhappily, everyone does not share my opinion. I will speak for you. But do not be hopeful."

Despite the warning, his promise of support heightened our hopes. A monk patron would be most helpful to our appeal, because the all-powerful Tibetan priesthood normally resists foreign intrusions.

Next day, Aufschnaiter and I made formal calls on the four members of the *Kashag*, or grand cabinet. These dignitaries are responsible only to the Dalai Lama and the Regent. Entitled *Shapes*, they manage the secular affairs of the country (page 28). We told them of our willingness to work for the Government and urged them to support our plea for asylum.

While we waited for the Regent, spring breathed upon Lhasa. The Hair of Buddha, a venerable weeping willow at the cathedral's gate, turned golden green. Tender shoots spread an emerald haze along the Kyi River.

With spring came the dust storms. Everyone rushed for home when the cloud rolled up the valley. The Potala disappeared in the swirls of prying, suffocating powder.

Tsarong Shape, one of the dominant figures in 20th-century Tibet, invited us to move into his own palatial home. This shrewd man had been a favorite of the preceding Dalai Lama (the 13th), a member of the Kashag, and commander in chief of the Tibetan Army. The Government gave him vast estates. He fell from favor, but clung to his wealth and rank. We knew him as Master of the Mint.

We had been settled in our new residence only a week when we received an urgent message:

"The Austrians must leave the country immediately. Such is the decision of the Regent."

The order was catastrophic. Not only did it condemn us to further wanderings, but the sciatica which I had developed on our long marches in 30-below-zero weather had grown worse. At times I could hardly move.

We composed a long appeal for postponement. The reply came immediately in the form of an army lieutenant and three soldiers. The officer had orders to escort us to India, he announced, and we must be ready to leave the next day.

In desperation, Aufschnaiter insisted that the Government ask the British Legation's medical officer to examine me. Reluctantly the authorities agreed. The British physician promptly certified that I could not possibly travel. He gave me injections, but I found more comfort in an exercise prescribed by a lama: rolling a stick beneath my bare feet.

Religious Frenzy Sweeps Lhasa

For a time we heard no more about expulsion. Fortunately for us, the officials had more important things to occupy their attention. March had come, and with it the greatest of Tibetan celebrations, the New Year Festival.

Tibet's New Year started with a roar. An avalanche of 20,000 red-robed monks streamed into the holy city, doubling its population. The cacophony of prayers, drums, and cymbals echoed night and day.

I dragged myself to the roof of Tsarong's mansion and watched the city whip itself into a religious frenzy. Work stopped. Offices were closed. Men and women appeared in their newest silks and brocades. Cabinet

↑ Noble Ladies Plait Antlered Tiaras amid Twin Peaks of False Hair

Twenty-one-year old Yangchenla Tsarong (far left) and her husband befriended the author soon after he reached Lhasa. One of their four children became head of an important monastery at the age of three (page 32).

Custom frowns on bareheaded women in Tibet.

↓ Dalai Lama's Mother and Sister Defy Convention with Western Glasses

Dekyi Tshering (right), once a humble farm wife, rose to awesome position as Tibet's "Great Mother" when her son became Dalai Lama in 1940. She and her daughter wear brocade hats fringed with silk. Eyeglasses were taboo in the god-king's presence.

A Cabinet Minister's Wife Parades Her Rank in a Halo of Shimmering Jewels

"A person's beauty lies in clothes, the tree's in its leaves," asserts a Tibetan folk saying. In this secluded land a wealthy woman spends hours making her toilet. She dotes on cosmetics, preferring American brands.

The mother of the laughing bridegroom (page 5), Ragashar Lhacham Kusho wears the headdress of Shigatse and Gyangtse, principal cities of Tsang Province. A light yoke of cloth-covered bamboo arches high above her head, supporting an array of seed pearls from Japan, Persian turquoise, Prussian amber, and plump coral stones from Italy. Hair dangles in twin ropes above her gold-brocade dress.

Below the throat she wears a colorful charm box—indispensable protection against devils, ill health, or sudden death. Talismans inside the jeweled locket may include images of deities or the writings of a Dalai Lama. "A woman has no voice in Tibet's public affairs," Mr. Harrer says, "but jewels denote her husband's rank in the Government hierarchy. A cabinet minister's wife may display gems worth $20,000."

16

Four Hundred Feet High on the Potala, a Daredevil Swabs Down a Sacred Lion

Each day at dusk, Tibet's lonely boy King roamed the Potala roof, gazing through binoculars at life outside the palace. His limited horizon included the walled hamlet of Shö and the road leading to smoke-veiled Lhasa. He confided to Mr. Harrer that he often watched him working about his white stone house in the wooded garden at upper left. Each year coolies splash whitewash on the Potala's wings and clean its ornaments.

ministers and tradesmen, nobles and peasants, all prayed and danced and sang. Crowds shuffled clockwise along holy walks girding the Potala, the cathedral, and city (pages 21 and 22).

An accident marred the advent of "Fire Dog Year." A colossal flagpole fell in the Barkhor, killing three monks and injuring several others. Tibetans paled when they spoke of the evil omen. To them it augured distress, earthquakes, perhaps a devastating war.

During the 21-day "Great Prayer," the civil government retired. Stern monk proctors from neighboring monasteries ruled Lhasa with an iron hand. The Dob-Dobs, brawny monk policemen who blacken their faces and pad their shoulders to make themselves more terrifying, swaggered about the city.

Intricate Sculptures in Butter

The celebration reached its climax at the Butter Festival on the New Year's 15th day. Tsarong warned us not to venture into the unruly, hustling crowds. He stationed us with Mrs. Tsarong in one of his houses on the Barkhor.

After sundown, monks towed towering sculptures of yak butter, pigmented with dark and vibrant dyes, into the Barkhor. Throngs gathered to admire the grinning caricatures of gods, the elaborate flower patterns, and intricate filigree work, fixed to pyramidal wooden stands 30 feet high.*

Mrs. Tsarong explained that months of work go into the displays. Each monastery maintains a workshop where its own artists shape the cold-hardened butter. The Government awards a prize to the best entry.

The gallery of art stood ready. As we watched, hundreds of butter lamps and gas lanterns flickered in the darkness, conjuring a semblance of life into the effigies. Suddenly we heard trumpet blasts and the deep rumble of drums.

* See, in the National Geographic Magazine, "Life Among the Lamas of Choni," by Joseph F. Rock, November, 1928.

The Dalai Lama stepped from the cathedral. He looked straight ahead, his almond-shaped face inscrutable beneath a peaked yellow-silk cap. For the first time I looked upon the god-king, the 14th incarnation of Tibet's patron god, Chenrezi. The 11-year-old boy gazed down upon thousands of bowed heads. To them he was a living god.

The grave little King paced slowly along the array of grotesque images. Abbots supported him, their hands beneath his arms. The highest officials of the State followed.

It was an electrifying tableau. The Dalai Lama withdrew into the cathedral. At once a religious madness seemed to seize the throngs. All night long we heard cries, weeping, and laughter, punctuated by the hoarse shouts of Dob-Dobs.

Next morning the butter images were gone from the Barkhor, melted down for use in lamps or magic potions. Theirs was a single night of splendor, as if to remind mankind that beauty is temporal.

The festive season ended, and Lhasans settled into routine. Pilgrims marched back toward the thawing northern plains.

Unexpectedly Aufschnaiter joined the ranks of the employed. The Government commissioned him to construct an irrigation channel. I helped measure the course, but could not work because of my plaguing sciatica.

Fountain Fascinates Tibetans

Idle days in Tsarong's sunny garden gave me an idea. I designed and supervised the building of a fountain. Tsarong was delighted. No one had ever erected a fountain in Lhasa, and his guests never tired of watching the sparkling jet.

I found another way to occupy my time. Several noblemen engaged me to give lessons in mathematics and English to their sons. Lhasa maintained only one school for the nobility, a Government institution where the boys were taught accounting and manners.

One day the High Chamberlain called me

Hands and Knees in the Dust, a Pilgrim Worms His Way to a Happier Life

Wearing wooden gloves lined with iron, this zealous Lamaist earns merit by crawling the length of the sacred trail rimming Lhasa. Inching sidewise and always facing the Potala, the monk marks his progress with incessant prostrations. A leather apron protects his knees. He carries a bag of parched barley flour for lunch. Some devotees go home at night; others camp on the five-mile trail, a journey of several weeks by creeping. Wealthy Tibetans may hire prostrators, but the merit thus earned is not so great.

to the Potala. He invited me to landscape the gardens of the *Tsedrung*, a special monastic order that staffs the Dalai Lama's entourage. If I produced picturesque results, he hinted, I might be asked to rearrange the Dalai Lama's private garden.

I was just beginning the work when a Foreign Ministry official sent my hopes tumbling.

"Henrig-la," he said, with obvious distress, "the English doctor has certified that you are well enough to travel. The Government says you must leave at once."

Aufschnaiter and I pleaded our case to the Foreign Ministry. We had learned the art of Oriental diplomacy—pretend to acquiesce, but use every stalling tactic.

What would happen, we asked, if my sciatica returned? What if I collapsed on the road? Above all, who would finish the irrigation channel and the Tsedrung's gardening?

The appeal was taken under advisement. I do not know what happened, but no one ever said another word about expelling us from Lhasa.

Summer arrived, as usual, on the eighth day of the third Tibetan month. Fortunately the day was hot. The Government's lay officials trooped to the Potala, peeled off their fur-lined robes and fur hats, and handed them to servants. Then they put on light summer silks and summer hats, drank ceremonial tea, and returned home. If sleet had been falling, they would have performed the same ritual. In Tibet, seasons change according to the inconstant lunar calendar. And so does rigidly prescribed dress.

Trumpets Announce Migration

A few days later I heard silver trumpets on the Potala roof. From monasteries in the valley came echoing blasts. The chorus proclaimed the Dalai Lama's annual migration from the Potala to his summer palace at the Norbu Lingka (Jewel Park).

Townspeople hurried from every corner of Lhasa. When I reached the Western Gate, spectators stood six deep in the private lane between the Potala and the Jewel Park.

Plumes of dust and incense heralded the cavalcade. An army of monk servants strutted by, carrying the Dalai Lama's silk-bound gear and favorite birds. There followed mounted musicians, baton-twirling drummers, cowled members of the ruler's monastic household, his giant bodyguards, and the commander in chief of the army.

Then came the Living Buddha's yellow palanquin. It was borne at a swift, smooth pace by 36 colorfully robed servants in scarlet-fringed hats (page 24).

Everyone of importance accompanied the venerated King to Norbu Lingka. The entire Government followed the palanquin in order of rank, riding horses with saddles of gold.

It was an unforgettable spectacle, the profusion of gold and silks and jewels drenched in vivid sunshine under a cloudless sky.

Lhasans Love Picnics

Summer lay ripely upon Lhasa. Peach blossoms glazed the parks with pink. Blue and yellow poppies bloomed on the valley's hillsides.

This was the picnic season, Lhasa's favorite time of the year. Entire families strolled from town each day to enjoy lazy pastimes on the riverbanks. Clicking dice games endlessly amused the men. At dusk, votive incense smoldered on the darkening shore.

My swimming and diving fascinated the picnickers. Few Lhasans know how to swim, because the Kyi River is unpleasantly cold and treacherous. I suspected that I was invited on many excursions as a sort of vaudeville act. But my ability proved a blessing. I managed to save three persons from drowning, among them the 14-year-old son of Foreign Minister Surkhang. The episode led to an intimate friendship with the family.

The Tibetans had by now accepted Aufschnaiter and me as citizens of Lhasa. We were consulted on every conceivable type of problem.

Aufschnaiter completed the water channel, greatly increasing the irrigation potential in the plain bordering Lhasa. The Government then asked him to repair the creaking old electric plant which powered the mint near Lhasa. Coolies who brought the boxed parts from India 20 years earlier did not appreciate the delicate nature of their cargo. It was

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Page 19

Potala, Towering Like a Skyscraper, → Wears a Silken Banner for the New Year

In the manner of grotesque animated dolls, priests dance in slow motion at the climax of Tibetan New Year prayers. Gold and silver threads encrust the appliquéd images of Buddhas on the silken tapestry, so heavy that 50 monks are needed to hoist it in place on the south façade. Only during these rites —two hours each year—is the banner displayed. Spectators line the outdoor stairway to the palace.

always suspected that some crates were rolled down the Himalayan slopes. True or not, the plant had never worked very well.

An examination of the plant convinced Aufschnaiter that it could not be nursed to health. He proposed to harness the tumbling Kyi's water power. There was grave concern about the possible reaction of the river gods, but Aufschnaiter beguiled the Government into letting him undertake the project.

I became, in effect, the information officer of the Government. A Foreign Ministry official sent me a radio receiving set. Each day I monitored English-language broadcasts from world capitals and transcribed any political news that I thought would interest Tibetan officials.

At Christmas time I gave my first party to repay the extravagant hospitality of my friends. I shall always cherish the memory of their brotherhood. Christmas, of course, is meaningless in the holiest city of Lamaism, but my Tibetan comrades stood stoutly before an improvised Christmas tree and tried to sing "Silent Night."

Now it was 1947—"Fire Pig Year." Aufschnaiter's name and mine appeared on the Dalai Lama's New Year reception list. We had heard that the young god-king took a keen interest in our activities and often watched us through binoculars.

We shopped for the costliest silk scarves in Lhasa. On reception day we climbed the broad stone stairway to the Potala's main entrance in a procession of swarthy nomads, monks, and richly clad aristocrats.

All Tibetans Eligible for Blessing

Through the main portico, embellished with frescoes of grinning protective gods, the group entered into dark, winding passages. Finally we reached a small courtyard. Steep ladders led to a roof several stories higher. A crowd had already gathered, for any Tibetan citizen may receive the blessing of His Holiness at New Year.

Step by step we pressed to the entrance of penthouse buildings with golden roofs. I stretched to glimpse the object of all Tibet's veneration, and saw him stretch to look at us!

The young King sat cross-legged on a throne draped in rare brocade. Bags of money, rolls of glossy silk, and hundreds of ceremonial scarves mounted at its base. With grave preoccupation he tilted back and forth, bestowing his blessing on the pilgrims. They glided by, trembling, with heads bowed low and tongues stretched forth.

When finally I stood before the throne, I could not resist a furtive upward glance. Our eyes met, and a quick smile animated the Dalai Lama's charming, finely chiseled face. I bowed to receive his blessing, an eager playful push that seemed to say, "Hello there! So you're the Westerner."

An abbot steered Aufschnaiter and me into an obscure corner where we could watch the ritual. Many pilgrims had traveled hundreds of miles, some prostrating themselves foot by foot. Each brought a gift, if only a shabby scarf. An accountant recorded the more substantial gifts of money, destined to join the treasure that had been accumulating for centuries.

Commoners Blessed with Tassel

The Dalai Lama places his hands only on monks, Government officials, and esteemed visitors. He blesses other persons with a wave of a silken tassel. One woman outside his family merits the personal touch. She is the "Thunderbolt Sow," the only female incarnation, and thus the holiest woman in Tibet.

When the ceremony ended, a monk handed us each a new 100-sang note and murmured, "A gift from the Treasured King." I still cherish the bill.

Pilgrims are permitted to tour certain parts of the Potala. Impressive from the outside, it is a bitter disappointment within. Age-old gloom, dust, and the suffocating stench of rancid butter permeate every corner of its maze of passages and cells. The spillings of countless butter lamps make footing difficult.

In contrast to the squalor, the remains of seven Dalai Lamas repose in golden stupas encrusted with dusty pearls, rubies, diamonds, turquoises, coral, and sapphires. A monk keeps vigil before each mausoleum, intoning prayers and thumping a drum.

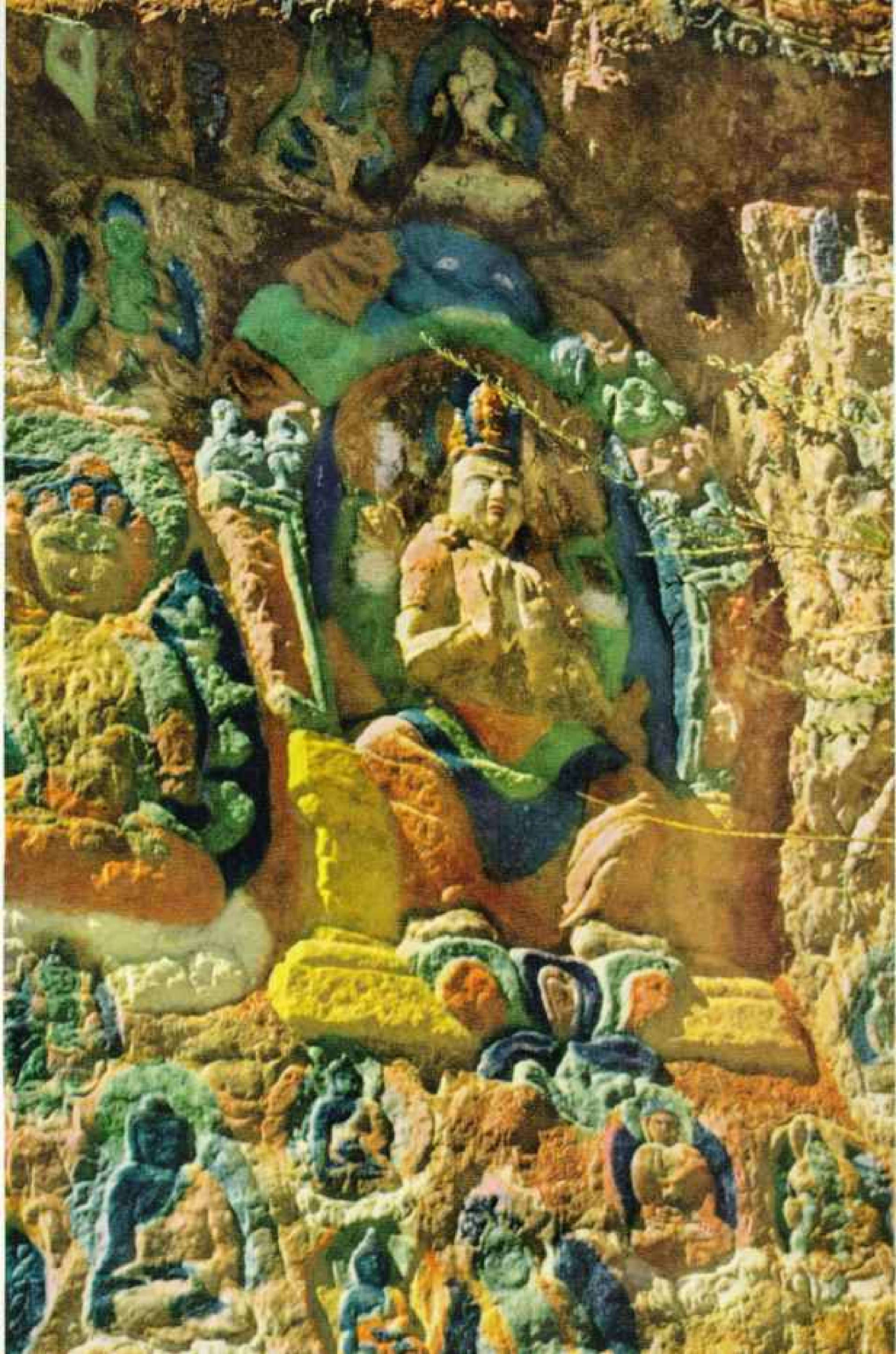
(Continued on page 29)

Page 21

A Contemplative Buddhist God Reminds Passers-by to Say a Prayer →

Wherever Tibetans find open surfaces of stone along a road or mountain pass, they carve and paint images. The Lingkhor, a holy walk encircling Lhasa, edges this limestone cliff. Pilgrims flocking here from all parts of Tibet pace the five-mile trail, spin prayer wheels, and recite rosaries. Beggars frequenting the path touch up the colors of the weather-paled sculptures.

 Kodachrome by Heinrich Harrer



↑ **Misty Poplars Frame a Pilgrim's View of the Potala's North Face**

Pale tones of red, a holy color of Lamaism, stain the central block; white wings flank it. Cloistered in a lonely penthouse apartment, the Dalai Lama studied photography to film a world he could not share.

↓ Wind-whipped prayer flags waft messages to the gods at the Shrine of a Thousand Buddhas, bordering the Lingkhor (page 21). Pilgrims touch their foreheads to a worn rock beneath the painted images.

23

↓ **Tibet's Foreign Minister (Center) Welcomes Lowell Thomas and His Son**

Mr. Thomas, American writer and commentator, and Lowell, Jr., visited Lhasa as guests of the Government in 1949. Disaster struck their expedition on the return journey. Five days from Lhasa, a frightened horse knocked Mr. Thomas off a narrow trail; the fall smashed his leg. Lowell, Jr., organized relay teams of porters to carry his injured father across peaks and gorges. After 19 days of torturous travel they reached Gangtok, near India.

Devout Lhasans Thrill to a Fleeting Glimpse of the Living Buddha

In summer the Dalai Lama quits his winter quarters at the Potala and journeys to the Norbu Lingka (Jewel Park), two miles away.

Here, at the ruler's return in autumn, townspeople throng the poplar-lined lane to watch the royal cavalcade. Suddenly distant music swells. Soldiers present arms. Whispers ripple through the crowd: "The Esteemed King! The Esteemed King!"

Servants in wide scarlet hats march into view, bearing the Dalai Lama's yellow sedan. The regent rides in a smaller chair.

Drums throb, trumpets blare, oboes wail as the procession makes its dusty passage.

Cheeks ballooning, monks force sirenlike blasts from silver trumpets as they clear a way for their king.

Page 25, below: Dour monk proctors in padded cowls rule Lhasa during the New Year religious festival.

← Dignitaries Don Rich Robes to Greet Government Guests

In Lhasa the author could tell the status of lay officials by their dress. Fourth-rank secretaries boast gold-brocade hats with red tassels. Hatless monks, of fifth rank, wear red cowls; an officer of the same level, the blue-lined red cloak. (Mr. Harrer's appointment to fifth class entitled him to a similar garment.) Officials of this or lower rank wear bowl-shaped caps over double topknots.

Reception hosts line up by rank. Chalk stripe prevents evil spirits from crossing the road.

Kodachromes by Heinrich Harrer

27

← Top Tibetan Officials Marvel at a Souvenir from America

A finance secretary peers through a slide viewer, memento of a Tibetan trade delegation's mission to the United States in 1948. Pondering noble at right traces his descent to a former Dalai Lama's brother.

Tibet's high chamberlain (extreme left), chief abbot and adviser to the present Dalai Lama, gave Mr. Harrer his first official job in Lhasa: landscaping a Potala garden. Here the abbot chats with the army's commander in chief at a Government party.

Fashion Hides the Fingertips →

Pangdatsang, who was born a commoner but became Tibet's wealthiest man, represents a rare success story. He amassed his fortune through skillful trading, rose to political power, and was ennobled by the Government.

Like other aristocrats, he wears elongated silk sleeves to show that his hands are not his livelihood.

Kodachromes by Heinrich Harrer

Cabinet Ministers Mount Caparisoned Steeds to Ride Through the Streets of Lhasa

Soon after his arrival in the capital, the author paid his first courtesy call on Tibet's grand cabinet—a monk and three laymen. Surkhang Shape (above, mounting), youngest of the ministers, greeted Mr. Harrer and Mr. Aufschnaiter like old friends and spread a lavish dinner for them. The venerable monk-minister Rampa (below, right) sounded out their views on international affairs.

A herald clears the streets when any of the foursome appears in public. Six servants escort each man. All other riders must dismount and salute. Pedestrians bare their heads and stick out tongues as a mark of respect.

Once I asked a stonemason why Tibetans no longer raised buildings of the magnitude of the Potala. He assured me earnestly that gods created the Potala overnight long, long ago.

"Who else could have erected a dwelling for a god?" he asked. "Who else would have had the strength and means to pile up mighty stone blocks on a mountain hundreds of feet high? No, the god who dwells there was the architect. And spirits created the Summit."

Potala Was Begun in 1641

The Potala, in fact, grew stone by stone with the sweat of many Tibetan brows. The fifth Dalai Lama started its construction in 1641 on the site of an old Tibetan citadel. Every subject was obliged to bring a stone block from a distant quarry.

When the fifth incarnation died in 1680, the astute Regent suspected that laborers might continue their backbreaking journeys for a divinity, but not for him. He announced that the Dalai Lama was in seclusion and kept the ruler's death a secret until the Potala was completed nine years later.

All of the Dalai Lamas are regarded as a single spirit occupying a succession of bodies. How is a new incarnation discovered?

Kunsangtse Dzasa, then commander in chief of the Tibetan army, was one of the few witnesses to the recognition of the 14th Dalai Lama (page 26). One evening he told me the story:

"When the 13th Dalai Lama became gravely ill in 1933, he gave vague hints about the place of his rebirth. After death, his body sat in state facing south. One morning the monks saw that his face had turned toward the rising sun. The State Oracle was called. When the gods had possessed his body, the oracle flung a khata toward the east.

Vision of Home in Lake

"The Regent journeyed to a holy lake whose waters reflect the future. In the mirrorlike surface he envisioned another lake. Beside the visionary body of water stood a peasant's home and a monastery with roofs of gold. The Regent hastened back to Lhasa.

"The first search parties set out in 1937, carrying objects that the Great Thirteenth had used every day. They searched month after month.

"My group journeyed to the Chinese Province of Tsinghai. You can imagine our excitement when we came to a monastery whose golden towers resembled those seen by the Regent. Beside it stood a humble house. We were convinced that we stood at the goal.

"To conceal our intent, we changed clothing with our servants and entered the house. A little boy, about two years old, sprang up and ran to meet us. He clutched the soiled garb of a disguised priest and cried out, '*Sera lama, Sera lama!*' We could hardly believe our eyes, for the priest did, in fact, come from the Sera Monastery.

"Old and new objects were held before the boy. Without hesitation he chose the Great Thirteenth's favorite drum and walking cane.

"On the child's body we found marks that the incarnation of Chenrezi should bear—prominent ears, and moles on the upper part of the trunk.

"Finally, in the summer of 1939, we returned with the Esteemed King and his family. All the people rejoiced because the embodiment had returned to the Summit.

"During the next New Year Festival the Esteemed King was enthroned and given his new titles: the Holy One, the Glorious, the Mighty of Speech, the Enlightened Understanding, Absolute Wisdom, and the Wide Ocean."

Oracle Dances to Halt Rain

The short monsoon season was heavier than usual during our second summer in Lhasa. The driving rains turned Lhasa's streets into a quagmire, the Kyi into a raging torrent. Soldiers routed me from bed one night.

"Sir, the great Kyi threatens the summer palace of the Treasured King. You must come at once and hold the dikes."

A horse was waiting. We splashed through muddy lanes to the levees. Our lanterns penetrated only a few feet in the murk, and there was little we could do but hope the dikes would stand until day.

I searched the bazaars for jute sacks. These were filled with sand and turf. Then I set to work with 500 coolies and soldiers.

At the same time, the weather oracle hastened from Gadong Monastery to perform elaborate dances on the riverbank. We both worked feverishly toward the same end. The dikes held. The rains stopped. The flood ebbed. Both the oracle and I received generous praise from the Dalai Lama.

Having no knowledge of engineering principles, the Tibetans had built vertical dikes

that gave before pressure. I was asked to erect a strong new barrier to withstand the summer floods. With Aufschnaiter's help, I began surveying in the spring of 1948 and shoveled the last spade of earth before the summer monsoon. The gently sloping dike, 1,800 feet long, diverted the river from its course alongside the summer palace to an uninhabited lowland.

Dike Holds Back Flood

When the first floodwaters spilled down the Kyi, the dike held like stone. We set out a grove of willows on land formerly inundated each year.

Some 500 coolies and 1,000 soldiers were assigned to the project, the largest construction force ever assembled in Tibet. They were good fellows, noisy and happy-go-lucky, but it took three of them to man one shovel.

There also were many slowdowns. Workers constantly brewed butter tea. Diggers took excruciating pains not to destroy a single living creature. There was a shriek of alarm every time a worker spied a worm or bug in newly turned earth. Work stopped while the tiny being was borne to safety.

The Tibetans' religion teaches them that no life may be destroyed if death can be averted. The most devout went so far as to collect fish from ponds before winter's deep freeze and summer's drought. The fish were carried in pails to refuge in the Kyi.

Life was full and busy. Aufschnaiter and I mapped Lhasa, making the first accurate survey with a theodolite and measuring tape (page 7). Friendly crowds gathered when we appeared with the equipment. Poor Aufschnaiter often found himself peering through the theodolite's telescope into a blurred Tibetan eye. We found it necessary to rise before dawn to get our work done.

We started the survey with an antiquated theodolite belonging to Tsarong, but completed it with a fine new instrument sent to us by the National Geographic Society.

Intent Nobles Study a Player's Move in *Sho*, an Exhausting Game of Chance

"Lhasans love to gamble," the author says. "At one time mah-jongg became such a craze that people forgot to go to work. The Government banned the game, but one could still hear the click of tiles!"

Crying "*Tsack!*" these high-ranking dignitaries slap the dice cup on the leather pad (center) with great vehemence; their enthusiastic play often leaves them limp. Dice scores govern the moves of small stones in the race around pad and cup. Nobles' jewel-studded topknots denote their official status.

31

"Walking on Knives" Led to the Author's Friendship with the Dalai Lama

Mr. Harrer, finding several pairs of skates left in Lhasa by British diplomats, organized skating parties on a tributary of the Kyi River. The young King, hearing of the new sport, yearned to see his subjects in action, but Chagpori Hill (background) blocked his view from the Potala roof. He sent a motion-picture camera to the author, requesting him to film officials' attempts to maneuver on ice.

Here Lobsang Samten, brother of the Dalai Lama, seems headed for a fall. Wangdüla, monk officer and close friend of the author, glides beside him. A member of India's mission in Lhasa wobbles by at right.

The Government was already paying Aufschnaiter for his work in Lhasa. I, too, received a commission as a salaried official, fifth class, in 1948. My monthly salary amounted to about $120, worth three or four times as much in Lhasa as in the United States.

We were asked to study the possibility of installing a modern drainage and electric system in the holy city. Neither of us had training in those engineering fields, but in Lhasa we were jacks of all trades. On one occasion we regilded idols in a temple.

As a Government official in a city addicted to protocol, I felt that I should live in a home of my own. Foreign Minister Surkhang offered me one of his villas in a charming suburban garden. It was an unusual house and considered very modern because of its frontage of glass windows.

I engaged a personal servant, Nyima (page 46). He was a husky, bright former soldier who insisted upon following me to homes of friends in the evening and waiting with pistol and sword to protect me on the way home.

Nyima and I took care to tend the sacramentals at Surkhang's villa. He looked after the living-room altar, filling seven bowls of water for the gods daily. There were gay prayer flags and an incense burner on the roof. I stretched a radio antenna between two of the flags.

Visits to Provinces

The Government occasionally lent me to nobles who wanted advice about improvements on their estates. Trips by horse and yak-hide boat into sparsely inhabited provinces opened new horizons for me in this lofty, remote country.

Farming methods are entirely medieval. Farmers tear the stubborn soil with primitive wooden plows pulled by *dzos*. The dzo, a

hybrid between the ox and yak, is gentler than the stubborn yak.

In the provinces, Tibetans are inured to harsh, frugal lives. Daily food may consist of a bowl of tsampa kneaded with tea, a few strips of dried yak meat, and endless cups of greenish butter tea. But I have never known a people who laughed so much.

Their casual attitude toward life finds its most startling expression in marriage. Most Tibetans have one mate, but any marital arrangement is tolerated. Brothers—or sisters—may wed the same partner to keep a family estate intact. Fortunately jealousy seldom stirs a Tibetan heart.

Everywhere in the length and breadth of the starkly beautiful country there are monasteries. They perch like stone griffins' nests on the spurs of mountains and nestle half-hidden in green, sun-soaked valleys.

Leaving Home Forever, a Solemn Little Boy Rides Forth to Rule a Monastery

George and Yangchenla Tsarong (page 14) felt mixed pride and heartache when monks selected their three-year-old son as the incarnation of a high-ranking lama and took him away. Parading through Lhasa, he will lay his hands, as he has been taught, on the heads of persons eager for his blessing. A week's ride away the child will enter a new life as godhead of one of the country's wealthiest cloisters. Like the Dalai Lama, he is one of Lamaism's hundreds of Living Buddhas.

33

Reading, Writing, and Arithmetic, Taught to the Tune of a Bamboo Stick

Tibet has no public school system, but noblemen hire tutors for their children and those of their servants. The author found this outdoor school in session on the estate of Phalha Sey (left). Pupils are writing on smooth planks, copying Tibetan A B C's with homemade bamboo pens.

"Every family is expected to give at least one son to the Church," a friend once told us. The vast majority of monks never rise above servility. Only a few become scholars.

Winter froze a small tributary of the Kyi River. Lobsang and I found several pairs of ice skates in the city. Soon Lhasa youngsters were "walking on knives" with grim enthusiasm (page 31).

The Dalai Lama, confined to his lonely rooms, heard about the skating parties on the Kyi. But the Chagpori Hill hid the rink from his binoculars' line of vision. Through Lobsang, the enterprising young King, who had become an ardent photographer, delivered a motion picture camera to me with instructions to film all the fun and festivals that he could not see. Through the camera's view finder I witnessed the medieval glory and daily life of his city.

Lobsang searched me out one day and said, casually, "The Kundun has expressed the wish that you construct a cinema house at the Jewel Park. He is eager to see the films, and there is no projection room in the Summit or the summer palace."

34

Main Street, Lhasa: A Bustling Hub Where Luxuries Tempt and Pilgrims Pray

"I never ceased to wonder at the variety of goods in Lhasa bazaars," the author writes. "Vendors offer American cosmetics, Swiss watches, Chinese silks, and aluminum pots from India, all imported on yak-back."

A bareheaded girl leads a child past towers of kitchenware. Seated vendor (center) sells Tibetan books, loose, block-printed pages in wooden covers. Tibet's "Outer Country Work House" (Ministry of Foreign Affairs) stands at right. The unpaved Barkhor, ringing Lhasa's cathedral, ranks as a holy walk.

The command opened the gates of the Dalai Lama's sanctum, the Inner Garden, at Jewel Park.

Assembling Lhasa's best craftsmen and soldiers, I converted a vacant building into a theater 60 feet long. The projection equipment was installed in the annex.

The Dalai Lama thought the hum of modern machinery might annoy the old Regent, so we built a powerhouse some distance from the theater. The Government had provided a motor and generator, but I doubted whether the decrepit engine would last through the première.

Tibet's trade delegation that visited the United States in 1948 had returned with a disassembled jeep among its souvenirs. The jeep was put together, given one trial run, then set to work in the Government mint near Lhasa. I suggested we commandeer the jeep as an auxiliary power unit, and the Dalai Lama quickly approved.

When the jeep arrived at Jewel Park, a new dilemma arose. The gate in the Inner Garden's yellow wall was too narrow to let it pass.

What should be done? Orthodox old monks shook their heads and agreed, "The wall cannot be touched. It has stood for many years, just as it was built in perfection by former Esteemed Kings."

Defying tradition and the monks, the 14-year-old Dalai Lama ordered the gate to be widened. And so it was. The episode presented a striking test of power. I had grown aware of the youth's independence of will and his intellect. He was worshiped as Tibet's greatest Living Buddha, but the Regent and abbots dominated him as a child. They did not favor construction of the theater. They knew that it would unmask an exciting new world to his eager, inquisitive mind.

Spring, 1950, turned the Inner Garden into an enchanted oasis. The days grew warm, the grass green and thick. Peach and pear blossoms stirred amid tinkling bells. Strutting peacocks fanned their blue-green tails.

An old gardener arranged fragrant flowers in the sun. Servants cleaned the many small houses in preparation for the Dalai Lama's arrival from the Potala.

The cinema awaited its young manager when he moved in stately procession to the summer palace. As I focused the camera on his richly adorned palanquin, he peered through a curtained window—and smiled.

A Summons to the Palace

After the cavalcade disappeared into Jewel Park, I rode back toward Lhasa. A panting bodyguard caught up with me, his red robe flapping like wings.

"*Kusho*, Henrig-la! We have been looking for you everywhere. You are to return to the summer palace. They say you must hurry."

"What now?" I thought. A mishap? Short circuit? Perhaps a fire?

I galloped back to the Jewel Park. Lobsang appeared grinning at the entrance to the Inner Garden and handed me a ceremonial scarf.

At the projection-booth door I came face to face with the Living Buddha. The Dalai Lama caught up my presentation scarf with his left hand and used his right to bless me with a spontaneous pat.

"Do you know how to work this apparatus?" he asked.

The Dalai Lama's abbot protectors greeted me without warmth. The boy alone showed no trace of embarrassment.

He chattered like a schoolboy, asking a hodgepodge of questions that he must have stored up for years. Without waiting for replies, he rushed to the projector and said, "Come, let us see the capitulation of Japan."

It was a wartime documentary film, obtained in India. Clumsily I began to wind the film on a spool. He stood at my elbow, watching every movement. Finally he nudged me aside and threaded the apparatus himself.

A Self-taught Technician

The Dalai Lama explained that he whiled away many lonesome evenings studying the projector. He had managed to strip down and reassemble the machine without help.

The abbots, meanwhile, had taken their places on carpets before the screen. The Dalai Lama called through the door, "It is going to start!"

The boy bobbed with delight. I had rigged up a loud-speaker system to provide formal communication between the projection room and auditorium. As the Dalai Lama threaded a second documentary film into the projector, he nodded toward the microphone and insisted that I speak. The old abbots must have jumped, because he laughed aloud.

Next he projected a film that I had made at Lhasa festivals. The self-conscious monks gradually lost their stiffness when they recognized themselves on the screen. Finally they guffawed at a scene of an old cabinet minister napping during a long ceremony.

When the film ended, the Dalai Lama dismissed the abbots. He moved into the empty auditorium, sat cross-legged on the carpet, and arranged his red cowl. Then he unleashed another flood of questions:

"How old are you? Only 37? Why do you have yellow hair when you are so young? How do you write your name? Do you like it here in the holy city? Can you operate an army tank? An airplane? How do jet airplanes fly? Why do you have hair on your hands like a monkey?"

The last question might have been meant as flattery. Tibetans believe their patron god, Chenrezi, took the form of a monkey, mated with a female demon, and thus fathered the race.

The Dalai Lama revealed an astounding wealth of information, mostly gleaned by studying pictures in magazines that he could not read. He could distinguish the various models of modern aircraft and automobiles. He owned a British history of World War II and had managed to get some of the picture captions translated into Tibetan. He knew the names of American, British, and Russian statesmen. Lacking background, however, he could not connect persons and places. It was as if he had collected the pieces of a jigsaw puzzle but could not put them together.

Meeting Long Anticipated

The boy obviously expected the answers to riddles of long standing and had planned the meeting for a long time.

The hours passed quickly. At 3 o'clock the *Sopön Khenpo*, a fatherly old abbot charged with looking after the Dalai Lama's well-being, came to the theater.

"Kundun, your food grows cold. Please come. You must eat." There was affection in the priest's eyes and tone of voice.

The Dalai Lama made excuses. With a sudden show of timidity, he drew a copybook from the folds of his robe. To my surprise he had written the English alphabet in bold letters.

"Henrig," he said, "you will teach me this language. We will start now."

He learned quickly, noting the pronunciation of words in graceful Tibetan characters. He encountered one difficulty, the letter F, which is not used in Tibetan.

At length he said, "It is my wish that you come tomorrow to the summer home of my family here in Jewel Park. I will send for you when I am free."

Lost in thought, I walked through the silent garden. How remarkable, I thought, to find laughter, wit, and a compelling thirst for knowledge in a boy who grew up without playmates, committed to endless study of holy scriptures, surrounded by monks, cloistered in a gloomy palace. Although a god-king, he had received less personal attention than a poor peasant child.

His brother Lobsang once described the Dalai Lama's daily routine:

The boy gets up at dawn. He sleeps on an ordinary Tibetan bed—hard, wool-stuffed cushions. Servants bring butter tea, tsampa meal, soap, a small washbowl, and an American-made toothbrush.

He prays until the 10-o'clock convocation of the Tsedrung, a special order of 175 monks who staff all clerical positions in the Government hierarchy. The Tsedrung reports to the Dalai Lama in a body each day.

At 11 o'clock the Dalai Lama dines alone. At times his mother or Lobsang may call. He is free until 3 o'clock, when lessons begin. He studies until sundown, again eats alone, then goes to the Potala roof. His only diversion is scanning the gardens and streets with his binoculars.

Massive silence envelops the Potala at night. The head treasurer locks and bolts all doors. A wraithlike watchman paces the empty corridors. Still alone, the Dalai Lama spends the evening reading or praying.

Yet on his own initiative he adopted photography as a hobby and undertook to learn an alien language!

Those hours in the Jewel Park's new cinema changed the course of my life in Lhasa. I was at the Dalai Lama's beck and call, and it was a sobering task to try to impart the knowledge and ways of my world to the god-king of a country larger than England, France, and Germany combined. I worked hard to prepare for the daily lessons. In addition to absorbing English, geography, and mathematics, he asked questions of every nature. They ranged from Greenwich time to the composition of the atomic bomb.

The pupil tried to convert me to Lamaism. The Dalai Lama confided that he was studying exercises to accomplish separation of the spirit from the body. When he felt absolutely sure of himself, he planned to send me on a mission to Gartok, in western Tibet, and direct my actions from the Potala.

"Kundun," I said, smiling, "when you can do that, I shall become a Buddhist."

Bad Omens Upset Tibet

The experiment never came to pass. The Chinese Communist tide surged across old Cathay, and the Nationalist Government withdrew to Formosa. Tibet feared invasion.

Sinister omens left Lhasans pale and jittery. Tibetans said they had never heard of so many freak births among humans and animals, a certain sign that the gods were disturbed. On a hot summer day, water inexplicably dripped from a gargoyle on the cathedral in Lhasa. This was interpreted as a god's tears for their fate. A stone sphere

(Continued on page 43)

Kodachromes by Heinrich Harrer

↑ **Deep-throated Trumpet Moans the Noon Hour from Atop a Temple on Chagpori Hill**

The temple serves a Tibetan school of medicine where young monks study for 10 or 15 years. They master astrology and herbalism, learn long incantations and spells. Monk physicians consider spittle from a holy man or wooden prayer stamps effective remedies for aches and sores.

This monk follows the midday trumpeting with a wail from the oboe at his feet. The Potala stands at left; Lhasa at right. Mile-high mountains shoot up from a plain already more than two miles above sea level.

↓ Mother and child pray on Chagpori's crest, a pilgrim shrine. Incense smolders beneath prayer flags.

← A Saint's Tomb Straddles the Way to Lhasa, Mecca of Lamaism

Lhasa's life ebbs and flows through this arch, the passage by which Mr. Harrer first entered the holy city (page 3). The *chorten* symbolizes the ancients' five elements of the universe. The square base represents earth; the dome, water; the golden spire, fire; the crescent moon, air; and the crowning circle, ether.

↑ Clouds of Dust and Incense Veil the Dalai Lama's Flight to Safety

When Red China's troops entered Tibet in 1950, the Living Buddha fled to the Sikkim border. Here in a sedan chair he rides between rows of stones designed to ward off demons.

↓ Monks, helmeted like Roman warriors, greet the caravan with prayer flags and good-luck banners.

↑ Monks and Nuns Since Birth, Red Hat Children Await Their God

The Dalai Lama fled Lhasa in secret, but the news swept before him. At Jang Monastery, a day's journey from the holy city, thousands of weeping monks threw themselves into the road before their ruler, begging him not to leave.

Here youngsters wave banners while their elders pray to the sound of drum and cymbal.

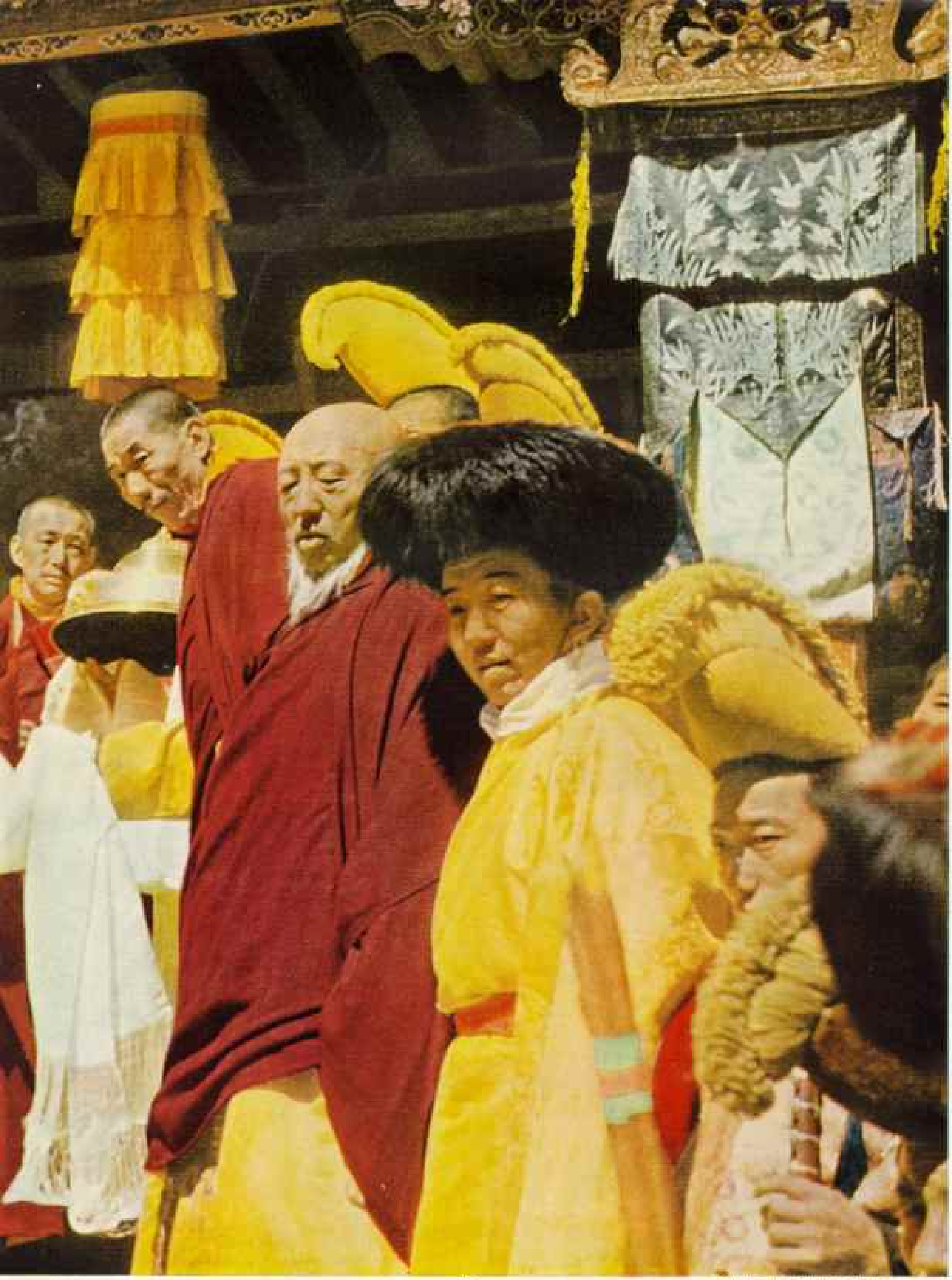
Unlike the celibate Yellow Hat order, monks of the Red Hat sect may marry; children follow their parents into religious seclusion.

➔Page 41, upper: Yellow Hats, whose ruffed headgear bespeaks learning, welcome the ruler by blowing conch shells and bearing golden censers.

Lower: Monks and nobles prepare for the arrival of the Dalai Lama at Dungkhar Monastery, in Chumbi. Each place the god-king slept on his trek immediately became a consecrated chapel, where no mortal man may ever again dwell.

In Sublime Reverence, the Dalai Lama Cradles His Faith's Holiest Relic

When this young man was two years old, mysterious signs revealed him as the incarnation of Tibet's patron god, Chenrezi, and of the previous 13 Dalai Lamas. Here at Dungkhar Monastery he receives a gold-encased bone which Tibetans believe to be that of Gautama Buddha, who founded the religion on which Lamaism is based.



43

Kodachrome by Heinrich Harrer

Princes of the Faith Attend Their Lord in Gowns of Sacred Red and Yellow

An ardent amateur photographer, the Dalai Lama instructed the author to film many state functions. When the young King participated in a ceremony like this, he told Mr. Harrer exactly where he should stand with his camera. Fur-lined robes and fur hats are required winter dress for nobles. Black-fox headgear costs $250.

Ritual Imprisons a Youthful King

As Tibet's foremost Living Buddha, this solemn-faced lad (left) has one purpose in life: to help human beings attain release from the toilsome cycle of birth, death, and rebirth that they may achieve Nirvana, the peace of oblivion. His high mission denies him speech with all Tibetans except his family and personal servants who hold abbot rank. His days are filled with study and meditation; ceremony attends every move.

Nonetheless, the author discovered in the ruler—15 at the time this photograph was taken—a lively curiosity about the ways of the outside world.

Here at Dungkhar Monastery the Dalai Lama bares his right arm, a custom prescribed for the Yellow Hat order. His steward accompanies him; bodyguards trail.

Next to the god-king himself, Tibetans revere his instructor, Trichang Rimpoche (extreme right). He and the Dalai Lama's eldest brother (next right) are also Living Buddhas. Attendants carry incense sticks.

fell from the tip of an obelisk commemorating a historic victory. Tibetans said they could not expect a more precise warning from the gods.

Pilgrims limped into the holy city from distant provinces. Lhasans erected new prayer wheels and flags. Sacrificial fires flickered on mountain peaks.

On August 15, 1950, I visited a friend's home in the evening. Guests encircled the gaming table. The dice rattled softly, but no one laughed or shouted "*Tsack!*" when he took his turn (page 30).

Suddenly an earthquake shook the house. I counted 40 muffled detonations. That night an Indian newscaster reported titanic earthslides in Assam, but several weeks passed before Lhasa learned of the devastation in eastern Tibet.*

Country Prepares for Defense

Lhasans were beside themselves with fright. It was rumored that the State Oracle was going through trance after trance in greatest secrecy and that all of his prophecies were discouraging.

To arm itself for possible war, the land of lamas prepared both guns and amulets. Tibet is an intensely nationalistic country, and there was a surge of patriotic enthusiasm. A musician composed a new national anthem to replace "God Save the Queen," a tune imported from India many decades ago on the assumption that it was played everywhere on official occasions.

Cries echoed in Lhasa: "Give the Dalai Lama the power!"

The movement to shift control of Tibet's destiny from the old Regent caused the 15-year-old Dalai Lama to pace the floor. He had not dreamed that he might be invested before his 18th birthday, and did not consider himself ready to fulfill his destiny as Tibet's absolute ruler.

His fate was decided on October 7, 1950. Chinese Communist soldiers marched across the border.

Grim-faced abbots and senior statesmen summoned all the major oracles.† The Dalai Lama witnessed violent scenes in the peaceful, autumn-tinted grounds of the Jewel Park.

The State Oracle sat motionless, his head buried in his hands. Incense clouded and scented the air. There was a din: the hollow, rumbling rhythm of drumbeats and the thin whine of oboes.

Now his face could be seen. The Oracle's features, in repose those of a handsome young man, grew rigid and waxen. Life seemed to be draining from his body.

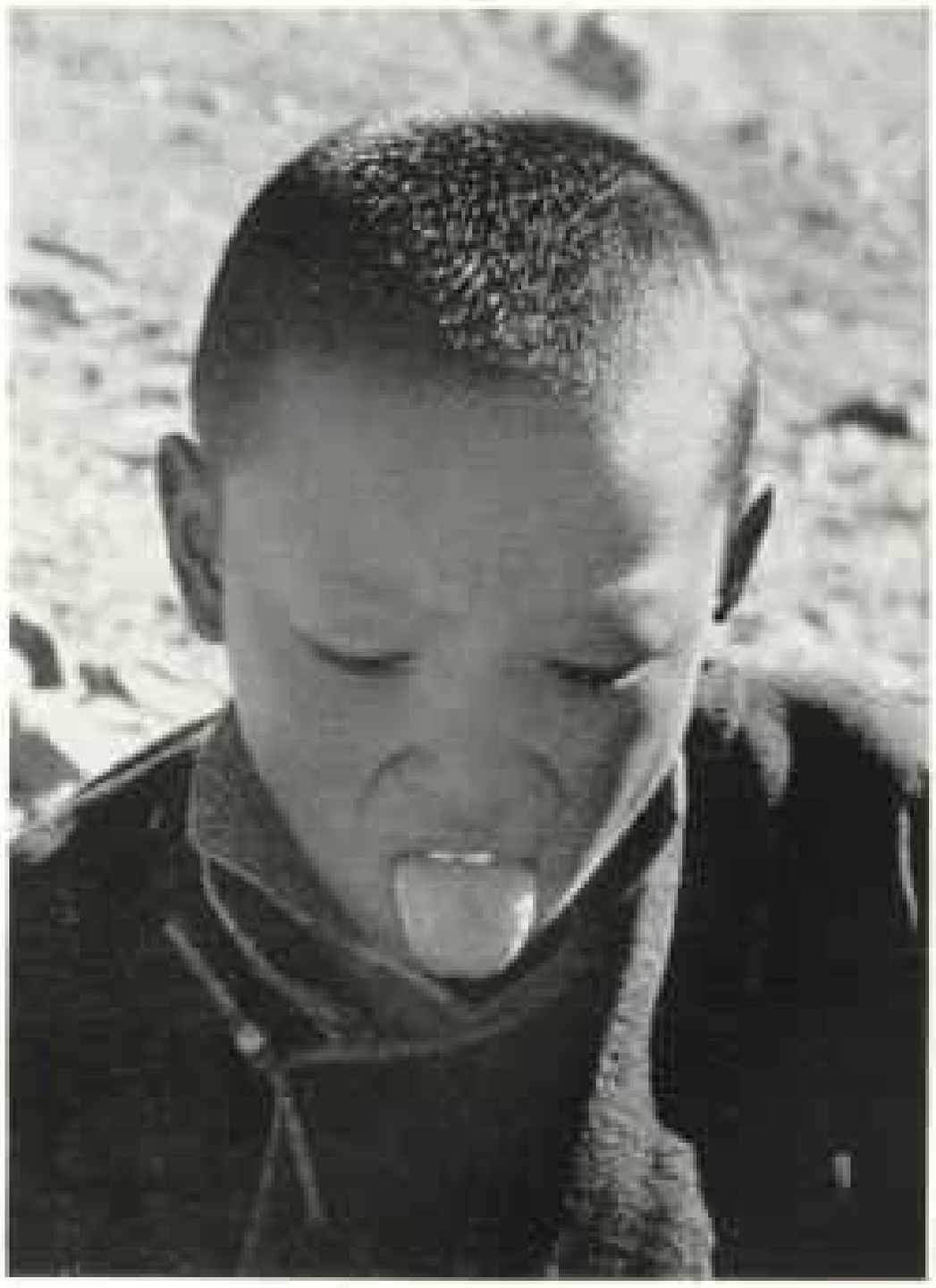
Then abruptly the Oracle jumped. He began to quiver, more and more violently, and hissing sounds escaped from his throat. Attendants heaved a towering 50-pound headdress into position. Despite its weight, his head tossed to and fro.

Now he sprang up, his features twisted out of recognition. His face became purple and splotched. Sweat glistered on his brow.

As the discordant music reached a furious pitch, he spun about on one leg, faster and faster, hammering a giant ring against his metal breastplate—until finally he threw himself at the Dalai Lama's feet and gasped, "Make him King!"

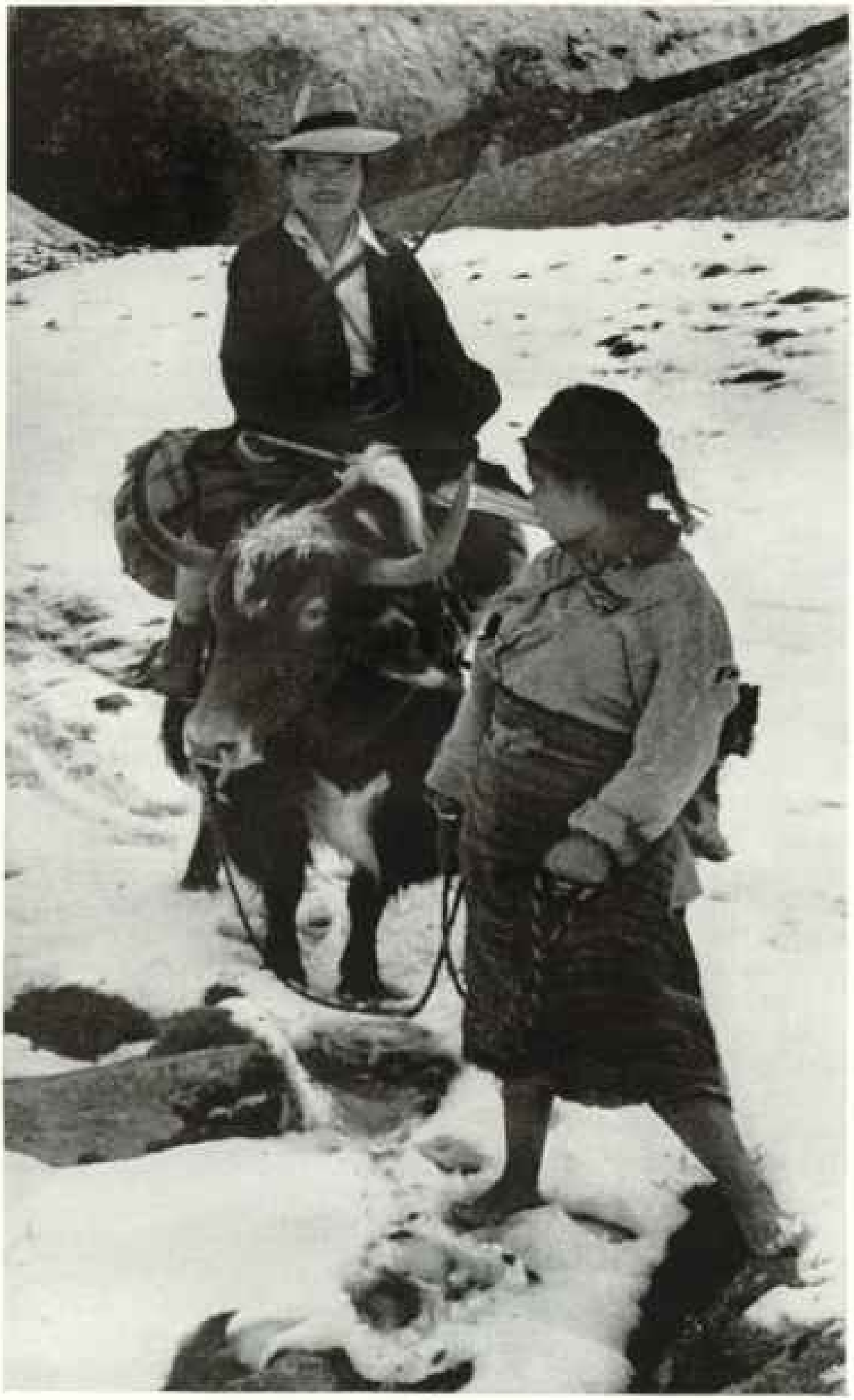
Salute of the Tongue Means "At Your Service"

A Tibetan greets one of higher position with protruding tongue and hissing intake of breath. Here the extended tongue shows respect; sucking gasps indicate a desire not to defile the air. The youngster's cropped hair denotes monkhood.



* See "Caught in the Assam-Tibet Earthquake," by F. Kingdon-Ward, NATIONAL GEOGRAPHIC MAGAZINE, March, 1952.

† See "Sungmas, the Living Oracles of the Tibetan Church," by Joseph F. Rock, NATIONAL GEOGRAPHIC MAGAZINE, October, 1935.



46

Barefoot in the Snow, a Girl Urges Her Stolid Yak Onward

During Mr. Harrer's march out of Tibet in 1950, his personal servant, Nyima, rode a Tibetan ox. On this 16,000-foot pass near the Brahmaputra River, November snows failed to stop the tattered and shoeless young guide.

Other oracles uttered the same cry.

The Dalai Lama had insisted on continuing his lessons. With his investment at hand, awaiting only an auspicious date, he had to bring his school days to a close. At our final meeting he expressed concern about Aufschnaiter's and my welfare.

"It's best for you to leave Lhasa," he said. "You've worked hard and are due for a leave, anyway. Go now, Henrig. We'll meet again."

I never saw the Dalai Lama again in the holy city. He returned to the Potala, where the Tsedrung kept him under heavy guard. The Government faced another momentous problem: Was he to remain in Lhasa or flee? The Oracle counseled flight.

Sadly I said goodbye to Lhasa in November, 1950. Aufschnaiter decided to stay as long as possible. In a light yak-skin boat I floated down the Kyi River toward a rendezvous with my caravan. I gazed back at the great Potala, brooding and shadowed under a gray wintry sky. It receded farther and farther into the distance. At last I could see it no more.

I lingered in southern Tibet, reluctant to leave the country that had sheltered me.

Ruler Flees by Night

Meanwhile, the Dalai Lama had been invested as ruler. Under cover of night he fled from Lhasa with an army of nobles, servants, and soldiers (pages 39 and 47).

Pious Tibetans hurried from far-off settlements to see him, for being in his presence gave incomparable blessing. They lined the entire trail from Lhasa to Chumbi Valley, 200 miles southwest, with parallel rows of pebbles to protect their harried King from evil spirits.

I joined the caravan and rode with it to Chumbi, a sunny green oasis nestled between Bhutan and Sikkim. There I awaited some resolution of the crisis. In March, 1951, having concluded that I could not go back to Lhasa, I set forth for India.

47

A Lonely, Wind-racked World of Rock and Snow Envelops the Caravan of the King

Fleeing Lhasa, the Dalai Lama took 40 nobles, 200 picked soldiers armed with machine guns and howitzers, a host of servants, and 1,500 pack animals. The dog volunteered for the entire three weeks of the trek.

48

Fluttering Silk Scarves Say Hello as Formally as a Calling Card

In all classes of Tibetan society these white *khatas* serve as ceremonial tokens of greeting. Here an abbot along the Dalai Lama's route presents his respects to a brocaded emissary from the ruler's household.

The Dalai Lama had received me several times at his monastic retreat, but there was no chance to say farewell (pages 42 and 44).

Riding south, followed by servants, luggage, and horses, I envisioned the changes that were to take place in Tibet, the roads to be carved in its face, the rumbling trucks that were to roll in Lhasa. I felt certain that the Dalai Lama would return to the holy city within a few months. He did so, still the nominal ruler but a deity without true secular power. I hoped that Tibet's patron god, through the extraordinary young man I had humbly tutored, would protect the land of lamas.

There were no barriers, guards, or customs inspectors at Tibet's borders. As I stepped into Sikkim, I recalled an old prophecy that the 13th Dalai Lama would be the last of the line. And my 15-year-old friend, newly invested as the 14th Dalai Lama, had not enjoyed a day of independent, untroubled rule.

But I also recall his hopeful words at our final lesson:

"Go now, Henrig. We'll meet again."

The full story of Heinrich Harrer's dramatic journey across Tibet and his life in Lhasa is told in his best-selling *Seven Years in Tibet*, published in the United States by E. P. Dutton & Co., New York, and in England by Rupert Hart-Davis, Ltd., London.

Under Canvas in the Atomic Age

United States Coast Guard Cadets Crew a Square-rigged Yankee Bark for Training in Their Country's Great Maritime Tradition

By Alan Villiers

With Illustrations from Photographs by the Author

ON the harbor's north shore the atomic-powered submarine *Nautilus* was fitting out. As my Coast Guard launch sped past, I wondered briefly that in this atomic age I should be going out again to join a square-rigged ship, a Yankee bark bound on an Atlantic voyage.

I came alongside the *Eagle*, a graceful white beauty with shining golden yards and a horde of cadets from the United States Coast Guard Academy for crew. I swung aboard up the traditional rope ladder by the break of the quarter-deck. Cable was coming in, yards were canted, boats were stowed. It seemed as if 200 busy feet were running everywhere in that orderly and astonishing confusion that marks the square-rigger's going to sea.

"Up and down!" was the shout from the forecastle head.

"Up and down!" echoed from aft. "Loose the tops'ls!"

"Loose the tops'ls!" The brisk order re-echoed everywhere as eager youths leapt for the high rigging to do this traditional sailor's task.

"Loose the tops!" cried a big lad from Iowa as he tore up the rigging—and he said "tops," not "topsails." "Loose the tops! Loose the gallants! Loose this, loose that! Haul this, slack that! This isn't going to be any picnic!"

Then he grinned, and the lads around him grinned, too, and lost sight, for the time being, of the atomic age.

Sails Pile Up Aloft

Quickly they loosed all sail in the bright and sunny morning. White sails descended in ordered folds to stretch and tauten between the golden yards. Fore-and-afters sang aloft on their merry hanks. Great expanses of mainsails and foresails swished and boomed a moment while restraining tack and sheet brought them to heel.

"Let the head yards go for'ard! Spanker boom midships!"

Aloft, white-uniformed boys were everywhere. Chain sheets rattled and clanged on steel yards. Yellow cordage snaked through a hundred blocks just as in the great days of the Yankee clippers, a century before.

To the uninitiated the *Eagle* might have presented a picture of considerable confusion. But there was none. The big bark was doing her master's bidding, and the Coast Guard cadets knew what they were at.

Maneuvering in Close Quarters

The bark lay at anchor in the lower harbor of New London, Connecticut, which once had sent whaleships and clippers beyond the seas. The land was close aboard on either hand, and it took skillful maneuvering to get a square-rigger under way in such a place.

The bark lay head to wind at first, as sailing ships do; the problem was to cant her with her sails and get her headed the right way, sailing along, under full control.

Now the noiseless electric windlass was fleeting in the last of the cable.

"Anchor's aweigh!"

The backed head yards, full of the wind from one side, and the main yards, trimmed to fill their sails as the bark canted and stood seawards in the desired direction, slowly swung her around.

She stood a moment, swinging there in the sunshine, a thing of ordered grace and beauty, and I saw that the boy from Iowa was looking no more in the direction of the *Nautilus* or toward the bridge where diesel expresses thunder across the Thames River. He was watching the wonder of the growing wake at the big bark's stern and the breaking blue sea before the bow as she gathered way.

Aft on the hospital-clean quarter-deck six cadets in their best white uniforms spun the three huge wheels, shining with brass and varnish, by which the *Eagle* is steered. Sail piled on sail until all sail was set, and the yards were trimmed to the morning breeze as the *Eagle* slipped silently out to sea.

The wind was quiet at first, and she slipped along at about four knots, the masts upright and the ship all steady almost as if she were

↑ *"Young Lovelies, Sweat Her Up!"*
As *Eagle* Squares Away for Europe, Cadets Hoist Small Boats Aboard in Sail's Time-honored Way

With the bark *Eagle* the United States Coast Guard Academy at New London, Connecticut, affirms its belief in the square-rigger as the ideal school for seamanship. Every Academy cadet must make four voyages in the graceful vessel, serving in her working crew as does this group "running" the boatfalls on the main deck.

Alan Villiers joined 200 cadets on *Eagle*'s run to Europe last summer. The cutter *Rockaway* (opposite, above) accompanied them, although the sailing ship with her ultramodern navigational equipment and auxiliary diesel engine needs no help from anything afloat.

← *Eagle*, as the Sea Bird Sees Her, Makes Ready to Loose Her Sails

Launched in 1936 at Hamburg for Hitler's navy, the 1,900-ton steel three-master originally bore the name *Horst Wessel*. After World War II she went to the United States as reparations.

Here, with Mr. Villiers aboard, she is about to begin her voyage. Cadets aloft await the order to man the yards and loose the canvas. Officers stand on the quarter-deck. Six cadets man her triple wheel ahead of the mizzen, or aftermost, mast.

(Chanteys and forecastle songs quoted in these legends for their aptness and color are authentic songs used by sailors of old to lighten their tasks or enliven their leisure. Lines are reprinted with permission of W. W. Norton & Company, Inc., from *American Sea Songs and Chanteys* by Frank Shay. *Eagle*'s lads did no chanteying at work, but sang the sea songs in watches below.)

Kodachromes by Alan Villiers and (below, left) National Geographic Photographer John E. Fletcher

not moving. She had been put under way so quietly and well that it all looked easy.

All this time I had stood by the break of the quarter-deck and marveled. This was my first Yankee ship. Shades of bucko mates and bellowing skippers! And belaying-pin soup for breakfast!

Wind Recalls Great Days

The *Eagle*'s wire rigging sang the song of the singing wind of the great days of the sailing past, when the Stars and Stripes flew from the peaks and staffs of the wondrous clippers and whaleships that blazed the sea paths of all the world. But this was the year of grace 1954! Above us jet aircraft left vapor trails, writing in contempt upon the morning sky their message of man's heedless progress. Any of those jets—if it had the fuel—could be in Europe before that day's sun set. *Eagle* was bound for Spain and might make it in three weeks (map, page 58).

Yet she was no museum piece, no revived relic of yesterday going briefly to sea upon some stunt. She was a new ship as sailers go, built in Germany in 1936, and not a sign of rust was anywhere. The decks and the rigging looked all new. But the shouted orders, the responses of the crew, the orderly and rhythmic chanting as lines were hauled, were identical with those the clipper crewmen knew.

Clipper Man Would Be at Home

Donald McKay—that great clipper-building genius—might have stepped aboard the *Eagle* and looked about him with respect and admiration. He might have noted the absence of hatches (for the *Eagle* is not a cargo ship and therefore has no need of these deck openings), and he might have been astonished at the apparently large crew. But I could have explained to him that she was a training ship, designed and built for the experience the square-rigger provided boys in character development and indoctrination for the sea. He would have understood.

I might have added, too, that I was there for the National Geographic Society, by Coast Guard invitation, to make the *Eagle*'s eighth annual cruise. And if McKay had looked astern where a trim cutter was following us to sea, I would have explained that she was the *Rockaway*, a regular Coast Guard cutter, and that it was the custom for one of these power cutters to share the cruise.

The object of the cruise was to provide the best possible training for the cadets, and a third of the upperclassmen would spend a third of the cruise in the *Rockaway*, the other two-thirds in the *Eagle*. In the cutter there were only 30 lads, as compared with about 200 in the bark, and there was therefore time and space on *Rockaway* to concentrate on officer-type duties: watchkeeping on a modern bridge, gunnery, engineering, the duties of the weather ship; and so on.

Only upperclassmen went in the *Rockaway*. Lowerclassmen made the whole cruise in the *Eagle*, to participate in all her many-phased activities, and, in the participation, show what they were made of and develop their qualities of leadership and resourcefulness.

Training in Sail Has Value

But why a sailing ship?

"One thing's sure," said a bright junior to me. "However long I stay at sea, I'll never command an American sailing ship. There's only this one. At home I've got a car. But I like to ride horseback too. The *Eagle*'s our horse, I suppose, in a way."

Maybe I looked astonished. The cadet laughed.

"I found when I was driving a car that the plain horse sense I'd learned when riding was good road sense, too," he said. "It's the same here. This is elemental stuff. When you're up aloft you get—well, you get sort of the real feel of this seafaring business. It's your hands that do things, your judgment that counts. You can see the why and the wherefore of what you're doing. I like that."

"But weren't you scared the first time you went aloft?" I asked.

"Oh, yes, a bit. It looks a mighty long way up first time you climb the rigging, and it looks even a longer way down again. But at the Academy they have a model mast to show us what it's all about, and the *Eagle* is at the pier all the time she isn't sailing. We can practice then.

Page 53

***"Growl You May, but Go You Must"* →**
All Hands Lay Aloft
at Cadet-Officer's Command

Already hauled up in gear for furling, sails hang idly; the wind is on holiday. Up the ratlines clamber the cadets to muzzle the canvas (page 56); one stands on the maintop, where archers fought in days of sailing men-of-war. Inclinometer below bell on engine exhaust stack shows how much the ship heels.

 Kodachrome by Alan Villiers

"And, remember, this transatlantic run isn't our first cruise. We all make a first run to Bermuda or the West Indies, the first year we are at the Academy. I was pretty seasick then. And I didn't like to go aloft! But you get over it quick."

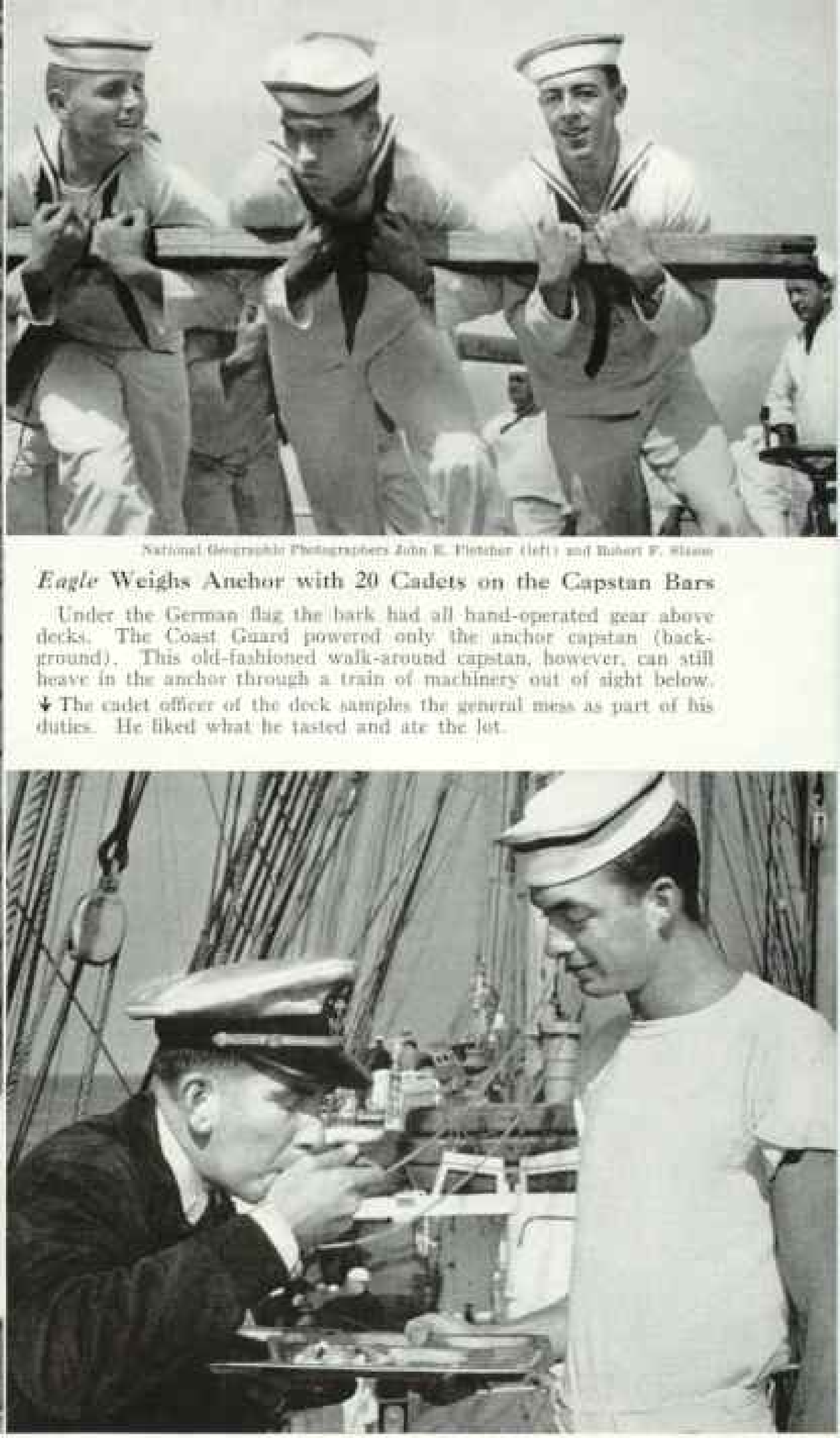
Capt. Carl Bowman (page 67), then the *Eagle*'s skipper and head of seamanship at the Coast Guard Academy, confirmed what the boy had said.

"The Coast Guard has used sail training cutters, with one break, for about 80 years," he said, "and I've never heard of any case where a cadet fell from aloft. It's safer than trying to get around in the traffic ashore."

Captain Bowman explained, too, that there were excellent reasons why the Coast Guard sticks to the sail training cutter.

"We can see our boys here all the time, and we get a pretty good idea what they're made of before the voyage is over," he said.

A cadet who completes the full four-year



National Geographic Photographers John E. Fletcher (left) and Robert F. Sisson

Eagle Weighs Anchor with 20 Cadets on the Capstan Bars

Under the German flag the bark had all hand-operated gear above decks. The Coast Guard powered only the anchor capstan (background). This old-fashioned walk-around capstan, however, can still heave in the anchor through a train of machinery out of sight below. ↓ The cadet officer of the deck samples the general mess as part of his duties. He liked what he tasted and ate the lot.

course at the Academy, the Captain explained, makes four cruises in the *Eagle*—two to Europe and two to Bermuda.

First, he makes the run to Bermuda, a short cruise but a good beginning. The second year he takes his first long cruise, usually to three ports in Europe. The following year he goes again on the Bermuda cruise, but this time with experience in sail.

His last cruise is a second run to Europe, and it is during that run he spends a third of his time in the *Rockaway*. While in the *Eagle*, the first classmen bear the real responsibility of watchkeepers in all branches.

"In the Coast Guard you have to have a hard core of officers you can nail the flag to," Captain Bowman explained.

I liked that expression. It said a lot. There was no doubt in the Captain's mind that the sailing ship is a better testing ground for youth than the bridge or the decks of a powered cutter can ever be.

"'Trice Up, and Lay Out, and Take Two Snug Reefs in One'..."

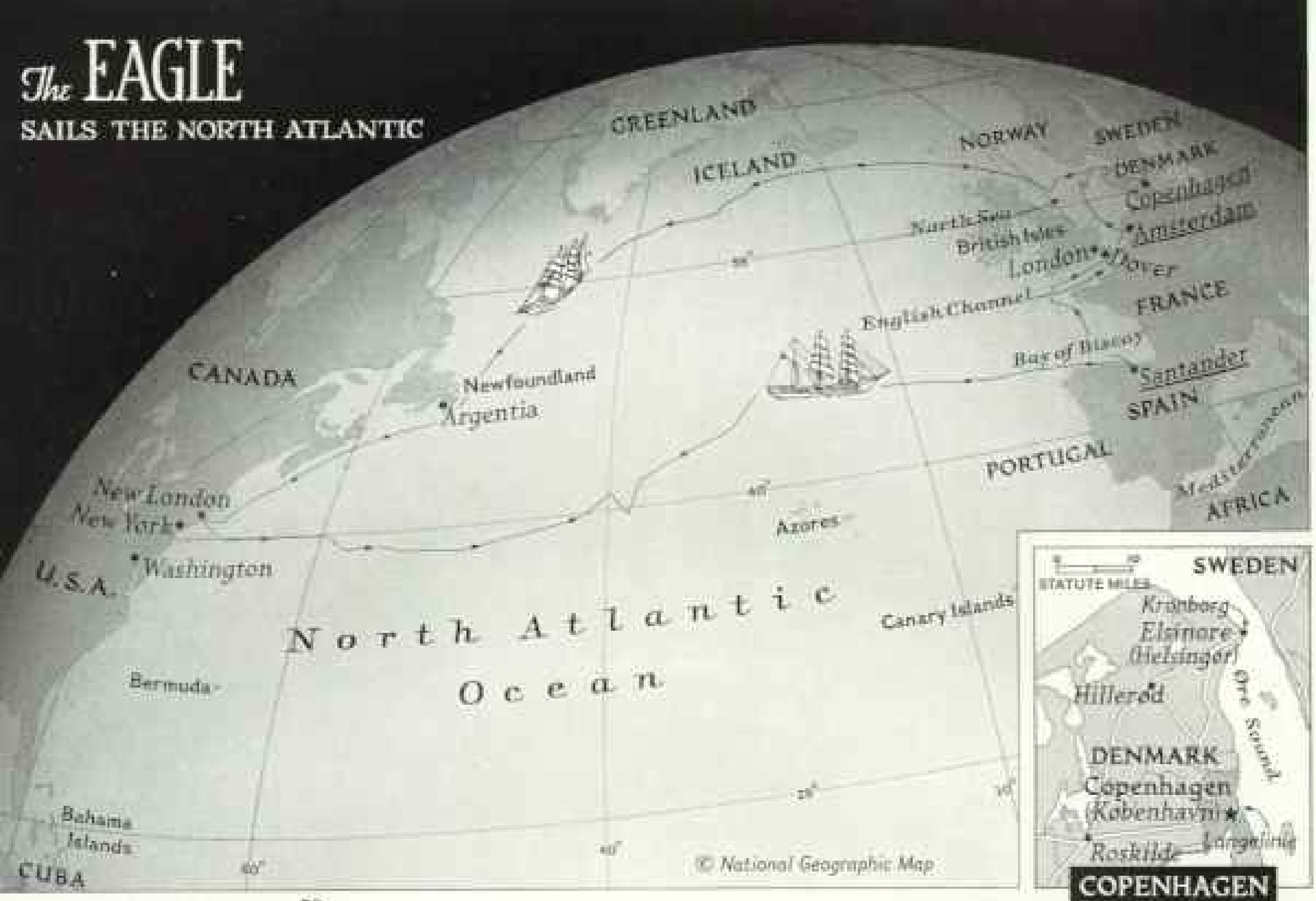
Feet on the main footropes like men of the old clippers, *Eagle*'s cadets fist heavy canvas into a practice furl, not a reef. They will secure it atop the yard with gaskets, short lines hanging under the spar.

Kodachrome by Alan Villiers

. . . And All in One Moment This Work Must Be Done."

Sailormen know which lines and stays in this maze support the 150-foot mast, control straining canvas, or serve as crew's foot and hand holds. Fuzzy lengths of baggywrinkle keep rigging from chafing holes in sails.

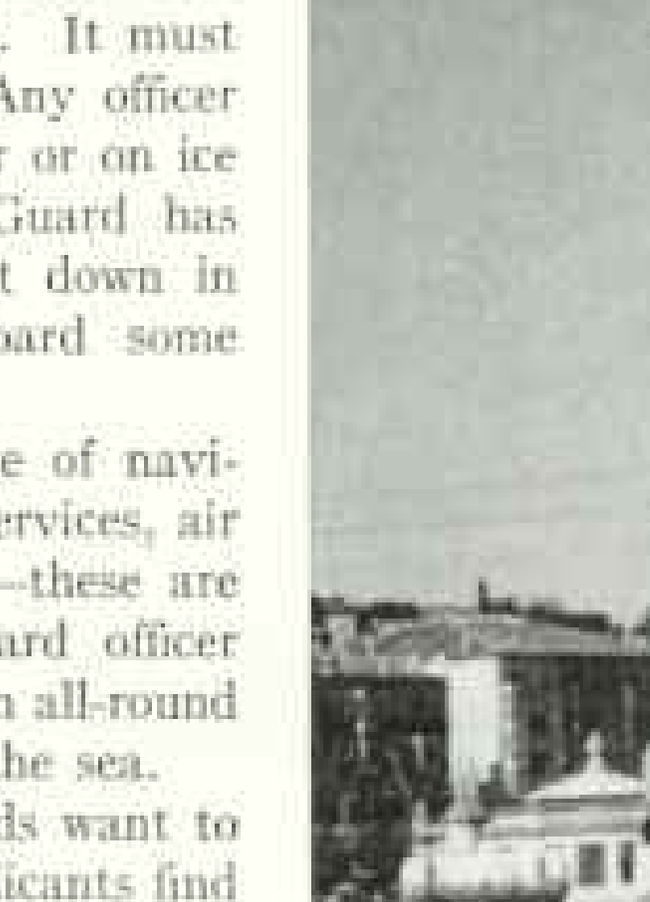
The EAGLE
SAILS THE NORTH ATLANTIC



58

Eagle Logs 10,339 Sea Miles

Eastbound steamers bear north at about 50° west longitude for English Channel ports. *Eagle* held on straight for Spain and found the ocean lonely. She crossed to Santander in 20 days, then called at Amsterdam and Copenhagen. Coming home, she took 26 days on the north-about route along which hard-driven westbound windjammers sought favoring easterlies.



The Coast Guard is a unique service with many varied and important duties. It must have the best officers available. Any officer might find himself in an icebreaker or on ice patrol (which the U. S. Coast Guard has maintained since the *Titanic* went down in 1912), or stuck for months aboard some stormy isolated weather ship.

Ship inspection, the maintenance of navigational aids of all kinds, rescue services, air patrol, maritime law enforcement—these are other fields where the Coast Guard officer might be employed. He must be an all-round man, steeped in the traditions of the sea.

Many high-spirited American lads want to become Coast Guard officers. Applicants find that the standards of the service are high and training is rigorous.

Entrance to the Academy is by competitive examination. Thousands sit and few are chosen, and these few are weeded through

steadily during the four training years. Of the average entering class of 200 or more, usually fewer than 100 graduate.

Leadership, adaptability, 100-percent reliability, perfection of seamanship in all its many phases—these are the qualities the Coast Guard seeks in its young officers.

Sail Teaches Self-mastery

The *Eagle*, said Captain Bowman, plays a great part in demonstrating these things and in developing the qualities themselves. The sea is still a dangerous calling. Those who will master it must first master themselves, and the *Eagle* gives scope for self-discovery.

I reflected on these things as the bark slipped along in the slowly increasing breeze, passing Block Island. She began to lift and curtsy to the long sea, dipping and bowing gracefully as only the sailing ship can. The wind was on the side, and she lay over a little, not rolling as a steamer would, but heeling a little and dancing along as if she were grateful for the chance.

Aft, the cadet officer of the watch walked the clean quarter-deck, keeping an eye on the cadets at the wheel, the cadet boatswains, signalmen, radarmen, navigators. By the wheels stood a slim youth with powered earphones atop his cap and a mouthpiece ready for use. Behind him the graceful spanker was swollen in the breeze, and under him no thudding propeller raced as the cutter, her motion imparted only by the wind, sped along.

What a contrast was here! For'ard I could see the radar scanner pivoting perpetually halfway up the steel fore lower mast with the white canvas of the foresail straining before it. In the big charthouse alert cadets watched the radar screen, while others tested voice communication with the cutter *Rackaway* and checked radio-direction gear.

The *Eagle* has everything. The cadets at the wheels steered by gyrocompass. Orders went quietly over a loudspeaker system. The communications man, called the "talker," was in touch by telephone with the whole ship, from the lookout up in the bows to the engine room below where the big diesel, named "Elmer" by the lads, was always ready.

Cadets Sleep in Hammocks

The cadets slept in hammocks (except upperclassmen, who had bunks) in the 'tween decks, as sailors did in the frigate *Constitution*, but a powerful blower system sucked in good air to fill their lungs. The ship's company included meteorologists, oceanographers, a surgeon, even a historian.

At chow time I followed the line through the spacious galley for generous helpings of oven-roasted veal, mashed potatoes and green

A Shipload of U. S. Jets for Spain's Air Force Arrives near *Eagle*'s Berth at Santander

beans, lashings of white bread and the best of butter, with ice cream to follow. Shades of salt horse and stockfish!

It was a bit different from the old grain racers coming round the Horn.* I knew Yankee ships had the name for good feeding, even back in the bad old days. But this was wonderful. And there was a surgeon, with a sick-bay attendant and a first-class small hospital to take care of any who got sick. This was the life!

Sailing for Spain

So the days passed, and day after day we sailed toward Spain, sometimes at good speed, sometimes slowly, sometimes with good winds but more often with bad. Such is the way of the sailing ship at sea, and the making of her voyage is a challenge to her crew.

Always the faithful *Rockaway* zigzagged along behind us or hurried at full throttle to keep up, for the *Eagle* could move when she got the wind. She could race along at close to 18 knots, and there was no guesswork about it, either. With modern precision methods her speed is known within a hundred yards.

The *Eagle* could carry all sail and stand up even in a 30-knot wind, and we did that more than once. One evening the royals, the uppermost square sails, were made fast in a squall of wind and rain.

"Clew up the fore royal!" was the order, shouted by the upperclassman on watch.

"Clew up the fore royal! Man the clew lines and buntlines!" shouted the bos'n of the watch. The bark was heeling over, with the spindrift flying and the wind howling in the rigging. I watched closely, to see how this classic stuff of Cape Horn days would be handled.

Halyards were thrown off the pin, gear manned.

"Lower away! Haul away on those clew lines there! Check in the weather brace!"

All this, a few months earlier, would have been as completely unintelligible to these lads, used to hot rods and trips by air, as their own hot-rod jargon would have been to me.

But now all went with a swing. Down came the thrashing royal, to be smothered smartly by its gear. Aloft raced four lads, while the rest of the watch ran aft to take in the main royal the same way.

Spray clouded the whole forecastle head. There were four at the wheel now, and she was driving hard. The cadets at the wheels strained to hold the fleeing bark to a good course.

Captain Bowman stood to windward, a solid, patient figure, sea-booted feet planted firmly on the wet deck as if he had grown there and belonged as surely as the masts themselves. He said nothing, leaving it to the cadets. If the feeling of responsibility is to be worth while, it must be exercised in emergencies too, not merely when all goes well.

Not that this was a real emergency. The sails came in without bother, to be followed by the other kites—the flying jib, gaff-topsl (the three-cornered sail above the spanker on the mizzenmast), the royal staysails. Cadets I had already grown to know muzzled these sails—lads from Hawaii, Massachusetts, Florida, and Minnesota.

Officers Join Crew Aloft

But what was this? Up there, too, were a four-stripe captain and a full commander, along with the boys. They were Capt. Karl Zittel, along for the experience before taking over the *Eagle* from Captain Bowman, and Comdr. "Bill" Earle, Academy officer in special charge of the cadets. The pair of them raced up the rigging for the fun of the thing and the thrill of it. What master of any great windbag I had known would have done that? Nary a one, I'm certain.

So I went up myself—not just then. Later I went, to taste again the unusual and so stirring views of the sailer's deck one gets only from high in the rigging, with the oilskinned figures going about their work, the masts rolling and pitching beneath the sky, the seas breaking by the shapely cutwater, and the foamy wake streaming off astern, away and away into the distance.

The *Eagle* had a job to do, and she got on

* See, in the National Geographic Magazine: "Cape Horn Grain-Ship Race," January, 1933, and "Last of the Cape Horners," May, 1948, both by Alan Villiers.

Page 60

←"*. . . Canvas Taut in the Whistling Breeze*"
Mainmast's Snowy Raiment Swells to the Westerly's Favoring Surge

The Coast Guard's pride has topped 17 knots under her 22 sails, which spread 21,350 square feet to the wind (page 62). Perched in the starboard foreshrouds, this cadet could look astern to the mainmast fully clothed (top to bottom) in royal, topgallant, upper topsail, lower topsail, and mainsail. Triangular fore-and-aft sails are main staysails.

"We Cracked It on, on a Big Shiute, to Me Hoodah! To My Hoodah!"

Sails full and drawing, the bark stands across a fresh breeze in the open sea. *Eagle's* training missions call for no dangerous skysails and studding sails. Here she wears her whole wardrobe of well-cut canvas.

63 Alan Villiers

"It's Now We're Out to Sea, My Boys, the Wind Comes on to Blow"

A long swell hides most of the sailer's sturdy hull. She beats to windward, her yards braced sharply to meet the contrary breeze. Radio direction finder loop and other electronic gear crown the mizzen topmast.

with doing it. Every day, after the midday muster, there were exercises of all sorts: man overboard, fire and collision drill, sail handling, putting the ship about. For the first time in my life I saw cadets really allowed to handle a big square-rigger themselves, tacking her and bringing her to, getting away the boats, manipulating the planes of the sails.

True, the shapely bark found herself sometimes going through some odd contortions, and there was at times a lack of precision to the maneuvers, especially when going about. But no matter! That was not the point. The point was the cadets *were* doing the job—doing and learning, all the time.

North Atlantic Lonely

One week, two weeks, two and a half weeks passed. We saw remarkably few ships, for the *Eagle* sails a lonely road. I reflected that in these days of power the North Atlantic, except for the comparatively few steamer lanes, is lonelier now than it has ever been since the days of Columbus.

Once, a few days out of New York, we saw a great Cunarder pass on the northern horizon, and the same day an American freighter Mediterranean-bound overhauled the bark. For the rest we saw no other ships until off the shipping lanes of Europe.

Another day a big four-engined Boeing on Coast Guard ice patrol out of Argentia, in Newfoundland, flew across and spoke the *Eagle*. It was the first time I had ever been spoken by an airplane. It made one run, dipped its wings in salute, and passed on. The cadets looked up with interest. Some of them, a good many of them, would be flying, for the Coast Guard needs airmen as well as sailors.

On Sundays there was church, held on deck if the weather made it possible, and always three services—Episcopalian, Roman Catholic, and Jewish. Services were led by the boys themselves, and, though it was not compulsory to attend, the attendances were invariably excellent. They were a good, clean-living lot, both boys and enlisted men, and I don't think any missed one of the services (page 70).

Life at sea was full, diverse, and always interesting, and the 20 days under sail between New London and the entrance to the harbor at Santander passed quickly indeed.

Santander was the first glimpse most of the junior cadets had had of any European country (page 68). It was a good introduction to the colorful past and attractive present of that fabulous land. The *Eagle* arrived just as a United States transport was unloading the first of a shipment of training jets for the Spanish Air Force, and local residents streamed down to the water front in crowds which persisted far into the night.

The boys soon found that most things did persist far into the night in Spain. The *Eagle* stayed alongside for five days, and life was strenuous.

Plenty of shore leave, in turns, was the order, to give the boys a chance to see as much as possible of the country. A program of entertainments was arranged, tours organized—everything but a bullfight, and it was not the right season for that.

Santander is a wonderfully picturesque place. Meals at the pleasant cafes (served at incredibly late hours), trips to the caves of Altamira and the picturesque village of Santillana del Mar made delightful diversions.

A Spanish-speaking cadet discoursed on the local radio and in the daily press on the wonders of the American bark *Eagle*, and the ship was doing a fine job of showing the flag, though that was not her purpose.

Ancient Paintings Still Thrill

I made some of the excursions, too, to Altamira, where ancient men have left rock paintings perhaps 20,000 years old, but still fresh and thrilling even after all that time.*

But the trip I liked best I arranged myself, taking four cadets on a trip around Santander. The city is an attractive summer resort with much to see. We visited the old fishing village, where the women were mending the nets while the children played and the fishermen slept, for they would be away all night.

Then we made an unscheduled call at the royal palace at Santander, the huge summer residence of former Spanish kings. Now it is used as a summer university, but when we arrived it was being refurbished. The boys and I had a great look around.

We saw, among many other treasures, a beautiful alabaster bust of the Pretender's mother which looked remarkably like Britain's young Queen Elizabeth. Paintings of the Spanish and related royal families hung on

(Continued on page 73)

* See "Lascaux Cave, Cradle of World Art," by Norbert Casteret, National Geographic Magazine, December, 1948.

Kodachromes by Alan Villiers

↑ *"Of All the Lives I Ever Led, A Sailor's Life for Me, Sir"*

Eagle's life rafts, painted to show up on ocean wastes, will carry the entire ship's complement of 240. Stowed on the gallows frame beside the forward house, they make the perfect sunning and reading perch for off-duty cadets. Shipboard routine leaves little leisure time.

↓ *"The Sailor Fearless Goes to Sleep Or Takes His Watch Most Cheery"*

This young deepwaterman finds teak forecastle planking comfortable enough for snoozing. He had planned to practice "shooting" the sun, but the intended target put him to sleep instead, and his sextant stays in its box. Forecastle capstan's heavy foot stands at right.

↓ *"Then Blow Ye Winds Westerly, Westerly Blow"*

With yards squared, *Eagle* scuds for Spain before a dead fair breeze. Minus the steadying influence of most of her staysails, she rolls a bit. The crew ran down the fore-and-afters because they were doing no work in the calm lee of the big square sails. Sea water, not dirt, tracks the main deck.

Kodachromes by Alan Villiers

↑ *"The Sailor Lolls with His Mind at Ease"*: Flying Fish Weather

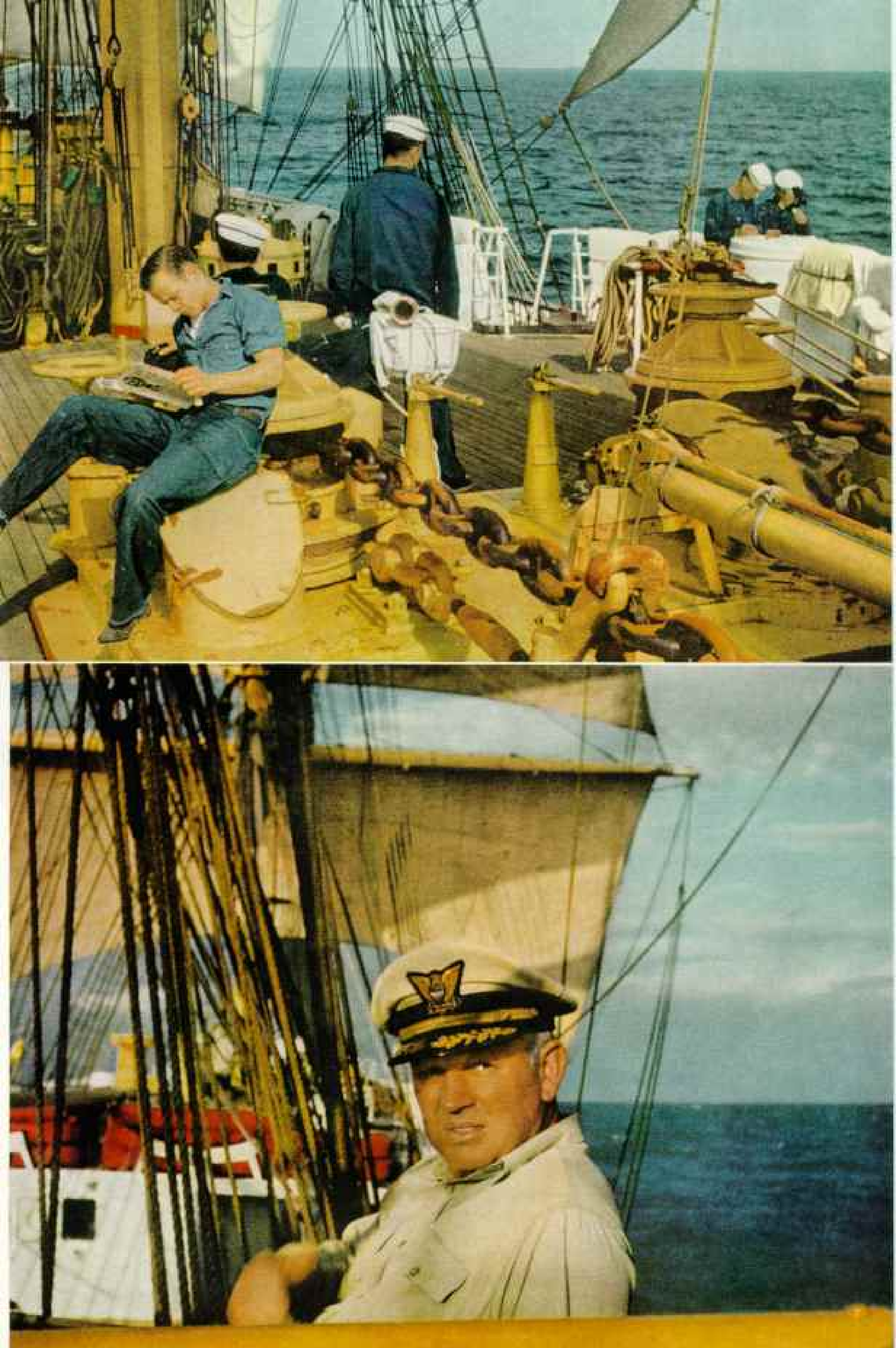
No rattle of blocks or thunder of slatting canvas distracts the reading sailor. In windjammer language, the steady wind has "put the sails to sleep," and on a day like this flying fish soar from warm seas.

Cadets at right take practice sun sights. Two others make new ratlines, the "rungs" in a sailing ship's rigging "ladders." Anchor, chain, and forecastle bitts show anti-rust paint.

"I'll Take Her 'Cross Yon Rolling Waters": *Eagle*'s Skipper →

As an Academy cadet, Capt. Carl G. Bowman first learned the square-rigger art in the former Coast Guard training barkentine *Alexander Hamilton*. He commanded *Eagle* for four years, an assignment that went with regular duty as head of the Academy's seamanship school.

Here he looks back, like John Paul Jones in an old Navy forecastle song, at the ship's "white and silv'ry track" on the sea.



"And Foreign Scenes We View": *Eagle* Calls at Santander

Spain's historic north coast port provided a gala introduction to Europe for the square-rigger's Atlantic first-voyagers. Receptions and sight-seeing rounds proved more strenuous than life at sea.

Eagle held a party aboard in return for the hospitality. Cadet (opposite, below) explaining rigging to a raven-haired guest scarcely could contradict the sailor of old who sang, "Spanish eyes are thrilling."

↓ Santander claims America's discoverer had local men in his crew. Here cadets and a warrant officer visit the Columbus memorial corner in Santander's magnificent seaside gardens. A representation of an old mariner's compass in heroic size stands behind the group.

Kodachromes by Alan Villiers and (opposite, below) Matthew Ohara

71

"When He, Who All Commands, Shall Give . . . the Word": Sunday in Port

♠ *Eagle*'s cadets faithfully attended their choice of three religious services, held on deck when weather permitted.

◆ Under balanced combinations of well-trimmed canvas, sweet-sailing *Eagle* needs her helm fully manned only in the roughest following seas. Then her mahogany wheels can kick like horses, and helmsmen gain brawn as well as steering experience.

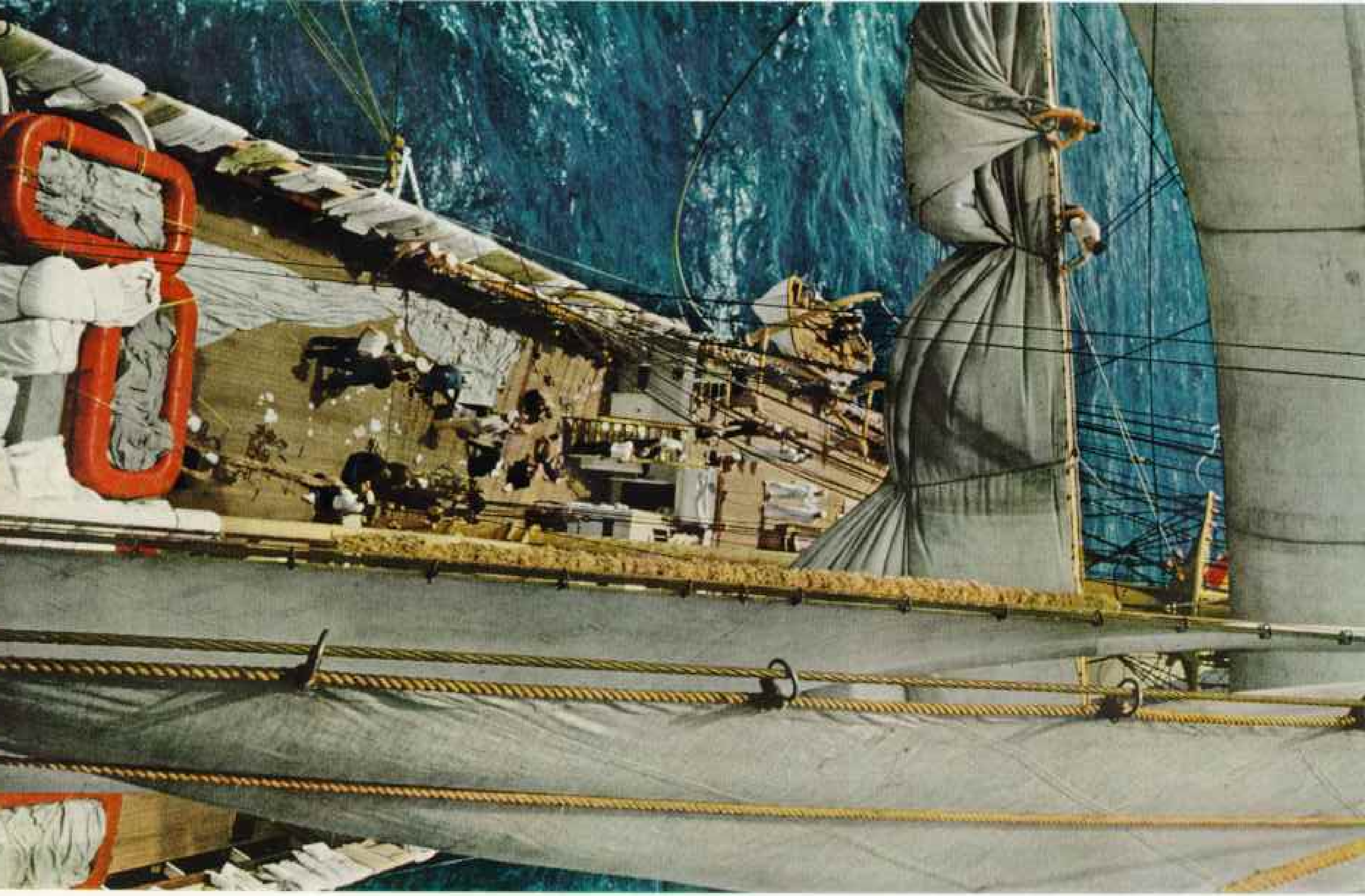
Here the bark enters confined waters. An officer conns the ship from beside the compass. Cadet "talker" (in headset) relays word from lookouts.

"The Flag She Waves at Her Mast-head" ➔ Cadets Swarm Up the Mizzenmast

Actually, the bark wears her colors at the mizzen gaff peak while under way, as here. Coming to dock or anchor, she shifts the ensign to the flagstaff at the taffrail.

Cadets wear best whites entering port. Electric wiring on the steel mast and powerful loudhailer, or "bull horn," form part of *Eagle*'s modern equipment.

Kodachromes by Alan Villiers and National Geographic Photographers John E. Fletcher (opposite, above) and Robert F. Sisson (below)



the walls with paintings of old battleships and yachts (Alfonso XIII was a keen sailor), tapestries, and illuminated addresses which had once been proudly offered to and as proudly received by former kings. Huge Chinese vases of fabulous worth stood in spacious corners.

Sail Set for Amsterdam

Castles and side trips in hospitable Spain were wonderful, but to the *Eagle* they were only diversions. Off she sailed again, bound across the Bay of Biscay and up the English Channel for Amsterdam. Again the sea routine settled down. Astern the *Rockaway* followed with a fresh lot of upperclassmen, changed at Santander.

The romp across the bay was interesting and by no means difficult, for we were spared the traditional Biscay storms. Little French fishing smacks and great ocean liners, 30,000-ton oil tankers flying curious flags, and smutty little coasters vied with each other to salute the sailing ship, and the Stars and Stripes fluttered in good breezes all across the bay. And through the Channel we stood in close by Dover's cliffs, and a cadet from Michigan asked me why they weren't white.

"Not white?" I asked. "They *are* white!"

"They look a mighty dirty white to me," said my young shipmate, who must have expected the cliffs of Dover to be whitewashed in the summer months!

On the Goodwin Sands near by a long line of the twisted masts of wrecked steamers spoke all too eloquently of the hazards of the recent war and, too, of the risks of North Sea and Channel navigation. There the tides race and the gales roar, and a shipmaster must know precisely where he is at all times, lest his ship strike a bank and stay there.

I saw Lt. Comdr. Robert Clark, the navigator, take a class to the side of the quarterdeck and point out the wrecks, with sundry remarks appropriate to the occasion.

Soon then we picked up the low coast of the Netherlands, and the ship was entering the fishing port of IJmuiden, which is also the way into the North Sea Canal connecting with Amsterdam.* We motored there, for the canal is narrow and full of ships, and the barges stream along like laden trucks on the Pennsylvania Turnpike.

Many of them were so deeply laden that the wash from our passing all but threatened to overwhelm them, but the Dutch canal men knew what they were at.

They gave us a berth in the heart of Amsterdam, and the *Eagle* swung her long bowsprit among the trees with her jib boom overhanging the water-front road as the clippers once crowded all along New York's South Street (page 79). Again the pleasant hospitality, the visits, the tours, the trips—the bark was scarcely alongside before a young naval officer was aboard to welcome us and to hand out programs for the entertainment of the ships' companies of both the *Eagle* and the *Rockaway*.

What a program! There were visits to diamond cutters (for which Amsterdam is famed), trips by sight-seeing motorboat, trips to Hilversum and Spakenburg and Marken and Volendam, and to cheese markets and flower markets.

Sailors Try Boats and Bicycles

The cadets, having just come in from sea, elected, sailorlike, to take the round-the-harbor trips in rubber-necking launches first. These boats were fitted up like luxury buses and were so big it was a miracle they ever threaded a way through the city's canals. Their skillful helmsmen backed and edged them slowly along amid the glorious colors of the flower marts or among the stately homes of a once-rich Amsterdam whose merchants and seamen brought great profit home from the East.

The Rijks Museum with its glorious Rembrandts was visited too, and there was time for a ball game at the Schinkelsportterrein. And many of the cadets hired bicycles and saw the hinterland of pleasant Holland.

I found time, too, to make a run to Marken, where the local people dress in traditional costumes and the tiny boys and the tiny girls

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Page 72

← ***"The Sailor Hangs 'twixt Sea and Sky, and He Jokes with Davy Jones, Sir!"***

Men on the main yard overhaul buntlines and leech lines as "sailorizing" tasks go forward on a sunny day at sea. A sailmaker's gang repairs a spare topsail on deck. Another group makes baggywrinkle out of old rope. Bedding airs on the ship's rail, and a lifeboat hangs in its davits ready for drill.

* See, in the National Geographic Magazine: "Helping Holland Rebuild Her Land," by Gilbert M. Grosvenor and Charles Neave, September, 1954; "Mid-Century Holland Builds Her Future," by Sydney Clark, December, 1950.

dress alike, or at least so much so that they are indistinguishable to strangers (page 78).

It was extraordinary how quickly time flew at these wayside stops, and the five days at Amsterdam passed in a flash. And then off again, through the North Sea Canal where the school children cheered the American ship, and out into the North Sea itself.

There was a week at sea between Amsterdam and Copenhagen, the next port, and the *Eagle* made good use of it. The *Eagle* has no below-decks classrooms, and the curriculum on these European cruises is strictly practical. The lads have time enough in the classrooms when they are at the Academy. In the *Eagle* they learned by doing, first, and then by supervising the doing.

It blew and rained a bit in the North Sea, of course. It always does. The big bark beat this way, then that, taking good care never to become embayed near the mine fields off the Dutch and Danish coasts. Once we sighted the coast of Norway, with a host of little fishing craft and tiny coasters.

At midday quarters, man overboard and all those drills were exercised, no matter what the weather or where the ship might be. Every weekday at sea these drills went on until all hands became near perfect, but there was always more to learn.

If time flew past in port, it also went quickly at sea. Soon we were approaching the waters between Denmark and Sweden. There are still war mines there, and ships must keep rigidly to swept channels and take no chances. Reluctantly therefore, the sails were secured, and Elmer, the little-used diesel, put to work.

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74 U. S. Coast Guard, Official

Sail and Steam Nod in Passing off the Windy Coast of Europe

Nearing land after her eastward passage, *Eagle* fell in with hurrying outward-bounders. Almost invariably, steamers ran close to view the lovely sailing ship and dip their colors in salute.

We motored through the narrowing waters of the richly historical sound and soon found ourselves entering the clean and ship-filled port of wonderful Copenhagen. The ships were given berths at the Langelinie, the best spot in town. Near by, the statue of the little mermaid from Hans Christian Andersen's famed fairy tale turned her gentle gaze to sea, and tree-lined and fountain-decorated streets led toward the pleasant city (page 82).*

More trips, more sight-seeing, more abundant and cheerful hospitality filled the days. Danes visited the ships, and the ships' companies visited the Danes. The high light of our trips was to be a visit to Elsinore (Helsingør), where Hamlet's castle is to be found.

We went to Elsinore, of course, and we visited a score of interesting places. But the rain drove us into the marine museum at Kronborg Castle, and we were delighted to note its wide field of interest. Cadets gazed fascinated at scale models of old Danish merchantmen and training ships like the little full-rigged ship *Georg Stage*, and the fabulous five-master *Kjøbenhavn*, which had gone so tragically missing with all hands.

Sea Tragedy Impresses Cadets

I saw Cadet David Flanagan, from Richmond, Virginia, gazing with astonished admiration at the model of the big five-master. Even to a lad fresh ashore from the *Eagle* she was an impressive sight.

"Did that great ship go missing?" he asked. "Did she just get swallowed up in the sea? But she had an engine, and she had radio. And she looks strong enough to take a swipe at the Horn itself."

"Yes, she's missing, right enough," the museum's director said. "Why? God knows. She was the best sailing ship in all the world when she sailed from Montevideo one day in '28, but the sea took her just the same. And nothing whatever has been seen or heard of her since."

Cadet Flanagan shook his head, and the other cadets and enlisted men and officers looked at the model of the superb five-master, wondering.

The five days at Copenhagen went like a passing dogwatch. The cadets shopped, and they visited the gardens of the Tivoli, the famous amusement park, and they made friends—friends, friends everywhere. Too soon the time came to go.

It was the 19th of July, and the *Eagle* had a tight schedule to keep to get back to New London in time to make the Bermuda cruise. Once more she was through, for the time being, with "faraway places with strange-sounding names." From Copenhagen to New London is all of 3,600 nautical miles, even by the northern course she was to take.

The Viking Route for Home

So she had to go. Sharp on schedule, at 10 o'clock on a Monday morning, her lines were taken in and she headed for the sea, using the spanker to swing her short in the harbor. Off Elsinore the full-rigger *Danmark*, once so well known at New London herself, was met under sail, and the two square-riggers presented a glorious sight sailing together—white bark and white full-rigger, so rare a sight in these days. This was a cheering interlude, and the cadets on the *Eagle* were glad of the chance to show their sailing skill among these veterans. They did all right.

Ahead then stretched the long gray sea road nonstop toward New London, for, though the bark might pass close by Iceland and the tip of Greenland, it was not intended to go in anywhere until the home port was reached. The route she sailed was that the Vikings took when they sailed toward Greenland and fabled Vinland. East winds blow there—sometimes. But they were lamentably absent this year, and the *Eagle* had a long punch home.

Despite that, she was in a day ahead of schedule. At 10 a.m. on Friday the 13th of August she dropped anchor again in New London, and her cadets were back from a memorable and character-forming cruise. Young Forslund and Thorsen and Nielsen and Flanagan and all the cheerful rest looked back on the voyage with feelings of pride, and with some regret, too, for as upperclassmen this would be their last. They hurried off for their well-earned leave, knowing they had shared in an adventure that was very much worth while.

The shapely bark had contributed something indefinable and without price to their young lives—something, perhaps, more than they knew, but something which would be with them always, to their infinite enrichment, and the Nation's, too.

* See, in the National Geographic Magazine: "Baltic Cruise of the *Caribbee*," by Carleton Mitchell, November, 1950, and "2,000 Miles Through Europe's Oldest Kingdom," by Isobel Wylie Hutchison, February, 1949.

Kodachrome by National Geographic Photographer Robert F. Sisson

"A Jolly Good Mate and a Good Skipper, Too": The Author Gams with Captain Bowman

Painting on the cabin's paneled bulkhead shows *Eagle* with her original German double spanker rig. Full-rigged ship in tiles on the coffee table, the Danish training vessel *Danmark*, spent the war years at the Coast Guard Academy.

↑ *"Lowlands, Lowlands, Away, My John!"*
Yankee Lad Meets a Marken Family

Calling at Amsterdam, *Eagle* cadets toured dike-guarded farms and villages as guests of Dutch citizens and the Royal Netherlands Navy. This American visitor thought the tow-headed boy a girl: all small children wear skirts on Marken Island.

↓ *"Oh, the Ladies of the Town, Hio!"*
Spakenburg Tots Find Photography Grim

Only the lad wears wooden shoes, fast disappearing from the urban Netherlands scene.

➔ Like a clipper along New York's South Street in the age of sail, *Eagle* in holiday dress pokes her bowsprit over Amsterdam traffic. Net is for safety at sea.


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"*The Vessel Reared Like Any Horse*"
Denmark-bound *Eagle* Slogs to Windward

On the North Sea passage from Amsterdam to Copenhagen, the bark took a dusting in fresh head winds. Captain Bowman doused the upper staysails, and onward she bucked through short, steep seas. For a big square-rigger, which sails best with the wind abaft the beam, she heads at a satisfactorily close angle to the direction of the wind.

Falls from the rigging in the old days were usually caused by bad gear. *Eagle* cadets, 50 feet above the blue sea, demonstrate one reason why their ship has never had a serious accident in American service: they check vital footropes.

"*Way, Hay, Roll and Go!*"
Two Men Hold Her True

The weather helmsman (right) makes her obey; he watches a modern gyrocompass repeater behind the gleaming binnacle. Lee helmsman lends his strength when necessary. Other cadets (background) flash blinker signals to *Rockaway*, holding station on *Eagle*'s starboard quarter.

Page 80, lower: To acquire Coast Guard excellence in small boats, cadets held frequent drills at sea. This boat prepares to cast loose from *Eagle*.

Kodachromes by Alan Villiers, Lee J. Gehrig (opposite, above), and G. G. Tunnicliff (opposite, below)

↑ *"I'll Go No More a-Roving With You, Fair Maid"*

On Copenhagen's water front, Hans Christian Andersen's "Little Mermaid" in bronze gazes seaward.

↓ *"The Lads and the Lasses to the Pierhead Do Flock"*

Dames look on while a cadet in a boatswain's chair touches up paintwork stained by anchor chain rust.

♠ ***"What Girl But Loves the Merry Tar?"***

Potted flowers brighten the Raadhuspladsen, Copenhagen's beloved and carefully tended "Times Square." A street photographer dickers with potential customers in the background. No language barrier balks the boy-girl conference: she is an American in Denmark on vacation.

♦ ***"..Sails Are Furled, Our Work Is Done"***

A Liverpool packet never boasted a snugger harbor furl than *Eagle* shows along the famed Langelinie in Copenhagen. Every sail clings to its squared yard without a wrinkle. *Rockaway* berths astern. *Eagle*'s bowsprit, with the starred jack flying above, overhangs a British yacht.

Kodachrome by National Geographic Photographer Robert F. Sisson

"The Billows Roll, the Breezes Blow, to Us They're Calling: Sheet Home and Go!"

Along the New England shore *Eagle* comes sailing home again. For her 200 cadets, writes Mr. Villiers, the shapely bark had provided an experience "indefinable and without price . . . something which would be with them always."

In the Gardens of Olympus

Rain Forests, Glaciers, and Flower-mantled Meadows Intrigue a Vacationing Family in One of America's Wildest National Parks

By Paul A. Zahl

With Illustrations from Photographs by the Author

A SNOWBALL came whizzing past my head, followed by a peal of children's laughter. "Happy Fourth of July, Daddy," shouted a merry voice, as I lowered my binocular and scowled at the source of the snowy fireworks.

This was indeed the Fourth of July, but what a different sort of Independence Day from that of tradition! That morning my wife and I and our two children, Eda, 6, and Paul, 3, had left our cabin in Washington State's Elwha Valley and had turned off the main road where a sign arrowed the trail to Hurricane Ridge. A dizzying 13-mile drive up the mountainside, around hairpin curves, along harrowing dropoffs, had brought us from a valley floor elevation of less than 500 feet to our present altitude of more than 5,000.

We had passed through an area of thinning timber, emerging at last into an open, sky-touching world of dazzling white. The air had grown cold and biting, and at last, when the road became too slippery and the snow too deep, we had parked and hiked to the crest of the ridge.

Below us now lay a complex of steeply walled, densely forested ravines nearly a mile deep; through one of them the Elwha River cascaded past our valley cabin.

Beyond these contoured gorges towered a mountain range the like of which one would expect to see from a Swiss chalet. A great arc of snow-capped peaks saw-toothed its way across the world's western and southern perimeter; the peaks seemed close enough to touch.

Mount Olympus Lies Beyond

Just beyond the range, half hidden by peaks and clouds and only some 15 air miles from where we stood, rose the crags, the snow dome, and the glaciers of Mount Olympus. Behind us the landscape tumbled off abruptly, down toward that part of the Pacific Ocean which fingers its way through the Strait of Juan de Fuca to produce Puget Sound. There, above a blue haze, we could distinguish the outlines of Vancouver Island, Canada.

The children were exuberant as they celebrated the Fourth of July capering in Olympic snow fields, and their mother was spellbound by the panorama. My own eyes cast about for other quarry. We had made the ascent primarily to locate and examine the wild-flower meadows for which the high country of the Olympic Peninsula is renowned. According to all predictions, the clearings on mile-high Hurricane Ridge should now in early July have been aglow with lupines, glacier lilies, Indian paintbrushes. But the only glow came from the white stuff under our feet (page 86).

Spring Comes Late

"It's a late spring this year," park authorities in Port Angeles had told me, "and much of the high country is still under snow. But a few days of warm weather and the flowers will pop out as though they had springs under them."

Well, we had had those few days of warm weather. So where were the wild flowers?

My wife, who had gone back to the car for extra wraps, resolved the dilemma. I heard her shouts and saw her pointing eagerly down the mountainside. There, around the edges of a retreating snow patch, was a sprinkling of golden dots.

Skidding and sliding over the snowy incline, we made our way down almost vertically into the midst of thousands of glacier lilies nodding their brushed-back yellow heads close to the melt-soaked turf, some pushing boldly up through the snow. These tiny beauties were the first sign of spring here in the Gardens of Olympus.

About two weeks earlier we had closed our New York City apartment and set forth in search of a wilderness. Westward from New York our train had carried us to Seattle, Washington, where we rented a car and pushed on to the peninsular thumb of the Evergreen State—the Olympic Peninsula. It is the peninsula's rugged central portion plus a narrow coastal strip, totaling nearly 900,000 acres of

Craggy White Peaks Mass Atop the Rugged Olympic Wilderness

On the northwest thumb of Washington State stands a primeval land of rain forests, lakes, and needle-spined ridges.

Olympic National Park, a vast preserve in the heart of this isolated peninsula, is the only United States park including snow-capped mountains and ocean beaches. Majestic peaks offer some of the finest alpine scenery on the continent, yet no point is more than 60 miles from the sea.

Here, from the 5,757-foot summit of Hurricane Hill, the author's wife and children survey the panorama on a bright August day. Bailey Range dominates the distance.

↓ It's the Fourth of July, but 10-foot Drifts Still Bury a Lofty Meadow

Because of an unseasonably late spring, snowballs replaced fireworks when the Zahls first visited Hurricane Ridge. One month later a riot of wild flowers blanketed this field.

↓ Avalanche Fawn Lilies Advance Across an Alpine Meadow as Gleaming Snow Fields Retreat

Olympic slopes blaze with the colors of hundreds of varieties of flowering plants during the brief summer season. Author's cap looms large beside the delicate, daffodillike blooms of *Erythronium montanum*.

wondrous geographic display and botanic profusion, that the Federal Government has set aside as Olympic National Park, to be cherished and preserved for the people of this Nation (map, page 90).

Here, deep in a wooded mountain valley, we settled for nearly three months, living in a one-room log cabin. Victuals were cooked on an old-fashioned wood-burning stove, with papa responsible for chopping the wood, the children for filling the woodbox, and mamma for stoking the fire and preparing the meals (page 95).

Life Near Nature

In our zeal to answer the call of the wild, we had spurned such elegant hostelries as Lake Crescent Lodge and Rosemary Inn. That we achieved a close relationship with the elements, none of our family will ever deny.

Radiating out from our base in the Elwha Valley, we embarked on a full program of seeing, studying, and exploring this up-and-down world of natural wonders. There was the extraordinary rain forest, half a day's drive to the west. Along the pounding Pacific there was a long, narrow strip of park land, some of it so primitive and little explored that as late as 1954 the world's largest western red cedar was found there, with a girth of 66 feet and 1 inch (opposite).

There were the hot mineral springs, lure to bathers, cradled high in the Elwha and Soleduck Valleys; there was inky-blue Lake Crescent with its sentinel Storm King mountain on the park's north side. And almost everywhere in the park below 5,000 feet there were the miles of forest—Douglas fir, Sitka spruce, western red cedar, western hemlock, and other such giants. Laced through these forests were plunging streams and cascading rivers—an angler's paradise.

There were the herds of Roosevelt elk which a Disney film recently made famous, the deer, the marmot, the mountain beaver, the bear, and numerous other species of wildlife that roam the Olympics unmolested. There was the Enchanted Valley, in the southern district of the park, with its perpendicular walls and spectacular waterfalls.

Finally there was the high country with its peaks, its perpetual snows, its jewellike lakes, its scouring glaciers—all of which, when he sighted it from the sea in 1788, impressed the English navigator John Meares as a home befitting the ancient deities. The highest of the cloud-clad peaks Meares named Mount Olympus (page 114).

The Olympic Peninsula is as unusual in climate as it is geographically and botanically. Moisture-laden winds pouring in from the Pacific are deflected upward by the massive Olympic peaks. The resulting rainfall on the western slopes reaches 140 inches a year, and on the heights around Mount Olympus precipitation is estimated to attain the amazing annual total of 250 inches.

So thoroughly are the Pacific winds relieved of their watery load that by the time they reach the northeastern side of the peninsula they are nearly dry, and irrigation of farm crops is necessary.

Thus, while the west side of the Olympic Peninsula is the wettest region in the continental United States, an area 50 miles to the east, in the so-called Olympic "rain shadow," has a climate approaching aridity. The nearly incredible precipitation on the peninsula's western slopes has produced one of the most luxuriant temperate-zone rain forests in the world.

Timberline Lower

The position of the Olympic mountain mass, so close to the Pacific and surrounded on three sides by water, has given the area other odd characteristics. Whereas in the Sierra Nevada of California, for example, the bleak arctic-alpine life zone (no trees, frigid temperatures, prevailing snow, and stunted or no vegetation) occurs at an elevation of 9,000 to 14,500 feet, this same zone in the Olympics occupies the belt above 5,000 feet.

In the Sierra the so-called Hudsonian life zone (dwindling timber, open meadows, and

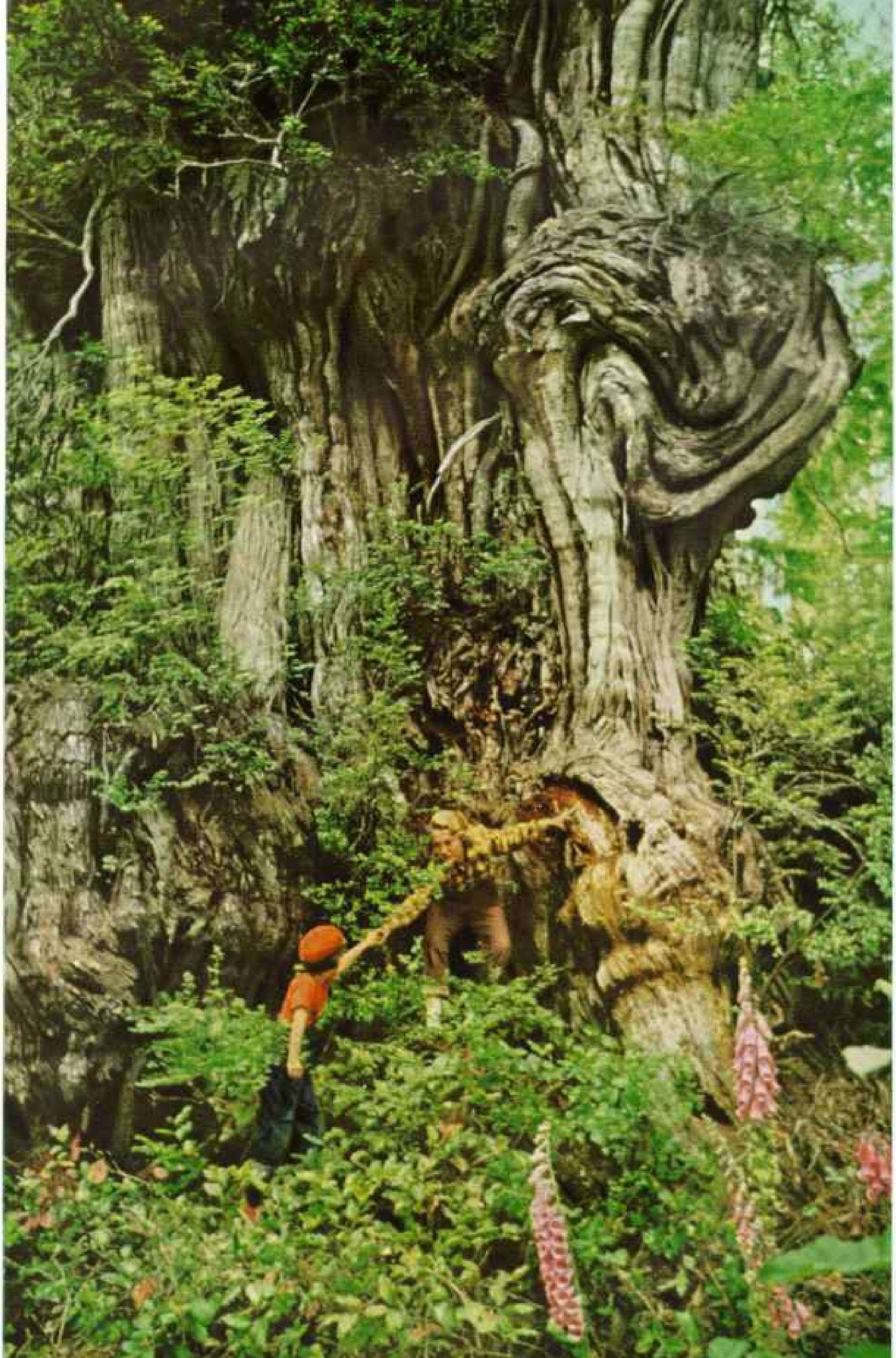
(Continued on page 94)

World's Largest Western Red Cedar ➔ Sprawls Wall-like in a Rain Forest

Twelve feet of rain a year, dropped by moist Pacific winds on the Olympic Peninsula's western slopes, spawn North America's most luxuriant woodlands. Dense stands of giant Douglas fir, Sitka spruce, western hemlock, and red cedar cloak deep, twisting valleys; mosses drape trunks and branches; shrubs weave a jungle across the forest floor.

Sixty-six feet in girth, this giant tree rises less than half a mile from the Pacific, but so wild is the coastal growth that it stood unmeasured until 1954. Mrs. Zahl and daughter climb the swollen, fluted base, fenced by spikes of rosy-pink foxglove.

 Kodachrome by Paul A. Zahl



OLYMPIC NATIONAL PARK

Vancouver
Vancouver Island
Victoria
Strait
CANADA
UNITED STATES
Juan de Fuca
Pacific Ocean
Olympic Peninsula
Area of large map
Lapush
Seattle
Puget Sound
Grand Coulee Dam
Spokane
WASHINGTON
IDAHO
Columbia River
Olympia
Tacoma
Mt. Rainier 14408
Mt. Rainier Nat. Park
Yakima
Snake River
Aberdeen
Mt. Adams 12307
Columbia River
Portland
OREGON
Salem
STATUTE MILES
Pacific Ocean
Lake Crescent
Lapoel Campground
Lake Crescent Lodge
Park Information Center
Sourdough Mt. 4550
Aurora Peak
Olympic National Forest
North Fork Soleduck
Eagle Ranger Station
Campground
Soleduck trail
Sol Duc Hot Springs
Mink Lake
Seven Lakes Basin
Bogachiel Peak 5474
High Lake
Sugarloaf Mt. 5605
Half-mile nature trail displays beauty of rain forest
Hoh Valley trail
World's largest Sitka spruce
Bogachiel River
Bogachiel Valley
Hoh Ranger Station
Hoh River Road winds through dense rain forest for 19 miles
World's largest Cascade fir
Hoh Valley
Mt. Tom Creek
Hoh River
Hoh Peak 5572
Hoh River
Hoh Indian Reservation
Ruby Beach
World's largest western red cedar
Christmas Creek
Kloochman Peak 5547
Clearwater River
Quillayute River
World's largest Douglas fir
Tallulah Creek
Lake Dilly
Campground
Kalaloch
Ranger Station
Clearwater State Park
Clearwater
Queets Corridor
Campground
Ranger Station
Snow River
Round Lake
Queets
Olympic National Forest
Quinault Indian Reservation
Salmon River
Campground
Ranger Station
Quinault Lake
Quinault
Campground
Amanda Park
STATUTE MILES
© National Geographic Map

For the People, a Living Wilderness . . .

The heart of this frontierland became a national park in 1938. Later grants brought it to its present 888,000 acres. No roads cleave the wilderness of mountain and forest. U. S. Highway 101 nearly encircles it like a wheel, with short access roads invading like broken spokes. But the hub remains Nature's own, inviolate; it can be crossed only by trail or as the bird wings.

Crescent Bay
Freshwater Bay
Ediz Hook
Port Angeles Harbor
Port Angeles
Dungeness Spit
Dungeness Bay
Dungeness
State Fish Hatchery
Park Headquarters
Olympic Highway
Lake Sutherland
Lake Mills
Indian Creek
Mt. Storm King 4514
Elwha River Bridge
Heart of the hills Ranger Station
Campground
State Salmon Hatchery
Sequim
Happy Lake
Campground
Elwha Ranger Station
Hurricane Hill
Lake Angeles
Mt. Angeles
Lookout Rock
Olympic Hot Springs
Hurricane Ridge Lodge
Blue Mt.
Ranger Station
Campground
Mt. Appleton
Deer Park Winter sports area
Obstruction Point
Mt. Fitzhenry
Heart Lake
High Divide
Mt. Carrie
Elwha River
Olympic Range
Hoh River
Elk Lake
Mt. Ferry
Glacier Meadow
Cedar Lake
The Needles
Mt. Deception
Buckhorn Mountain
Blue Glacier
West Peak
Blizzard Pass
East Peak
Mt. Tom
Mt. Olympus
Mt. Barnes
Mt. Queets
Mt. Meany
Mt. Seattle
Queets River
Low Divide
Crystal Peak
West Peak
Mt. Anderson
Mt. Christie
Chimney Peak
Mt. La Crosse
Mt. Lawson
Hoh River
Enchanted Valley
World's largest western hemlock
Heart Lake
Duckabush River
The Brothers
Mt. Steel
Upper Lena Lake
Mt. Brotherton
Lena Lake
Mt. Claywood
Mt. Mystery
Sentinel Peak
Mt. Constance
Lake Constance
Campground
Campground
Campground
Mt. Skokomish
Hamma Hamma River
Campground
Graves Creek Ranger Station
Flapjack Lakes
Mildred Lakes
Jefferson Lake
Mt. Pershing
Eldon
Mt. Washington
Lake Cushman
Lincoln Ranger Station
Staircase Campground
Mt. Hoquiam
Lake Cowan
Brown Lake
Klone Lakes
Skokomish River
South Fork Skokomish R.
North Fork Skokomish R.
Mildred Lake
Price Lake
Lilliwaup
Hood Canal

92

Mosses Upholster a Forest in Green Velvet

Park rules forbid disturbance of living things, but officials granted a collecting permit to biologist Zahl. While mother gathers insect traps, Paul and Eda don wigs of moss that father will use for scientific study. Beneath their feet beetles roam over moss and matchstick lichens (inset).

➔ Page 93: Spiring conifers, standing like giant masts, dwarf hikers in a sun-speckled clearing.

 Kodachromes by Paul A. Zahl

a short, not entirely snow-free summer) is at 7,000 to 9,000 feet; in the Olympics it lies between 3,500 and 5,000 feet.

Thus, although the maximum height of the Olympic Mountains is only about 8,000 feet, as a result of their northerly as well as their coastally exposed position the Olympics have climate, vegetation, and animal-life characteristics comparable to mountains of much higher altitudes.

Trail Leads into Rain Forest

While waiting for the snowdrifts on Hurricane Ridge to melt and the meadows to reach their seasonal peak, we devoted ourselves to the less elevated rain-forest areas on the peninsula's west side.

From living quarters in the lower Hoh Valley we would drive day after day to the end of the spur road 15 miles deeper into the valley, pay our respects to ranger Hugh Bozarth and his wife Eleanor, then set out on foot up the trail. For the first half-mile it is so thoroughly cleared as to be negotiable by almost anyone.

To be sure, in the case of a family group such as ours, papa had to carry junior a good part of the way, and in one instance had to fish little Eda out of a stream; but aside from such minor hazards the going was easy. Yet, pressing in on both sides of the trail, there is a forest as wild and primeval as any found in the world.

Sitka spruce, western hemlock, Douglas fir, and western red cedar are the dominant trees of this crowded world. Some of these thick-bodied giants tower 200 feet into the air.

Four miles farther up the Hoh Valley is the world's largest Sitka spruce, 51 feet 6 inches in circumference at chest height; farther down the Hoh Valley, less than half a mile from the Pacific surf, is the largest western red cedar on record, mentioned previously. Elsewhere in the rain forest, in the Queets River Valley, is the largest Douglas fir, and on the east fork of the Quinault River, the record western

Nature Provides the Theater and Takes the Starring Role in the Olympic Park Show

Surrounded by the peaceful night forest, an audience of log sitters watches Olympic's natural wonders unfold. A ranger-naturalist explains the picture at Lapoel campground. The park entertained 663,120 visitors in 1954.

Log-cabin Life Makes Chores for Everybody Except One Small Overseer

For three months the author and his family called this one-room hut home. Each night rushing waters of the Elwha River (left) lulled them to sleep. Boots on the porch await the next rain-forest tramp.

hemlock, with circumferences of 53 feet 4 inches and 27 feet 2 inches respectively.

But, as we made our way along the trail, it was not the big trees that dominated the scene. What holds one, rather, is the profusion of less towering species—understories of big-leaf maples, vine maples, ferns, lichens, fungi, Oregon oxalis, and the smaller life of this prodigious tangle.

Perhaps above all it is the club mosses hanging from nearly every branch, covering nearly every surface, in trailing strands and great sweeping tufts like the magnified beards of invisible elves and hobgoblins, that set the ominous and mysterious key of the rain forest. The feeling of entering upon a nether world is abetted by the almost palpable quiet of the deep forest (pages 92, 96, and 101).

Clouds hung low the day of our first visit to the Hoh Valley. But around noon the sun came out briefly, and the somber shadows were replaced by a brilliant suffusion of yellow-green light. Like a pale mist it filtered down through the vegetation, shone through and bounced off, reflected by a billion chlorophylled surfaces. The world of gloom and shadows was bathed in a soft yet intense and all-pervading glow.

Rain Forest in Climax State

Because of its sodden, fire-resistant character, this great rain forest on the western side of the Olympic Peninsula has been standing relatively undisturbed for centuries. With much of the forest now in the so-called climax state (a climax forest is one that has developed to its maximum extent), growth still proceeds in great profusion, but the absolute mass of the forest is virtually unchanging. Creative and destructive processes have reached an equilibrium.

When a giant tree crashes to earth, a hundred young seedlings already growing on the forest floor, now stimulated by the strong light that suddenly pours down, leap up to fill the space so vacated.

Only one or two of these contenders will win the solar prize; the others will die or remain stunted as the hole of light is slowly filled in. Meanwhile, lichens, fungi, bacteria, ants, termites, and beetles will set upon the fallen giant, ultimately converting it into humus. Seeds from the living conifers above will light upon the body of their fallen brother, and soon a virtual nursery of new evergreens will sprout and grow, often in straight colonnades, from the surface of the prostrate one.

Roots from these opportunistic newcomers may loop around the side of the great log in order to reach the ground; as a result, trees standing on stilts are not an uncommon sight in the rain forest. Vines and mosses of infinite variety fill in the ground-level space created by the original fall, until at length the disruption caused by the fallen giant will be corrected and the forest will regain its previous balance.

This process has been going on for hundreds of years, and the entire forest floor is in fact one confusion of fallen logs and trees in every degree of disintegration, with new trees and shrubs in every stage of growth.

Animals, too, inhabit this moss-draped world, but the casual visitor is hardly aware of them. Perhaps now and then an invisible bird sings high in the trees, a harmless black beetle scurries across the trail, or a chipmunk performs briefly on a log before disappearing under cover. Hidden in the floor litter are frogs, salamanders, shrews, slugs, and mice, but no venomous snakes—a fact which adds immeasurably to one's peace of mind on entering these venerable precincts.

Biologists Check Elk Diet

Here and there as we forged into the rain forest, my wife and son would rest by trailside while Eda and I ventured into the tangle. One such digression yielded a practical lesson in wildlife conservation.

Working our way to a clearing, we were perplexed to find there what seemed to be a gateless corral. The grasses and ferns within were growing in abundance, but the vegetation outside was trampled and beaten down.

Then I saw elk droppings on the outside and realized that this was an "elk exclosure," which park biologists use for research. Such a corral keeps any itinerant elk from feeding on the spot so closed off; grasses and other vegetation grow there unimpeded. The biologists need only to compare the vegetation inside the corral with that immediately outside to determine on which plant species the elk have been subsisting.

We saw none of the park's cherished but wholly untamed herds of Roosevelt elk that day, although outside the corral patches of squashed grass about the size of a bathtub indicated that a herd had bedded down there the night before.

Few Visit Enchanted Valley

"The Enchanted Valley," park superintendent Fred J. Overly had told me, "is a part of the Olympics which few people have heard about and fewer have seen. A day's trip by car from Port Angeles down to the park's south side, then another day up trail on horseback—and I think you'll be rewarded."

It was toward evening that chief naturalist Gunnar Fagerlund, park biologist Coleman Newman, ranger Lee Sneddon, and I urged our horses across the rocky, swiftly flowing east fork of the Quinault River, and thus, after a long day in the saddle, entered the Enchanted Valley.

We were not long beyond the ford when I beheld justification for the valley's provocative name. There, pouring down the rock face of an unbelievably high escarpment, was a series of waterfalls, some leaping from ledge to ledge 500 feet at a time, some sweeping down in great bridal veils, others zigzagging like fragments of frayed thread (page 105).

In the soft, rosy light of evening the valley's northeast wall seemed to be bleeding in a hundred places. At the base of each waterfall group was a pyramid of snow, perhaps a hundred feet high, into which the tumbling water disappeared.

Next day we made our way to the base of the escarpment to investigate those enormous heaps of residual snow. We found them sculptured inside with great glistening ice caverns large enough to be entered on horseback.

A deafening roar echoed in the caverns as water, originating from melting snow on the

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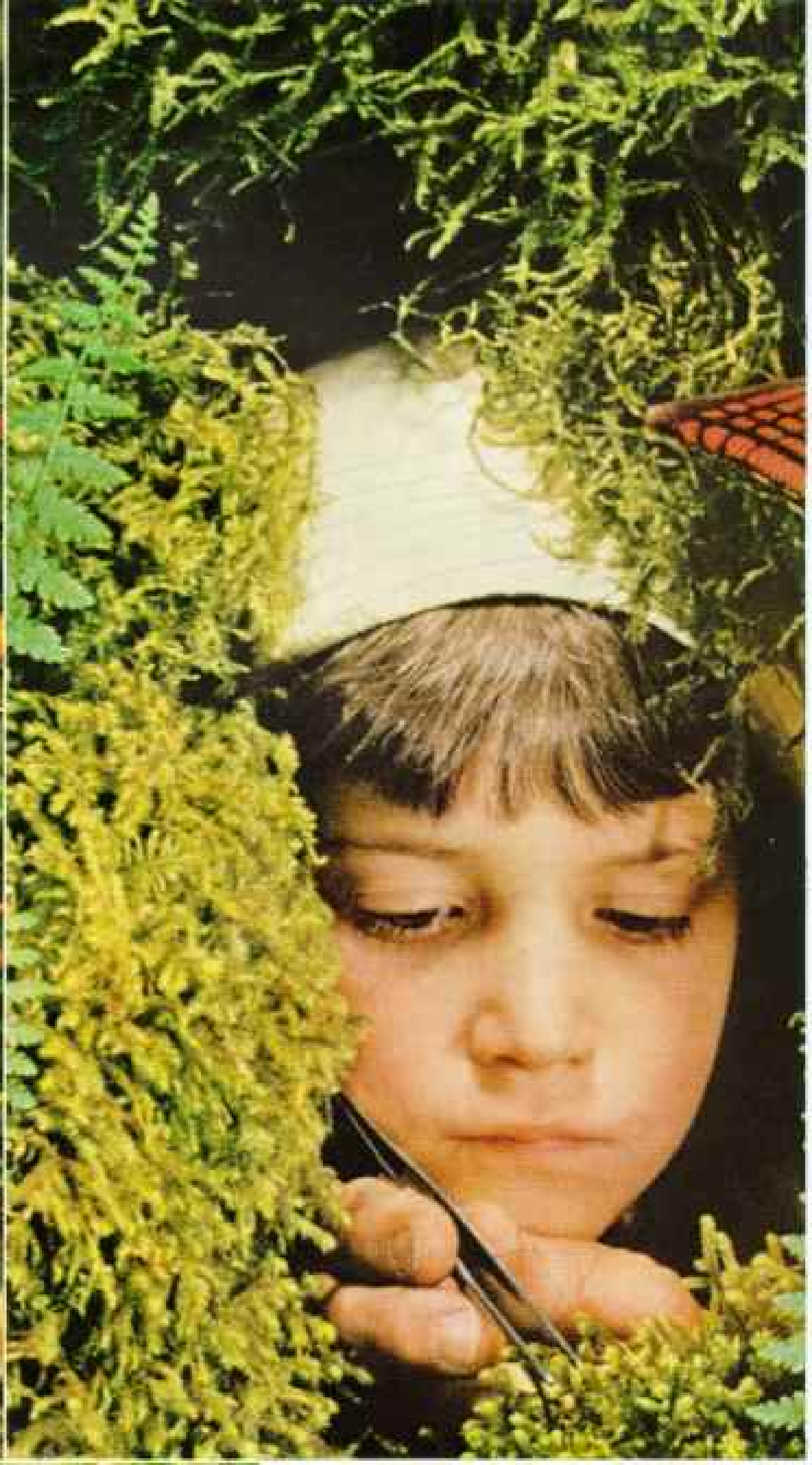
Page 96

← **Alert for Fairy Footfalls, Two Babes Sit Hunched in an Enchanted Wood**

A hushed stillness pervades the ghostly Hoh Valley rain forest. Tangled tree limbs festooned with moss blot out the sunlight. To young Eda and Paul Zahl the weird setting calls to mind the Hänsel and Gretel tale. If a witch should suddenly appear, they would be frightened—but not surprised.

 Kodachrome by Paul A. Zahl



Life Teems on the Forest Floor . . .

Upper left: Bright spore capsules wave atop a green moss plant. Winds will scatter the reproductive cells as they sift from the pods. (Enlarged 3 times.)

Middle: *Nidula*, a common fungus, cradles spore masses like a clutch of eggs in a miniature nest. Empty pouches have already given up their spores; closed ones have not yet matured. (Enlarged 3 times.)

Lower left: Snails abound in the dark, damp corners of the forest. With eyes mounted on long stalks, *Ariolimax columbianus* can see over obstructions blocking its path. It lacks the usual coiled shell.

. . . A New World Opens for Eda

Upper right: Scarlet-crested *Cladonia*, a coralliike lichen, carpets sunlit earth and rocks. Brilliant red tips cast spores to the wind. (Enlarged 3 times.)

Middle: *Stemonitis*, a slime mold on the border line between plants and animals, slides like jelly over rotting logs. Here slender spore cases suggest dancing matchsticks. (Enlarged 3 times.)

Lower right: Feeding on vegetation, a millepede drags its segmented body across tufts of orange cup fungus. If disturbed, the inoffensive but strong-odored creature rolls up like a ball. (Enlarged 2 times.)

escarpment three to four thousand feet above, passed through on its way to the Quinault for exit from the valley.

That night around the fire in a log chalet Coleman Newman, the park's elk specialist, had this to say:

"Some people who have seen Walt Disney's 'Olympic Elk' come here thinking they will hear the crash of antlers all over the place. There are four or five thousand elk in the park, but in the summer they are shy and thinly spread; only luck or wide searching will give you a glimpse of one. By mid-September, however, when the rutting season starts and the bulls round up their harems and fight it out with their rivals, you can easily get within good camera range. Right now, in July—well, let's get up early and work the upper valley. I saw fresh elk scat along the trail; there must be a herd around."

Traveling on foot, Newman and I set out up the valley. As the trail moved into a clearing near the river, Newman suddenly ducked. I followed his example. To one side of the huge cone of snow a group of elk moved cautiously out of the woods.

Display Brief, but Spectacular

Concealing ourselves behind rocks, we watched the procession of brown-and-buff creatures emerge onto the whiteness (page 104). Newman, whose business it is to keep the park's animal statistics, was elated, for against the snow he could make a precise count of cows, bulls, and calves. The number of calves is especially important, for it indicates to what extent the animals have maintained or increased their numbers.

Quickly I set up my tripod and camera. In the ground glass I could see some 90 great elk—cows and calves, but no antlered bulls—carefully making their way across the sloping side of the white pyramid. The spectacular show was over in a matter of minutes.

"You'll never see a sight like that again," commented Newman, referring to the combination, all in one spot, of nearly a hundred elk, the waterfalls, the peak of snow, and the cliff a half-mile high.

Weeks later on a trip to Bogachiel Peak, on High Divide, Newman and I spied more elk through our binoculars, this time magnificently antlered bulls.

We watched some of those 1,000-pound behemoths plunge through what seemed like impenetrable forest growth by thrusting their heads forward and streamlining their antlers back close against the shoulders and body, then applying standard battering-ram techniques. We watched others of the same group trot up a rock-strewn 45-degree incline as if it were a horizontal raceway.

Flowers Blanket Hurricane Ridge

During the course of the summer my family and I made no fewer than two dozen trips to Hurricane Ridge. Packing a substantial lunch and other necessities for keeping two small children tranquil, we would leave the cabin early in the morning and drive those harrowing 13 miles to the summit. There we would spend the day studying and photographing in the meadows of wild flowers.

Why it took so many days to get our wildflower pictures may require some elaboration.

A typical day might run like this. By 9 o'clock we would be on the ridge. My wife, with a watchful eye on Eda and with picnic basket in hand, and I with camera case, tripod, and, more than likely, small Paul on my back, would make our way across one of the meadowed slopes which, early in August, lay under a blanket of color.

The day might have begun with the sun brilliant overhead, the atmosphere fragrant with wild flowers. Vegetation here on the heights has a dramatically brief life cycle; blossoms must be developed quickly and seeds matured and hurriedly disseminated.

In the environment of alpine meadows one senses an element of biological urgency. Even the great woolly-coated bumblebees seem to fly more energetically and to hum more purposefully than those in the valley (page 108).

On this typical day we made our way into a field of purple-blue lupine, looking for a space among the flowers to spread our blanket (page 106). To the southwest the crags of Mount Olympus were half hidden in clouds. Below us the flowered meadows run steeply

(Continued on page 109)

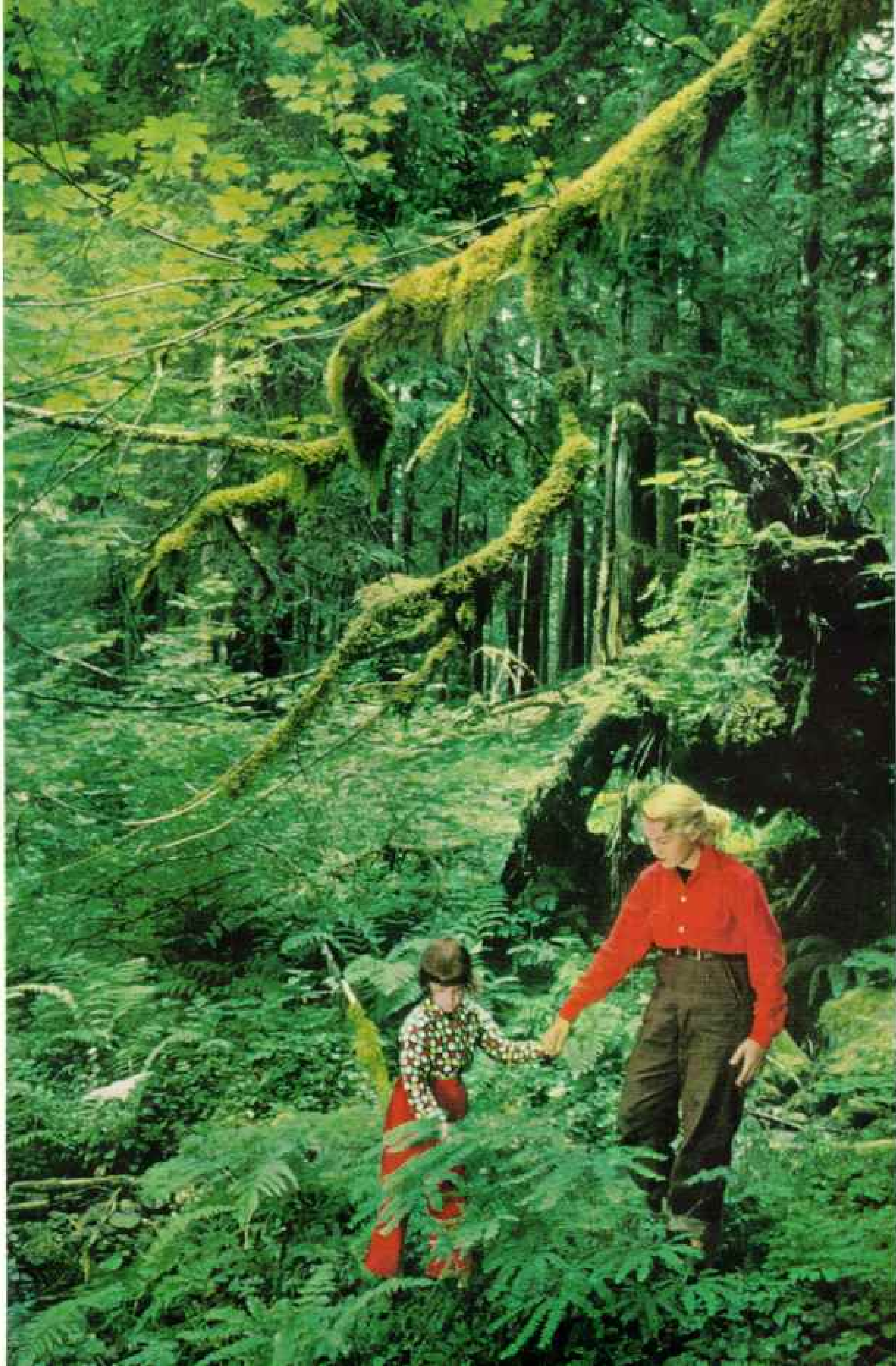
Page 101

Sunbeams Pierce a Forest Glade, Dappling the Fern-clad Floor in Gold →

Maple's moss-bearded limbs lend a jungle air to the depths of Soleduck forest. Undergrowth climbs a fallen tree at right; eventually the decaying giant will return to the soil.

Eda Zahl and mother, picking a path through maidenhair ferns, need not fear poisonous snakes; Olympic Peninsula has none.

 Kodachrome by Paul A. Zahl



Feasting on a Fallen Giant, Mushrooms Spread Parasols in the Dim Forest Light

Wood-destroying mushrooms play a dramatic role in the life cycle that returns a forest to Mother Earth. They feed by penetrating dead and decaying plants and trees, building a labyrinth of hair-thin, rootlike structures that secrete chemicals to dissolve and digest the woody fibers.

Mushrooms remain hidden until ideal conditions of warmth, moisture, and food supply bring them popping to the surface in a display of bright colors and varied shapes. Cap, gills, and stalk of a fully developed gilled mushroom suggest the cover, ribs, and handle of an umbrella. Spores drop from the gills in vast numbers; a single mature plant of one species casts off as many as five billion microscopic spores.

Saucerlike shelf fungus on the drier upper portions of the log lives for years by adding a new layer to its undersurface each season. A true parasite, it infects the wounds of living trees.

Drab lichens and mosses mat the toppled trunk.

Kodachromes by Paul A. Zahl

Shelf Fungus Doubles as Nature's Slate

Unlike most other mushrooms, tough, woody *Fomes* retains its shape when plucked. The slightest touch leaves dark markings on the porous underside, giving rise to the name "artist's fungus." Here, with special permission of park authorities, Mrs. Zahl demonstrates with a twig.

Wild Strawberries Match Color with Waxy Mushrooms

Page 103: Mushrooms lack chlorophyll, the green substance with which most plants manufacture food. Hence, like scavenging animals, they feed on the remains of other organisms.

Although some mushrooms are edible, the poisonous species may be violently lethal. Only experts dare gather the woodland delicacies for the table. Many varieties, though harmless, are too leathery to eat.

Soft, waxy gills characterize *Hygrophorus*, which often grows with the white-blossomed *Fragaria*, a wild strawberry.

Elk Stroll a Snowy Slope . . .

More than 50 different mammals, including bear, cougar, and the largest remaining herds of Roosevelt elk, inhabit the primitive wilderness.

←Sprightly marmots den amid rock piles throughout the park. The shrill danger signal of the short-eared, stout-bodied rodent earns it the nickname of "whistler."

. . . Deep in Enchanted Valley

These cows and calves, more comfortable in forest cover, move cautiously across a clearing. Here Walt Disney's "Olympic Elk" was filmed.

→This cascade in Enchanted Valley dwarfs ranger Lee Sneddon at its base. When bathed in twilight's rosy glow, the walled valley seems to bleed in a hundred places.

© National Geographic Society 106

Lupine and White Buckwheat Mantle Hurricane Ridge...

Upper left: Petals turn backward to form the tails of these Jeffrey shooting stars, *Dodecatheon jeffreyi*.

Left: Grass widow, *Sisyrinchium douglasii*, is not a grass despite its name; it is related to the lordly iris. Individual blossoms often last only a day. (Enlarged 1½ times.)

Lower left: *Phacelia sericea* clusters its flowers at the tip of a foot-long stem. Antennalike stamens thrust from the blooms. (Enlarged 1½ times.)

Below: Indian paintbrush, *Castilleja*, reverses the usual flower pattern. Tiny green blooms peek between bright orange-red leaves and bracts. The hardy plant cloaks many far-western valleys.

. . . Midsummer Brings an Ever-changing Blanket of Blooms

Upper right: Red mountain heath, *Phyllodoce empetriformis*, adds color to drab rock crests. (Enlarged 2 times.)

Right: Sitka columbine, *Aquilegia formosa*, is the only species of columbine found in the Olympics. Fanciest of buttercups, its flower suggests doves about a shallow dish.

Lower right: Delicate *Anemone hudsoniana* wears a coat of silky hairs. Another member of the buttercup family, it thrives on high meadows and rocky slopes. (Enlarged 1½ times.)

Below: Chocolate lily, *Fritillaria lanceolata*, is called rice root because it tastes like rice. Northwest Indians considered it a delicacy.

Nets Swish as Author and Daughter Stalk Bumblebees Poised on Pollen-laden Lilies

The woolly-coated insects race against time in these lofty gardens where the growing season is short. Before many weeks have passed, killing frost will wither the blooms; wind-whipped snow will drift over the slopes.

Wild tiger lily, *Lilium columbianum* (lower left), may grow eight feet tall in damp lowlands. Indians relished its edible bulb. Long stamens bear anthers wearing a heavy coat of orange pollen.

The fragrant wallflower, *Erysimum asperum* (lower right), grows knee-high. Crosslike petals identify it as a mustard plant. Nectar-seeking bee will carry away pollen to fertilize other flowers. (Enlarged 2½ times.)

into a thick border of beplumed evergreens, standing prim and clean.

While my wife settled the children, arranging the blanket so that the youngest, we hoped, might nap, I would wander afield with my tripod and camera case. Coming upon a particularly rich area of lupines or lilies, I would call my wife and daughter to assist as models. They would stand amid the blossoms to create as pretty a picture as any husband and father could wish to see.

Quickly I would focus the camera, take light readings, be all ready for the "watch the birdie" routine...when abruptly great swirls of mist would sweep in over the summit, obscuring the scene in two seconds (page 110). I would urge my models to remain in place, promising that the fog would quickly dissipate. Often this would be the case. But sometimes the fog would become so dense we would be forced to return to the car for a creeping journey down the mountain.

Ski Lodge Awaits Visitors

Frequently we would seek shelter in the ski lodge perched high on one of the ridge's most scenic meadow clearings. Here Mrs. Newman, wife of the park biologist, and her sister, who maintained the lodge's lunch bar, would console us with hamburgers and hot coffee.

This new and impressive mountaintop structure was built in anticipation of the increased number of visitors expected over a modern highway, which, when completed in 1957 or 1958, will make the wonders of the ridge country easily accessible by car.

On one such day the fog came up so thickly that we dared not move. We sat there in our garden of mist, waiting. On it came, cloud matter which half an hour earlier had arisen directly out of Pacific waves.

Lunchtime arrived to reduce the uneasiness of the children. Then I saw a figure materializing dimly through the fog. "Hello," I shouted, aware that the figure might blunder into us. But there was no answer; what we had thought to be a human being was in fact a handsome doe.

To the unbounded delight of the children, the doe went directly to my leather camera cases, sniffed a few times, then proceeded to chew with alarming vigor (page 111).

Before I could point out that it was against park regulations to feed the wild animals, Eda darted fearlessly up to the deer and presented her with a peanut-butter sandwich. The animal gratefully accepted the illegal offering, turned, and fled into the mist.

Perhaps it is only fair to state that U. S. Weather Bureau statistics indicate that the summer of 1954, the year of our visit, was not typical. The average Olympic summer is blessed with an abundance of sunshine, and temperatures are usually delightfully mild.

Flowers Provide a Botanist's Paradise

Nearly 1,000 varieties of flowering plants bloom in the Olympics. About 10 of them are found nowhere else in the world. They grow mainly on the slopes and ridgetops above 4,000 feet. One of them is the Piper bellflower, which my wife located one morning in a crevice on Blue Mountain (pages 116, 117).

So great is the diversity and profusion of this mountainous Eden that no two trips yielded similar results. One day we might find a particular meadow yellow with buttercups; a week later, blue with larkspur, white with phlox, or orange with columbine.

Only once did a moment of anxiety mar these joyous adventures.

My wife and I had been photographing some columbine not far from where the clearing dropped perilously into a ravine perhaps 200 feet straight down. We had become engrossed in the subject at hand. My wife suddenly looked up, her voice a bit shaky. "Where's Eda?" she asked.

Little Paul was sitting safely near by in a patch of mountain wallflowers, deeply concerned with the activities of a nectar-seeking bee. But he was alone. My eyes hastily scanned the area, including the edge of the precipice. Loudly and more loudly I shouted, "Eda! Eda!" There was no reply.

Frantic Search over Rocks

I ran to the edge of the rocks and, with beads of perspiration on my brow, peered over and down. The sight I feared was not to be seen, and I thanked God. I returned to where the child had last been observed, shouting without any assuring response.

I started moving in ever-enlarging circles, searching wherever the flowers were high enough to conceal the possibly injured body of a child, looking into every nest of rocks.

Then I heard a faint whispering voice: "Daddy, *please* stop making all that noise. Do you want to scare the marmot?"

I was too relieved to be angry. There was

↑ Mist Swirling Down a Meadowed Slope Puts a Sudden Chill on a Family Outing

Often on bright summer days the Zahls made the 13-mile journey from valley cabin to Hurricane Ridge (page 86). Too often, the author wryly recalls, Nature tricked them. They would spread blankets in a field of purple-blue lupine and relax under clean blue skies. Then, abruptly, fog would sweep in over the summit, turning smiles to frowns. Sometimes the cloud quickly dissipated; at other times it grew so dense the party had to leave the mountain.

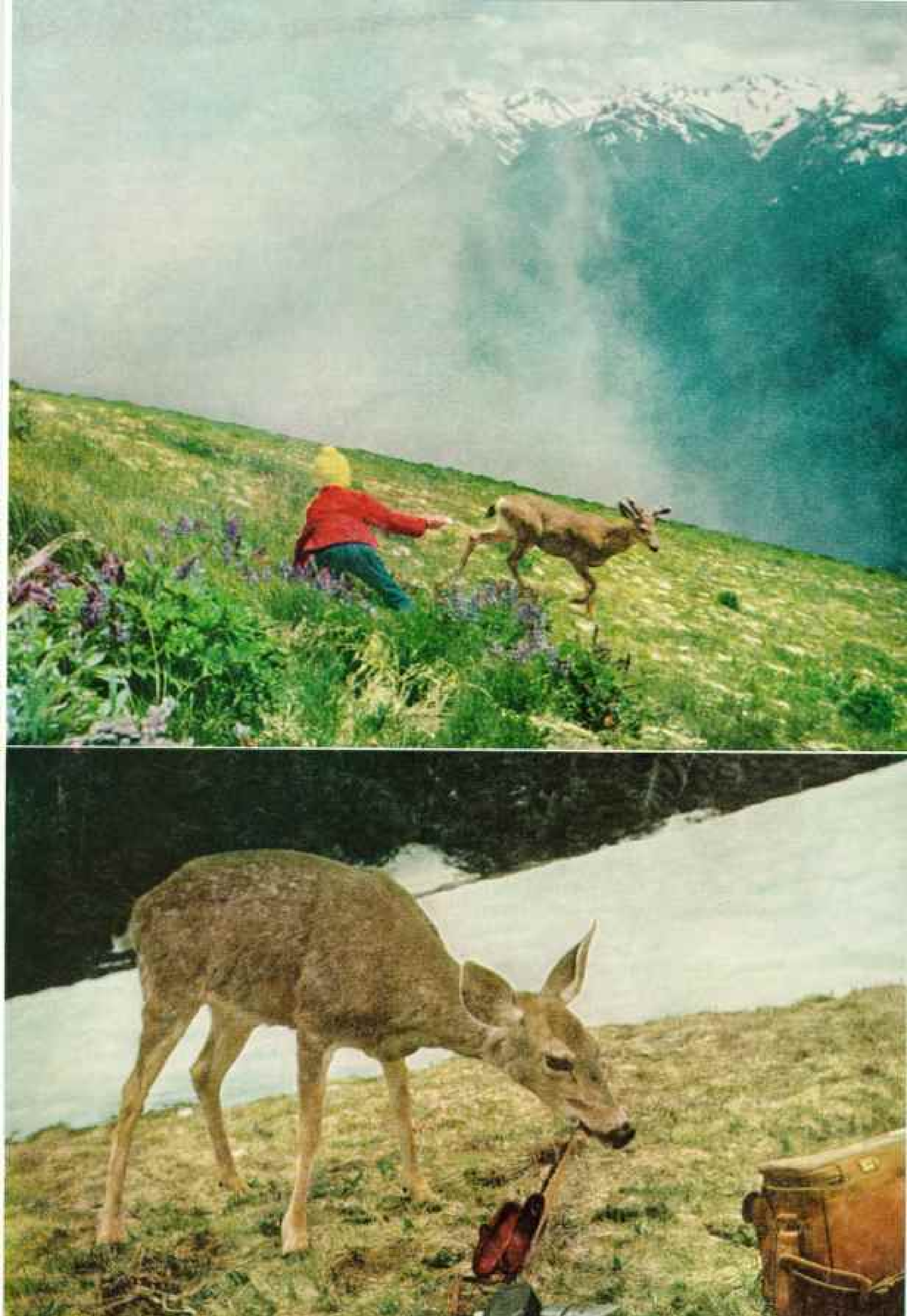
Salt-hungry Doe Invades a Picnic and Munches on a Leather Case →

"She sniffed a few times, then proceeded to chew with alarming vigor and appetite," says the author. "Before I could point out that it was against park regulations to feed wild animals, Eda darted fearlessly up to the deer and presented her with a peanut-butter sandwich. The animal gratefully accepted the illegal offering, turned, and fled into the mist."

Page 111, above: Young Eda attempts to make friends with a buck, but finds him shyer than the female of the species.

←Flecked with *dew*, wild bluebells nod on a slender stalk. A member of the *Campanula*, or bellflower genus, the delicate flower thrives on the Olympic heights. (Enlarged 2 times.)

 Kodachromes by Paul A. Zahl



Eda crouching behind a rock, her eyes intent on a large woodchucklike rodent (page 104). I must indeed have scared him, for at that instant the marmot let out a sharp blasting whistle, turned, and was gone into his hole.

I listened silently to a lecture from Eda, first on marmot natural history, then on the subject of disturbing the animals in a national park. When it was my turn, Eda received a return lecture on the hazards of mountain travel on the part of unaccompanied first-graders.

Woman Hiker Lost on Trail

In the valley a few days later the inadvisability of the inexperienced wandering off in the mountains by themselves was further demonstrated. It was well after dark, and park ranger James F. Hartzell and I were driving up the Elwha Valley road to inspect various public campgrounds maintained by the park for visitors who prefer to pitch tents.

Outdoor fireplaces are provided, as well as piped water, picnic tables, sanitary facilities, and nature lectures in the evening (page 94).

The pickup truck in which we were driving had a two-way radio. Abruptly an emergency call from Hartzell's wife, Mary, at the ranger station sounded from the speaker:

"Jim, a woman hiker is lost up on the ridge. The husband here is desperate."

"Be there in a minute," replied Hartzell as he spun the truck around and stepped on the gas. "Gets pretty cold up there on the ridge at night," he commented.

Hartzell explained that the park has a well-organized search system and personnel trained in every phase of it.

Visitors Don't Recognize Danger

"These ridges and mountains look so beautiful and so darned innocent when the sun is shining," he continued, "that people sometimes get indifferent to our suggestion against solitary travel."

Two hours later the ranger's siren echoed up and down the valley, announcing that the lost woman had been found. She had luckily managed to intercept the Hurricane Ridge road and, in pitch dark, had walked most of the way down the mountain until she met a search car.

"Routine, routine," was Hartzell's reaction when I congratulated him on the effective direction of the search.

Fortunately, on the Olympic Peninsula rain or overcast in one valley or on one peak does not necessarily mean that the same condition prevails in the next valley or on the next peak.

"What's for today?" Eda would ask early in the morning, as life in our cabin began to stir. I would glance at the ridge heights. "Looks clear as a bell. It's Hurricane Ridge for us." Or my answer might be: "Ceiling too low. No ridge today. How about the Soleduck forest, or Lake Crescent, or Blue Mountain, or the Ocean Strip?"

If the Ocean Strip were chosen, an hour later would find us heading westward on U. S. Highway 101. This excellent and picturesque road circles the base of the park's main mountain mass, with spur roads poking inland through valley openings.

After we crossed the Elwha River Bridge, Lake Sutherland would soon appear below at our left and a few miles farther, on our right, wondrously blue Lake Crescent.

Weather Checked by Phone

Perhaps we would stop briefly at the park's Information Center near Lake Crescent Lodge. Seasonal naturalists Bob Haugen or Chuck Anderson would call into headquarters at Port Angeles for a check on the weather along the coast. Or naturalist Grant Sharpe would exchange notes with me on the progress of the wild flowers in the high country. Then we'd be off again, due westward.

On one particular day we had two specific aims: first, to visit the coastal village of Lapush and show the children some real American Indians; second, to sightsee a whale that had been washed ashore a few miles south of Ruby Beach. The whale was our first objective.

The highway left park territory and passed through a commercial lumbering area around the town of Forks. On the outskirts of this busy logging outpost could be seen the ravages of a forest fire that had swept the countryside a few years previously.

One look at the miles of black stumps, colored only by blossoming fireweed, and the pleas of Smokey Bear took on a special meaning.

I recalled my discussions with assistant chief ranger W. R. Oakes, who is charged with preservation of the great forests from fiery destruction. He told me how each day during the summer a radio survey is made of the relative humidity in various districts of

↑ Rangers Keep Vigil in a Windowed Tower, Seeking Telltale Wisps of Smoke

Olympic's treasured trees have been spared widespread destruction, thanks to ranger guardians.

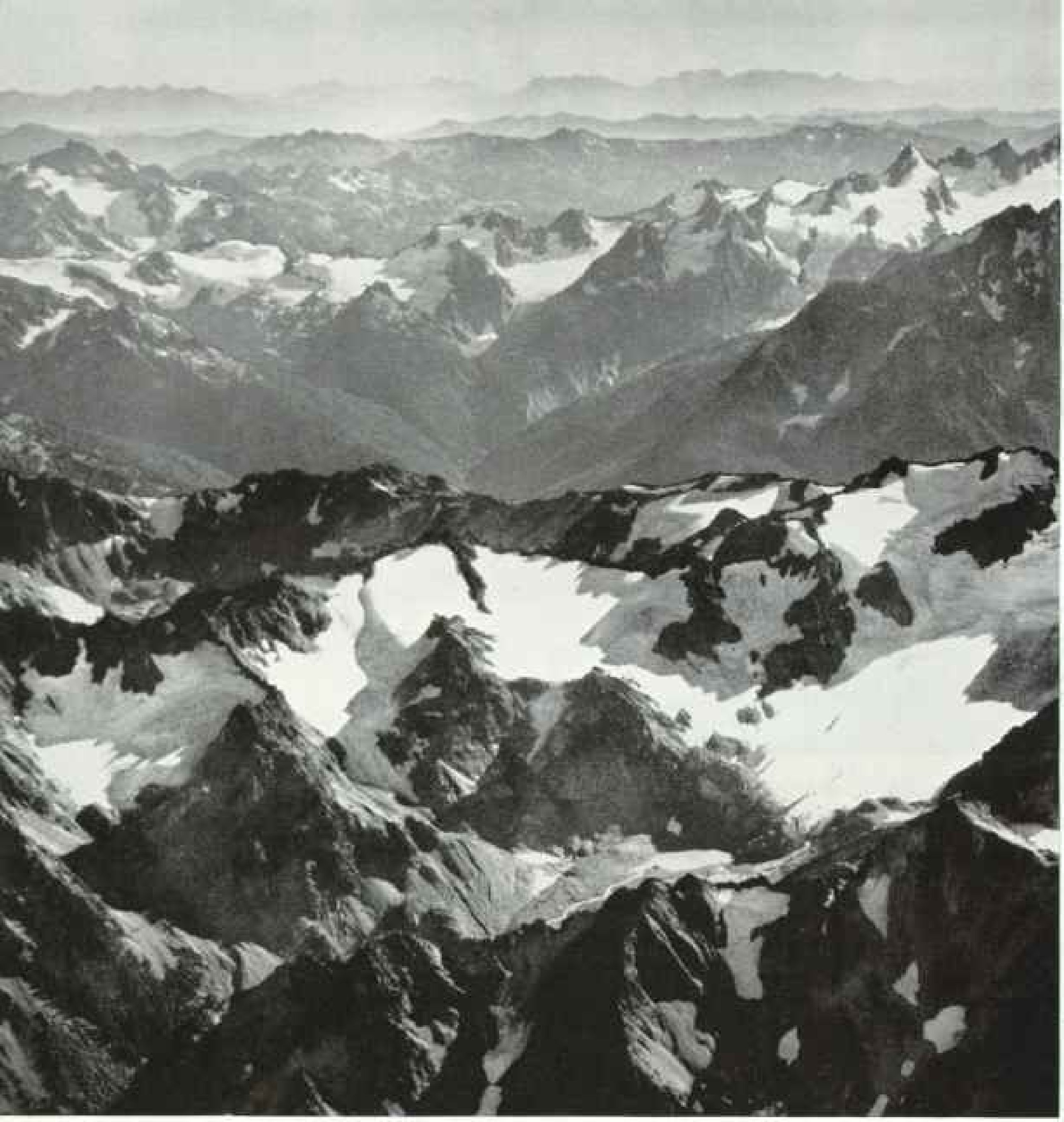
Daily in summer, spotters report conditions of dryness, temperature, and wind velocity in each park district. Ranger headquarters study the data and radio a fire-danger number to stations and lookouts. "Zero" means virtually no chance of fire; "five" signifies woods are dry and dangerous; "seven" spells a tinderbox state; "eight" warns of danger so extreme that an automobile exhaust spark could ignite the brush.

If fire breaks out, mobile units rush to the spot. In more inaccessible mountain areas, planes drop equipment to fire fighters.

Here fire-control aide Donald G. Bilsland points out scenic landmarks to the Zahl children. Edia uses an alidade to focus on distant Mount Olympus. The instrument's sights revolve around a map of the park, enabling rangers to take a bearing when a fire is spotted.

→ Rosy *Epilobium angustifolium* springs from a charred stump. Commonly called fireweed, it is among the first plants to appear after a fire.

Watercolors by Paul A. Zahl



114

Mount Olympus of the New World (Skyline, Right) Soars Above the Bailey Range

the park, a report which lists dryness, combustibility, temperature, wind direction and velocity, and other fire factors.

Fire Hazards Are Rated

From this information a fire-danger rating is radioed daily to every ranger station and fire lookout (page 113). Ratings range from zero to ten. Zero, for example, indicates that a forest couldn't burn even if someone applied a blowtorch; No. 5, that the woods are dry and that fire could break out and spread rapidly. No. 7, meaning that the vegetation is in a tinderbox state, when a stroke of lightning during a high wind could cause real trouble, would warn all fire crews and ranger stations to go on an emergency standby basis.

Any fire-danger number above seven would signify extreme danger, when even an automobile exhaust spark could set off a conflagration. Such a condition rarely occurs in the moist old-growth forest of the Olympic area. If it should develop, all forest-protection agencies, both State and national, would take immediate steps. Certain key roads

115 Pacific Aerial Surveys, Inc.

No Greek Gods Dwell Here: Only Relentless Powers of Ice and Snow, Wind and Rain

would be closed; all commercial lumbering on the outskirts of the park would be stopped; Spike Oakes would have his fire hat ready and his crews alert.

When a fire breaks out, all the park's communication channels are held open; radio reports from mobile fire units pour into headquarters for integration; provisions and fire-fighting equipment are dropped by plane to men working in the more inaccessible mountain areas.

So effective is this system that, although a certain number of fires do break out in the park every season, none has produced extensive damage in the treasured forests in recent years. Luck and some relatively easy fire seasons have played their part in this record.

Indians Inhabit Ocean Strip

The Ocean Strip is a new addition to Olympic National Park, acquired in January, 1953. This territory, extending from the surf's high-water mark inland about a mile, runs along the peninsula's west coast for 50 miles and includes three Indian reservations.

Kodachromes by Paul A. Zahl

↑ **Piper Bellflower Nestles Snugly Amid Lichen-mantled Rocks on a Windy Ledge** →

Campanula piperi (enlarged 3½ times) grows only in lofty crevices. It is unique to the Olympics. Precariously bruced, the author and his wife photograph the hardy perennial. Beyond loom the 7,000-foot Needles.

One must see this Olympic coastline to believe it: the great needles of bare, occasionally tree-studded rock rising straight out of the surf; the sculptured caverns and rock bridges; the sheer shore cliffs; the heaps of white drift logs; the great glistening beaches; the tidepools teeming with life; the sea birds —all these in unbroken profusion characterize the Ocean Strip for the entire 50 miles of its length (page 122).

Park Is No Place for a Whale

That whale, of course, had no business being in the park. Its carcass, lying on the sand a few miles south of Ruby Beach, might well have been a fascinating tourist attraction a month or two earlier, but by the time we arrived on the scene Nature had taken her inevitable course.

One whiff from more than 50 feet away and my wife and children turned and ran; I ventured a little closer but soon was persuaded also to retreat. We climbed back up the sea-cliff trail and headed northward toward Lapush.

Here in this picturesque fishing village the Pacific shore attains a beauty worthy of the other wonders of the park. And Eda found her Indians, some of them in outboard-propelled dugout canoes, smelt-fishing in the bay. She noted that neither their garments nor their speech differed from our own. These Northwest Indians bear the stamp of the same culture as the tourists who come to watch them fish or to purchase their trinkets.

By late in August we had visited and explored almost every one of the park's major features—all but Mount Olympus itself. Finally word came that the passes were open and horses waiting. Our route would follow the Hoh Valley to Glacier Meadow; from there we would proceed on foot.

I would have preferred my wife to go along, but the children patently made that impossible. She and our cherished though sometimes impeding offspring would have to stay with the lesser Elwha deities.

The day before my departure I chopped a week's supply of firewood. I had no particular apprehension over leaving the family alone, for they had lost all traces of city naivete.

Children Learn Outdoor Ways

The children had become relatively outdoor-wise, and their mother could handle the wood stove with the self-assurance of a pioneer wife. The deer, squirrels, and chipmunks that often frisked up to our door, even the possibility of a bear, had become part and parcel of our routine.

It was well before dawn when I set out by car for the Hoh Valley. Six hours later ranger Hugh Bozarth and I, on our saddled mounts, were heading up the rain-forest trail toward Mount Olympus, 20 miles east of the Hoh Ranger Station.

That night we camped under the towering

↑ Lapush: Salmon Fleet Idles After a Harvest of the Sea

On water-carved James Island, Indians once maintained a stockaded fort. When attack threatened their mainland village, they took refuge in the fort and stood off the enemy by rolling rocks and logs down the rocky trails.

Today the island lies deserted across the Quillayute River from Lapush village (left), an anchorage chiefly for commercial boats.

Bob and Ira Spring

← Along the Ocean Strip Shovels Plunge Deep for Razor Clams

In this seashore hunt, attackers wear dungarees and rubber boots; they wield short-handled, short-bladed "clam guns." The clam's armor is a sharp, thin shell, shaped somewhat like an old-fashioned straight razor. The mollusk's powerful foot, used for burrowing, makes a quick getaway possible. The State Fisheries Department limits the number of prizes diggers may take.

Eric Wahlers

Blue Glacier, Slowly Receding, Still Retains an Icy Grip on the Face of Mount Olympus

In mountainous climes, glaciers develop when winter's heavy snows cling unmelted at the end of summer. Accumulated layers form frozen rivers on mountain summits. Slowly, relentlessly, these grinding masses creep down the slopes.

Olympic glaciers, like others in temperate lands throughout the world, are dwindling. Many have disappeared, but more than 50, covering 25 to 30 square miles, persist.

Atop 7,954-foot Mount Olympus, the peninsula's highest peak, six major glaciers tongue downward. Between 15 and 20 feet of precipitation, mostly snow, falls on the pinnacled summit each year.

← Hiking over the surface of Blue Glacier, the author examines a melt pool. Crampons, ice pick, and safety rope about the waist help him maneuver across the glassy ridges.

↓ Vertical knife edges of blue ice at the glacier's melting front tower above ranger Hugh H. Bozarth.

trees at Elk Lake. From there next day we followed a precipitous path to Glacier Meadow, at an elevation of about 5,000 feet.

At 4 in the morning ranger Bozarth and I, through the darkness and mist, made our way up the steep half-mile of moraine rock heaps between Glacier Meadow and the lower ice flow.

Where the rocks stopped and solid ice began, we affixed crampons to our boots and tied safety ropes around our waists. We stepped off terra firma and onto the glassy surface of Blue Glacier.

Clear Weather Aids Ascent

For a time at least, the weather was passably clear. In roped and cramponed safety we hiked over the ice, peered cautiously into the yawning blue depths of seemingly bottomless crevasses, and explored the great vertical knife edges of blue ice that towered at the glacier's melting front (opposite).

Here and there on the glacier's surface we stooped to examine some of the thousands of tiny ice worms which lay dark and thread-like on the ice or snow. These were in fact true worms of the family Enchytraeidae. Each was about a quarter-inch long. Watching carefully, we could see them wriggling.

Where these bizarre creatures come from, what they eat, how their body processes function at such low temperatures, why they choose such a weird environment, are questions as yet unanswered to the satisfaction of biologists. Possibly they feed on microscopic algae which may grow on the surface of the prevailing ice or snow during certain periods of the year.

Dismissing these questions for the moment as too academic, we collected a few specimens and went on.

Olympus itself, looming briefly through its mantle of clouds to the immediate south, did not appear as a single peak but rather as several groups of widely separated pinnacles and sharp rock summits, the highest reaching 7,954 feet above the level of the Pacific, some 30 air miles to the west. Between these craggy summits was a field of perpetual ice, including a lenslike contoured dome; onto this white acreage falls, each year, some 200 to 250 inches of precipitation, mostly snow (page 114).

When the load becomes insupportably heavy, the ice and hard-packed snow around the edges of the field crack off to feed the six great glaciers that tongue down from the mountain. One such icefall was less than a quarter of a mile from where we stood—a crumbling white cliff perhaps 500 feet high, with forbidding cracks and fissures, ending in a talus of mammoth ice blocks. Clearly the gods that dwell on this Western Hemisphere Olympus are of extreme hibernal temperament.

On the other hand, some mitigating force seems these days to be in conflict with the white-clad deities. Each year since the original measurements were taken, the glaciers of Mount Olympus have become smaller and shorter. In the 15 years between 1938 and 1953, Blue Glacier has shortened by more than 800 feet, and since 1919 by nearly three-quarters of a mile.

Each of the approximately 50 glaciers in the Olympic Mountains is only a remnant of what it was in yesteryear. Aerial examination indicates a persistent glacial recession, characteristic of most present-day glaciers throughout the world.

One September morning, about three weeks after my visit to Mount Olympus, a recession of quite a different sort was taking place in our Elwha cabin. Lumberjackets and heavy underwear gave way to city apparel as we made ready for the homeward trip. As a last duty, I emptied the ashpan of the wood stove.

Autumn Nip Comes Early

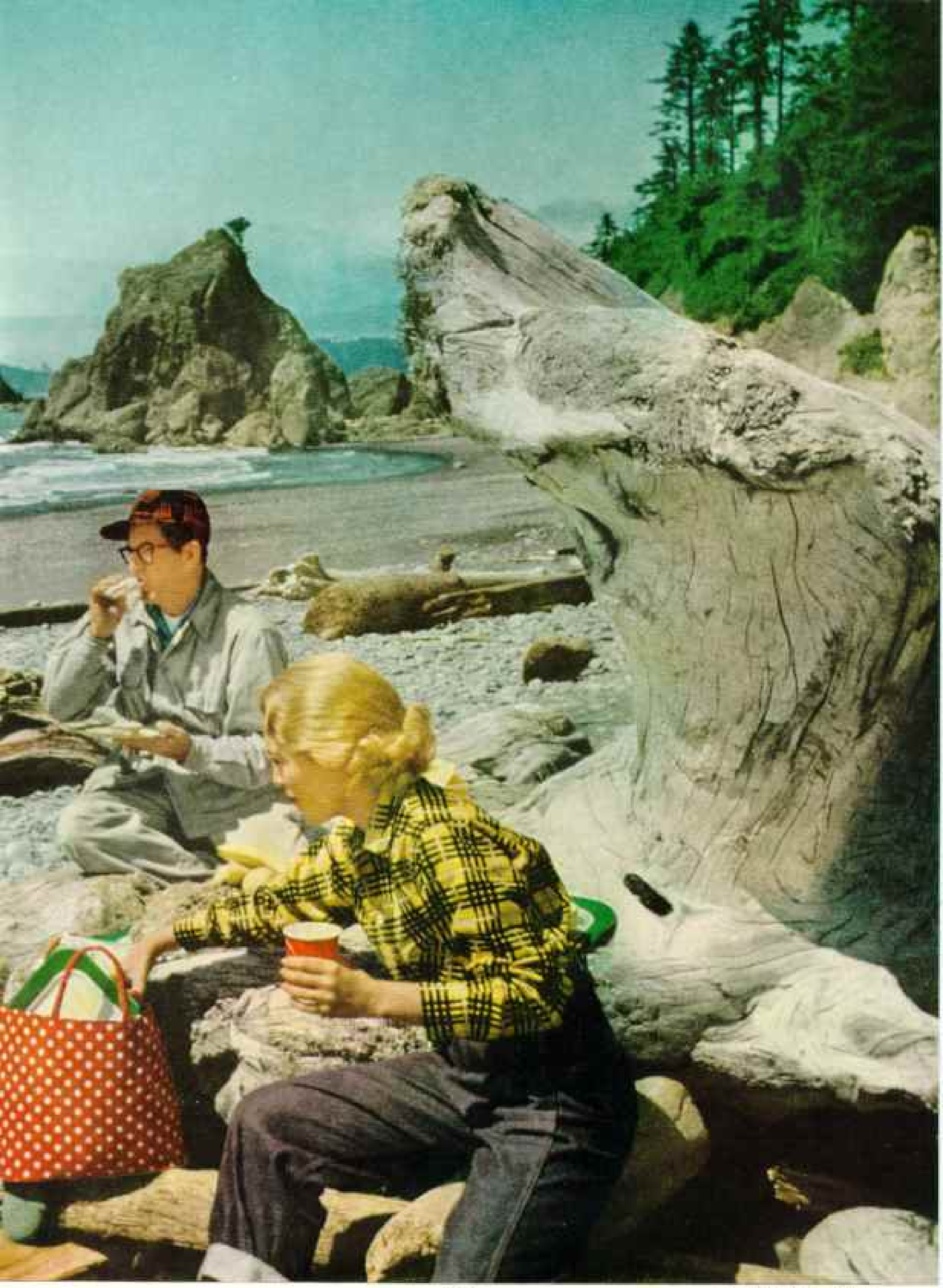
Driving out of the Elwha Valley, we felt more than a touch of autumn in the air. I knew that over in the Bogachiel and other valleys bull elk, with coats sleek and antlers sharp, were clearing their throats for the autumn excitement; that bears, after a summer of heavy feeding, were growing fat on late-season berries and would soon be ready for the big sleep; that the wild-flower meadows on the ridges were withering and the winds gathering force on the slopes.

Before long, winter would whiten this mountain land, turning it from a paradise for summer naturalists, campers, and hikers into one for skiers. It was not an indifference to skiing but rather the summoning of school bells back East that saved us from the temptation of staying longer.

For additional information on western wild flowers, see the following articles in the National Geographic Magazine: "American Wild Flower Odyssey," by P. L. Ricker, May, 1953; "Flower Pageant of the Midwest," by Edith S. and Frederic E. Clements, August, 1939; and "Wild Flowers of the West," by Edith S. Clements, May, 1927.

Salt Air, Warm Sun, and Ocean Backdrop: What More Could a Picnicker Ask?

Man does not monopolize this beach; he merely shares it. Bear and deer, including an occasional elk, stroll down from dense forests. Hair seals frolic in the surf and sun on the rocks. Sea birds nest on offshore islands.



123

Kodachrome by Paul A. Zahl

Tree-studded Isles Flank the Rocky Coast Where Olympic Mountains Meet the Pacific

Three Indian reservations lie within the park's narrow, 50-mile-long coastal strip. Wave-cut crags attest to the ceaseless war of sea against land. Lunching on Ruby Beach, the Zahls straddle sun-bleached driftwood.

Europe Via the Hostel Route

With a Bicycle for Transport and a Pack on His Back, a Young Photographer Finds Friends and Adventure Abroad

By Joseph Nettis

With Illustrations from Photographs by the Author

I HAD almost forgotten what solid ground felt like. It had been my first long trip, and 10 days on a 13,500-ton rolling, pitching ship had conditioned me to keeping upright on a floor that moved even when *I* was still.

But this was Southampton, England, and I had no time to reflect on the adaptability of man. There were too many things to do. My bicycle had to be located, my pack and saddlebags checked through customs, and I had to find my way out of the cavernous customs shed.

It wasn't until I found myself cycling along the dock street that I realized I was on my own, 3,500 miles from my home in Philadelphia. Under me was a sturdy British bicycle. I had $400 to last through nine weeks and six countries. This would be, I knew, my greatest adventure so far (map, page 128).

Two months before, in New York City, the Council on Student Travel had offered me

round-trip passage to Europe in return for my services as staff photographer. Many years before, I had decided that one day I would see Europe by bicycle, something many young people talk about but comparatively few attempt. Stopping at International Youth Hostel Federation shelters seemed the best way to accomplish this objective.

Everything I was to use for the next three months was squeezed into two bicycle saddlebags, a carrier pack, and a camera bag. I packed clean linen, a sweater, a Dacron-rayon suit, and nylon rain gear. I added first aid, toilet, sewing, and mess kits, a bicycle repair kit, and a sheet sleeping sack. Maps, hostel manuals, foreign language phrase books, and my camera equipment completed the pack. I wore dungarees, red flannel shirt, an American Youth Hostel windbreaker, and a baseball cap as I set off.

Trying to find my way out of the Southampton dock area, I fell in with a worker astride a battered bicycle with an empty lunch pail clattering behind. With a grin and a delightful Cockney accent he greeted me: "So y've just come from America, 'ave ya? Well, just follow me and I'll 'ave ya out of the yard in no time." In two minutes we were in the town of Southampton.*

"The old lady's waitin' at home," he volunteered, "but I'd be glad to show you a bit of the town."

Mayflower's Voyage Remembered Here

We rode to a monument topped by a model of a familiar old sailing ship. "The *Mayflower* sailed from this spot for Plymouth to start her voyage to your country," he said with pride.

When my friend finally had to leave, I answered his bright "Cheerio" with "Goodbye," but caught myself and called "Cheerio" after him.

The Southampton hostel would not open till 5 o'clock, so I went exploring. There were many more cycles, motorbikes, motorcycles, and scooters than automobiles. The English

* See "Southampton—Gateway to London," by Stanley Toogood, National Geographic Magazine, January, 1940.

← **London's Tower Bridge Gapes Wide as a Crowded Steamer Puffs Up the Thames**
Twin 1,000-ton drawbridges swing open in 1½ minutes. "An awesome spectacle," reports the author.

↓ Pedaling the Canterbury Road, Mr. Nettis brakes his bike for a spot of lunch. "Kent's rolling hills and immaculate farms were unbelievably lovely," he writes. "Small wonder it is called the 'Garden of England.'" Two saddlebags and a carrier pack bulge with 45 pounds of clothes, eating utensils, first aid kit, and other gear.

attach a gasoline motor to almost anything with wheels. It took me very little time to adjust to left-hand traffic—until I turned a corner! More than once I found myself swerving sharply to avoid a startled motorist.

In the main street stood an old Roman gate. I asked two young men near by about its history, and before I knew it we were having afternoon tea together. They were students from the University of Southampton, eager to find out about our American educational system.

Hostelers Do Their Own Chores

At the hostel, a converted mansion set in a lawn of trees, flowers, and shrubbery, I presented my American Youth Hostel pass, paid 5 shillings, about 70 cents, for a night's lodging and supper, and was handed a duty card, informing me that I was to sweep the dormitory floor and clean the dustbin (trash can).

After supper I discovered what a wonderful meeting place a hostel can be. I talked with a Swiss mountain climber, a South African, two Swedish girls, a London couple, two blond German hikers, a New York writer who came for a summer and stayed five years, and an exchange teacher from Maine.

I had planned to cycle to London, 76 miles away, the next morning, but I awoke with a severe cough. A near-by doctor gave me a prescription and invited me to come back for a hot bath and supper. I accepted gratefully. Since Britain has socialized medicine, the only cost was the shilling service charge for the prescription.

After resting for two days, I hitchhiked to London on a lorry, my bike safely in back.

With a warm handshake I left my Scottish truck driver and crossed Westminster Bridge into damp, gray, and somberly impressive London (opposite). In a sea of shiny fenders and honking horns, I felt as if I had been caught in a stampede.

One night some friends and I watched the unblinking, red-coated Guards at Buckingham Palace.*

"They're like robots," someone remarked.

Just then, one of the sentries passed us, asking quickly from the side of his mouth, "Time, please?" We were so startled we almost forgot to tell him it was 20 minutes before midnight.

On a typically cloudy day I rode across London Bridge and turned southeast toward Canterbury. A little white-haired lady in a village store along the way sold me my lunch of bread, jam, cheese, and milk (page 125). As she wrapped my modest purchase, she asked: "Do you like bananas? I've got some very ripe ones here and there's no point in letting them spoil." Before I could refuse, she had dropped two bananas, a tomato, and some lettuce into my bag free. As I ate, I reflected on British generosity.

The Canterbury hostel, overlooking the town, was a model of cleanliness and efficiency. My duty here was waiting on tables.

The next morning I coasted happily downhill to Canterbury Cathedral. I was overwhelmed as I listened to the soft singing of choirboys and walked among the stately columns. The walls and floors were covered with tablets dedicated to the dead. It was like walking through some strange indoor cemetery.

From Canterbury to Dover I rode through Kent, "the Garden of England." The misty rain emphasized the pastoral setting which inspired so many generations of poets and writers.

At Dover I lugged my heavy bike aboard the steamer to Ostend, Belgium.

As the chalk cliffs of Dover became smaller and smaller, the sun suddenly came out brightly. I smiled. In 10 days in England I had seen only eight hours of sunshine.

Two Irish boys, from Belfast, Trevor and Collin, crossed the Channel with me. Their enormous rucksacks made them look like ants carrying 10 times their own weight. "We've brought all our food with us, mostly in tins," said Collin. "It's not so dear that way."

"And as we go along," Trevor added, "the load will get lighter and lighter."

Troubles with Language and Paving

Straddling my bicycle on the Ostend dock, I took off for the hostel. England had offered no language problem, but now all was different. The street signs were meaningless to me. And suddenly, without warning, I was indoctrinated into the stone-block paving of European cities. I found myself being shaken violently as if I had been caught in a monster massage machine. I had to fight to hold the handlebars.

I arrived at the hostel just in time to eat and get to my bunk before the usual 10:30

* See "In the London of the New Queen," by H. V. Morton, NATIONAL GEOGRAPHIC MAGAZINE, September, 1953.

lights out. Strange words in French, German, Flemish, Italian, and Spanish swirled about me as I fell asleep.

The next morning I discovered a secret of economy. I was eating my 12-franc hostel breakfast when I heard myself addressed in perfect American English (not British English—you quickly perceive the difference): "You should carry your own food. It'll save you money."

The speaker was a handsome Dutch boy named Horst Frisco.

"We'll take a look at the town," he said, "and I'll get you started."

Horst, 19, was due to be inducted into the army in two days. This was his last fling—pedaling 600 miles in nine days over the flat Netherlands. He learned his excellent English in school, where it was compulsory for five years. His teacher happened to be an American.

We stopped at little shops where Horst asked

Big Ben, Booming the Hours, Is Britain's Voice

One of three towers of the Houses of Parliament, the Clock Tower flanks Westminster Bridge spanning the Thames. Big Ben's chimes may be silenced for several weeks during a proposed face lifting.

London traffic, keeping to the left side of the street, gave the author some anxious moments. "Entering the great city via this bridge, I suddenly found myself in a sea of shiny fenders," he reports. "Cabbies seemed to be challenging me to a game of tag."

United Press

in Flemish for the food I wanted. At the outskirts of the town, he turned toward the coast and I toward Bruges.

I wound my way through the narrow medieval streets of Bruges * and continued to Gent over the rolling roads. Bicycle paths along many highways in Europe compensate for the numerous bad riding surfaces.

At the Gent hostel I ate with a thin-faced German boy. He knew a little English and I tried my meager German. He held up his canteen, displaying the Nazi swastika and eagle.

"From the war," he said.

I picked up my GI mess kit. "This is also from the war."

It's a strange world, I thought.

Milkman Offers Hospitality

Near the town of Aalst I looked for a place to buy milk and was directed to the milkman's home. He invited me to have my sandwiches in his house. While I ate, he asked questions in machine-gun French. I didn't understand. My phrase book told how to order dinner in a restaurant, demand hot water at the hotel, or ask for a plane ticket. Valuable phrases, perhaps, but for an American hosteler trying to converse with a friendly Belgian it was next to worthless.

* See, in the NATIONAL GEOGRAPHIC MAGAZINE: "Bruges, the City the Sea Forgot," by Luis Marden, May, 1953; and "Thumbs Up Round the North Sea's Rim," by Frances James, May, 1952.

128

Bike, Thumb, Bus, and Boat Take the Author Across 3,500 Miles of Europe

Hostelling enabled Joseph Nettis, a 25-year-old Philadelphian, to travel nine weeks in Europe on less than $4 a day. One night he lodged in a medieval castle, another in a barn. Zigzagging through six countries, he found continental highways thronged with adventuresome hostelers of a number of nationalities. "Meeting the youth of the world is hostelling's biggest thrill," says Mr. Nettis.

American Girls Touring Europe by Bike Brighten the Hostel Circuit →

Cycling across Belgium, the author met Sylvia Whisler of Emerson, Iowa (left), and Elizabeth Collins of Marshall, Missouri. Accompanying them to Cologne, Mr. Nettis was embarrassed when the girl cyclists left him far behind on the steep hills.

"Later I learned that they had been all-round athletes in college," he says, "but the discovery did little to ease my wounded male pride."

Here the girls roam Brussels' main square. Baroque guild houses rise in background.

After 15 exhausting minutes of gesticulating, drawing pictures, and making faces, we parted warmly. The only thing he was sure of was that I was an American, and the only thing I knew was that he was a milkman. But the language barrier didn't prevent the making of a friend.

Riding through a small town near Brussels, I heard the blasting of an automobile horn. A carload of young men shouted at me in French. I whirled just in time to see ten resolute men on racing bikes bearing down on me fast—very fast. I swerved off the bicycle path, narrowly avoiding a fruit stand. A half block ahead a car parked beside an ice cream stand left room for only one bicycle to squeeze by.

129

To this day I do not know how those ten speeding demons managed it.

In Brussels I asked directions of a small man in a derby, showing him the hostel address in my manual. He pointed ahead in a very positive manner. A block farther I asked another gentleman who just as positively pointed in the opposite direction. After a few more requests, which touched off heated arguments among the citizens themselves, I chose the direction most of them agreed upon. It was late when I entered the hostel.

There I met Sheila and Claire, Irish cyclists from Cork. Their lyrical accent fascinated me. I teased Sheila about it.

"Sure and begorra," I laughed, "and it's a wee bit of a brogue you've got there." She twisted her mouth to the side and produced an excellent imitation of a Hollywood gangster's gun moll.

"It's easy to mimic you," she said. "You all talk through your nose."

The next morning in the common room I met Collin and Trevor. Everything from Collin's huge pack was laid neatly on the table. He was muttering to himself.

"*Now* it's the salt. First the tea box came apart in Ostend. Next night the sugar bag broke. Now it's the salt. It seems all I do is unpack, clean, and repack this bloomin' rucksack."

I introduced these lads from Northern Ireland to the colleens from the Republic. While they exchanged witticisms about the two Irelands, I left with two attractive girls from Missouri and Iowa who were going my way. Elizabeth and Sylvia, their names were, but they preferred Biff and Syb (page 129). We visited several of Brussels' shops, where we watched the famous Belgian lace being made, then headed our cycles toward Germany.

On the road to Aachen both girls left me far behind, although my bike had three gears, theirs only one. I felt like an old, old man at 25.

War Damage Still Apparent

Aachen, like Cologne (Köln), Essen, and Koblenz, was a prime target of Allied bombers during the war and contained vast areas of building skeletons. Cologne, despite much rebuilding, still showed many scars left by the bombardment.

Pouring rain greeted us when we rode into Cologne, and three thoroughly soaked Americans entered that hostel, or *Jugendherberge*, as it is called in Germany. The interior of the three-story converted bomb shelter was polished stone, tile, and hardwood. It had the clean efficient look of a hospital but the atmosphere of a camp reunion.

← Rhine Steamer Carries Hostelers Up a Storied Stream

In Cologne the author met eight Senior Girl Scouts from Sacramento, California. Together they traveled along the Rhine into Switzerland.

Here at Bad Godesberg the girls await the steamer which will take them to Koblenz. Aboard ship they listened to the lusty singing of German holidayers, admired the vineyards lining the banks, and gazed on turreted castles topping cliffs along the stately river. English boys with packs at right were hiking through Germany.

↓ Nylon Poncho Does Double Duty

"Bad weather plagued me from the German border to Frankfurt," Mr. Nettis reports. "Of course everyone told me such weather was most unusual.

"In this batlike costume I felt like something out of Dante's Inferno, but it proved most practical. The lightweight nylon poncho doubles as a ground cloth or shelter half for sleeping."

Here the author wheels his bike beside the Rhine near Boppard. Terraced vineyards climb the bank on the far shore.

132

Germany Chats with America at a Castle Turned Hostel Above Bacharach on the Rhine

"When I crossed the moat and entered the courtyard, I felt as if I had been whisked back 400 years," relates the author. "I half expected a knight in armor to challenge me with a lance." Here Marilyn Rohner (right) of Sacramento, California, shares travel experiences with a trio of young German hostelers.

Germany is truly a country of hikers and travelers. Here I found Scout troops and youth groups, including some from West Berlin. Many boys wore *Lederhosen* (leather shorts), and a number of the girls had embroidered dresses and braided hair.

In one corner of the common room a group from Bavaria was folk dancing. In another corner a blond youth squeezed an accordion while other hostelers hummed hiking songs.

On the ship I had met Doris Esch, an exchange high school student from Dearborn, Michigan. Bright and friendly, she had been chosen to live with a foreign family for two months under the sponsorship of the American Field Service. Her European family lived in Essen, some 35 miles north of Cologne.

It was off my route, but I was curious to see how an American girl adjusted herself to a German family, and vice versa. So I hitchhiked to Essen and found Doris happily settled with her adopted family.

"They're marvelous, Joe," she said. "They have four daughters and treat me just like a fifth. Sometimes I go to school with the other girls.

Fat Sausages Garland → a Butcher's Window in Bacharach

A Dutch hosteler taught the author the secret of inexpensive eating. "Always," he advised, "carry a loaf of bread, a tin of jam, and some margarine; then buy smoked meats, milk, fruit, and vegetables as you move along."

Savory sausages, cheap and practical, prove a boon to travelers in Germany. The plump cylinders come in many shapes and sizes, need no refrigeration, and take up slight space in a knapsack.

↓Cycling south along the Rhine, the author was joined by 17-year-old Peter Klinz of Hannover. "A warm friendship sprang up between young Peter and the California Girl Scouts riding with us," Mr. Netts recalls. "They dubbed him their mascot and presented him with a Scout pin. It became one of Peter's proudest possessions."

Learning English, Peter Drawls "Howdy, Pahdnah," and Six Teachers Smile Approval

Heidelberg Castle, Tucked in the Hills, Guards the Placid Neckar River

Rich in beauty and historical lore, Heidelberg boasts Germany's oldest university. Partially restored ruins of the red sandstone castle, built during the German Renaissance, dominate the city. Students in rowboats and kayaks glide down the Neckar, emerging from these gently rolling Oden Wald hills into the Rhine plain.

Peter Klinz surveys the scene from Old Bridge.

"My German is getting much better, but my 'father' keeps a German-English dictionary handy in case."

Doris referred to members of the family as she would her own. It seemed a wonderful relationship.

Money Bag Brings an Introduction

Back at the Cologne hostel I saw a pretty brunette untying a bicycle saddlebag. I recognized the American Youth Hostel money bag hanging from her belt.

"Howdy," I said. "It's good to see such a cute American so far from home."

She turned around, a little surprised.

"Well, hello to you too."

"Traveling alone?" I asked.

"Oh, no. There are eight of us—all Senior Girl Scouts from Sacramento. Here's Annabelle, our leader."

A slim, black-haired girl returned my greeting.

"What direction are you biking?" I asked.

"Up the Rhine and then into Switzerland."

"Wonderful! Just what I plan to do. Mind if I join you?"

"Not at all. We'd love to have you."

We arranged to meet the next day at Cologne Cathedral. I arrived on time, but the girls weren't there.

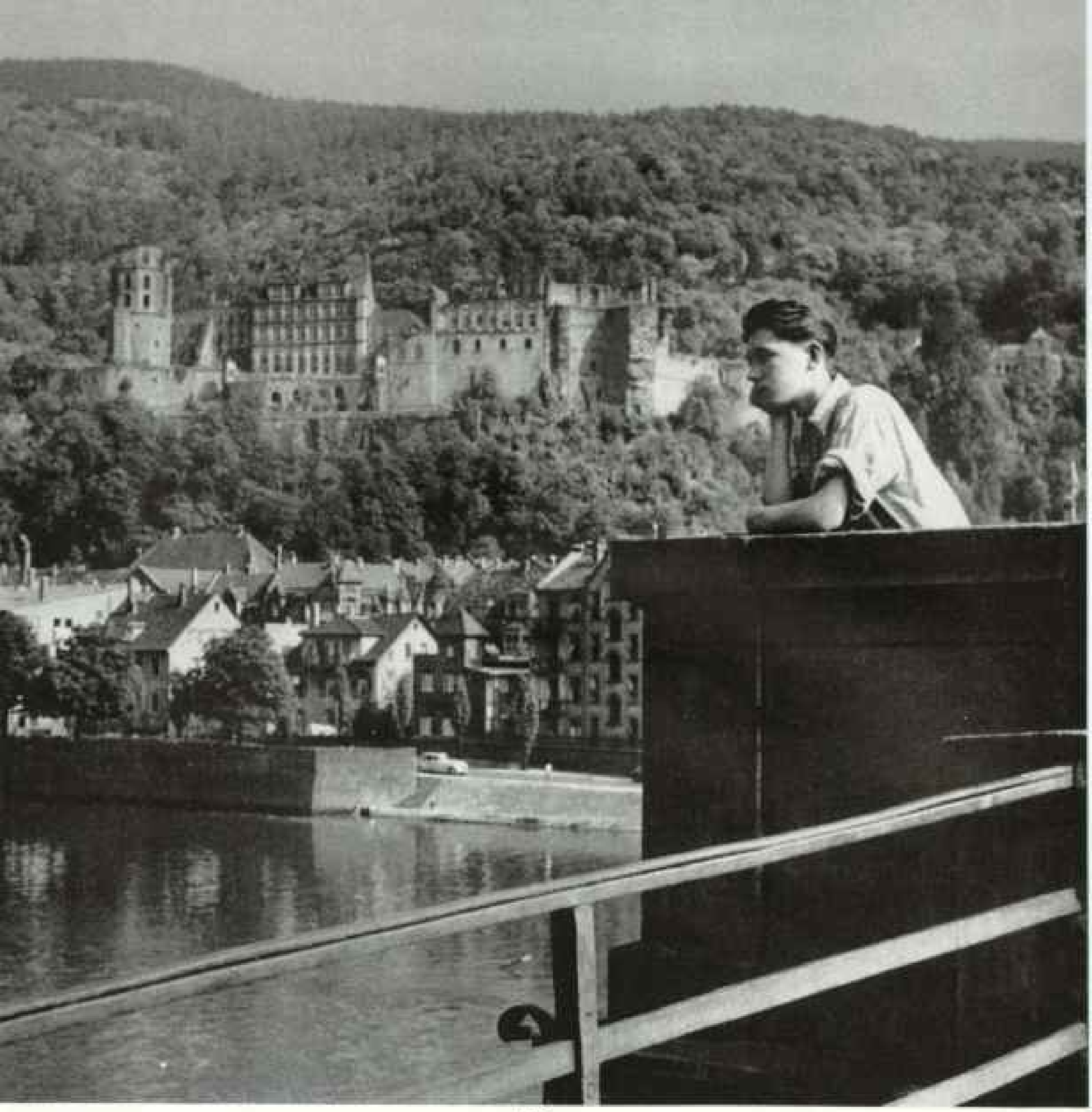
An impressive service was in progress. Priests carried candles; nuns knelt row on row, and other beautifully garbed priests served at the altar. Hundreds of townspeople stood on the ancient stone floor chanting prayers. It was a ceremony full of pageantry right out of the medieval period.

The girls were not to be found, so after waiting an hour I set off along the Rhine toward Bad Godesberg. Just outside the city I was suddenly engulfed by eight bicycles occupied by eight sparkling young ladies in green slacks and blouses. The Girl Scouts had arrived. Annabelle explained, "We were delayed packing. We've been pedaling like all get out trying to catch up to you."

I was introduced to all the girls—the beginning of a very pleasant relationship. We cycled together to Bad Godesberg, where we spent the night before embarking for Koblenz on the Rhine steamer (page 130). Vineyards covered the river banks, castles crowned the towering crags, and around us German holidayers sang lustily.

Debate on Anglo-American Affairs

We talked to an Englishman who was leading a group of young boys on a tour of Germany. He began to compare England and the United States, and in a few minutes had precipitated a lively and educational discussion involving his group and mine. With the help of the eight girls, I defended our culture. It ended on the friendliest terms.



The hostel at Kohlenz was bulging with energetic young people. I was surprised to find my meager German almost understood.

Before we started the next morning I found myself adjusting the gears and making minor repairs on the bikes of my eight friends. I had been doing this ever since we left Cologne. As Marilyn put it, "Everything seems to go wrong with the bikes now that we have someone to fix them."

A German boy of 17 who spoke no English asked if he could join me. When I informed him that I was traveling with eight girls, he wrinkled his nose in disgust, but decided reluctantly that he would go anyway. And so we welcomed Peter Klinz of Hannover to our happy group (page 133).

The strange procession—eight girls dressed exactly alike, an American chaperon (as I was affectionately dubbed), and a German mascot (Peter was quickly accepted by the girls, who considered him "darling")—wended its way along the east bank of the Rhine.

As we crossed the choppy river on the ferry to Bacharach, we could see the hostel, a magnificent turreted castle, brooding over the medieval village it was built to protect. We pushed our bikes up a steep path, but I forgot my weariness as we crossed the moat and passed through massive wooden doors into the courtyard (page 132).

The castle was like another world. I half expected a knight in armor to challenge us with a lance. Marilyn and I climbed the

136

A German Farm Family Holds Open House When Visitors Overflow the Hostel

A bed of hay in the barn (rear) cost author Nettis about 10 cents at this Titisee farm. Dawn finds the transients eating breakfast in the yard, eager to be on their way (page 138).

137

Breakfasting on Rolls and Apple Juice, Travelers Map Out the Day's Itinerary

Most hostelers go at a leisurely pace, hiking 10 to 15 miles a day or biking 20 to 40. Pack and sleeping bag shouldered by this German youth in the courtyard of the Heidelberg hostel weigh about 65 pounds.

winding stairs of the turret and looked at the Rhine stretched out far below us in all its grandeur. Atop a parapet a group of German Boy Scouts was singing rousing camp songs. It was the high point of my trip so far.

American and German Tunes Contrast

After supper, while hostelers from all over the world sat around the great knights' hall, a string band of German youngsters gave a concert of folk songs. I coaxed the girls into singing a few American melodies. Their soft harmonies were in contrast with the lively German music. "Go Down, Moses" ended a wonderful evening.

Despite protests that he didn't plan to go to Frankfurt, Peter found himself maneuvered onto the steamer we boarded the next afternoon for Bingen. We knew that the real reason for his reluctance was that he couldn't afford the fare. The non-German-speaking Girl Scouts pretended they didn't understand his protests. When he turned desperately to me to translate, I shrugged my shoulders. We all chipped in for his fare and the *Apfelsaft* (apple juice) we had on the boat.

The steamer dropped us off at Bingen, where we had an hour before the train left for Frankfurt. The girl travelers flowed through the souvenir shops of the town. When we met at the station, Gail had a delicately carved cuckoo clock, Marilyn a green kerchief with the crests of the West German States, and Jane was tinkling a dainty bell stamped BINGEN.

The hostel at Frankfurt was large and new, with a beautiful patio and even hot water for showers. As it turned out, the eight girls got to the showers first, leaving me with a decidedly lukewarm soaking.

The next morning was brilliant and cloudless, Heidelberg was 50 miles south on a straight, flat road, and after a delightful leisurely ride we cycled into the hostel by 5 o'clock.

Peter Proud of Scout Pin

Peter had grown very fond of the girls, but was too shy to admit it in their presence. In the dorms, however, he never failed to show off the Girl Scout pin they had given him.

The girls left the next day by train for Munich, but we planned to meet in Lindau in three days. I decided to spend the day sightseeing with Peter.

Taking pictures in Heidelberg's University

area, I was suddenly surprised with, "Hey, Joe, how've you been?"

It was Syb and Biff, whom I had not seen since Cologne. They both sported brand-new lederhosen. Too often, I had noticed, these heavy leather shorts creased peculiarly, giving the wearer a bulgy look, but not on these two trim girls. Talking all at the same time, we exuberantly exchanged adventures, and parted with another promise to write when we returned home.

Early the next morning Peter and I pedaled through Heidelberg to the *Autobahn*, where we hitchhiked to Freiburg. That wasn't quite where we had planned to end up, but we were in no mood to quibble.

Soon we were on our way through the famous Black Forest. Dense areas of tall pines contrasted with rolling fields dotted with farmhouses. The road grew steeper, the vistas more magnificent. I stopped for a picture of a particularly impressive view when I heard a familiar voice, "Here's Joe again, always taking pictures."

It was Syb and Biff, still in their lederhosen.

"I thought you were on your way to Garmisch," I said. "That's 160 miles from here."

"We were, but we got such a good ride to Freiburg in a truck that we decided to take the long way around."

The hostel at Titisee was full, but they sent me to a near-by farm where for 10 cents

I was allowed to spend the night. I followed the old farmer's wife into the barn where she pointed to a pile of hay in a corner and bade me goodnight. Two other hostelers were already asleep. As I filled my diary, I became conscious of a strange shape moving on the wall. One look told me it was only a long-legged spider walking across my flashlight lens. The barn was teeming with spiders, grasshoppers, and flying bugs, but I slept very well indeed (page 136).

Syb, Biff, and Peter started out early the next day, the girls for Garmisch and Peter promising to meet me in Lindau, where the Scouts were waiting.

Missed Boat Forces a Long Ride

I took a train to Konstanz on the Boden See, where I had only five minutes to catch a steamer to Lindau. The station was crowded. My steamer was barely 50 yards away, but the tracks lay in my path, and just as I reached them the barrier lowered for an oncoming train. I pleaded with the guard, but he only shrugged his shoulders. The barrier finally lifted just as the vessel left the dock.

There was nothing for me to do but take a boat to Friedrichshafen and pedal 14 miles to Lindau in the chilly night air. But the reunion with my Girl Scout friends and Peter made it worth while.

The next morning we said a sad farewell to Peter, since he had no passport to cross the border. After a final *Auf Wiedersehen* we set out for the Austrian border on our way to Switzerland. I immediately resumed my old role of bicycle fixer-upper. This gear was jumping, that chain was slipping, the other wheel was wobbling. It was like old times.

↑ Climbers Hike Toward Jungfrau's Forbidding Face

One of Switzerland's most famous peaks, a rugged wall of stone and snow, looms above a green-floored valley.

Near Wengen this path leads to the Eiger Glacier, a huge river of ice and snow at the base of the mountain. There the author and his companions pelted one another with snowballs on a hot July day (page 143).

➔ Souvenir emblems studding a hosteler's cap catalogue his travels.

Trying to adjust to the new currency every time we changed countries confused the girls.

"How many *Schillings* equal a *Deutsche Mark?*"

"What can you buy for 80 *centimes?*"

"Is 6,000 *Groschen* as much as it sounds?"

They frantically checked the exchange tables, shrugged their shoulders, and decided to let Annabelle continue handling the money.

Shortly after we entered Switzerland it was time to part again, this time presumably for good.* I was going to Luzern, Interlaken, and then Italy, while my fair companions would travel through northern Switzerland to France. Again the farewells and the promises to write. My address book was bulging.

At St. Gallen I took a train to Luzern. What scenery! It was the first time I had seen really high mountains. Soaring craggy

* See "Switzerland Guards the Roof of Europe," by William H. Nicholas, NATIONAL GEOGRAPHIC MAGAZINE, August, 1950.

Gondolas Glide Down the Grand Canal, ➔ Celebrated Main Street of Venice

"Italy's most exciting city," the author calls Venice. "Rippling waves, soft guitar music, and lavish marble palaces create a fairyland" (page 144). The Grand Canal splits the city into unequal parts. The 500-year-old Church of San Giorgio Maggiore tops an island opposite the piazzetta of St. Mark.

➔ Mr. Nettis, momentarily lost in the maze of canals, studies a guidebook. Signs above his head direct visitors to lace and glass shops across the bridge.

141 Kip Ross, National Geographic Staff

peaks, topped with snow, stood out unnaturally like cardboard stage flats set against the level lake region through which we were skimming.

At the Luzern hostel I met Bill Bowden from Purdue University. As we walked near a covered bridge, we were stopped by an attractively dressed woman.

"Could you tell me what time it is?"

"Yes, it's 2:20."

"My husband said he'd be here at 1:30. He's probably buying one of those cuckoo clocks with the little girl on the swing. I can't stand them. They seem alive. Everything on them seems to move."

Just then a burly 6-foot-3 hunk of Texas strode up.

"Look, honey." He held up a box. "I just went and got us the cutest cuckoo clock you ever did see."

Bill and I walked quietly away.

To make better time, I shipped my bike to Chiasso on the Swiss-Italian border and took a train for Lauterbrunnen by way of Interlaken.

Train Scales Rugged Mountains

The trip was the most visually exciting I had ever taken. The train wiggled its way toward the very heart of the Alps. It ran through the flat, green valley between mountains and then precariously hugged the side of the same mountains, looking down on the smooth, river-gashed fields below. We sped along a travel-poster lake and then slowed to a bumping crawl as the cogs engaged to get us up a steep incline.

Lauterbrunnen is a tiny village wedged in on three sides by mountains. I hopped off the train and asked a heavy-set cigar smoker for directions to the hostel.

He pointed high up a pine-covered mountainside.

"See that little red roof up there? That's

it. You either walk up or take the railway to that town on top of the mountain and walk down."

With my saddlebags slung over my shoulder, I trudged up the twisting road to a typical Swiss chalet. Bill, who had arranged to meet me here, appeared and led me through to the porch. I caught my breath. Before me was a panorama I shall never forget.

About five miles away was a seemingly impenetrable wall of stone and snow, the beautiful Jungfrau. Spread out below us and leading like a road to the Jungfrau's base stretched the green velvet floor of the valley. Little specks, the houses of Lauterbrunnen, dotted both sides of a gushing stream. Across the valley was another solid mountain wall, shingled with tall trees and laced with wire-thin, snow-fed waterfalls which hurtled hundreds of feet down and disappeared in a cloud of spray.

Painfully inching its way up the mountainside was a railway, looking like a very old man climbing an endless ladder. All that afternoon, large fluffy clouds moved in slow motion across the intensely blue sky. Later, as the sun set, the jagged peaks caught fire, vibrating gaudily in impossible hues of orange and red.

The next morning, Bill and I, with two German girls and an engaged couple from Belgium, hiked to a glacier near the Jungfrau. It was hot, and we soon stripped down to T-shirts or blouses.

Frequently we heard a distant, muffled roar. We'd look up quickly just in time to see a zigzag crack form and a huge chunk of snow slither crazily down the mountain wall. Finally we reached the Eiger Glacier, where we pelted each other with snowballs for half an hour (page 138).

The next day Bill and I went our own ways. It occurred to me, as we shook hands, that a lot of this trip consisted of making friends and then saying goodbye to them.

Five good hitchhikes took me in one day across the serpentine St. Gotthard Pass and into Chiasso, where I was reunited with my bicycle. I crossed the border into Italy without difficulty and soon was biking along in my fifth European country.*

The hostel in Milan held a type of traveler different from those I had met in Germany. There were no very young girls or boys, and no large organized groups.

New Experience in Eating

In the kitchen I found a girl peeling a thin skin from an unidentifiable object. I asked what it was.

"An octopus," she answered, with a French accent.

"I must confess that it doesn't look very appetizing," I said.

"Ah, but wait till I am done. I will let you taste it."

After she had rolled it in bread crumbs and fried it, she offered me a piece. It was shriv-

*See "Italy Smiles Again," by Brig. Gen. Edgar Erskine Hume, NATIONAL GEOGRAPHIC MAGAZINE, June, 1949.

Page 142

← Past and Present Merge in the Ageless Beauty of Florence

Standing on a rooftop, the author photographed the Piazza della Signoria, political center of Florence. Steps at lower right lead into the castlelike Palazzo Vecchio, the city's town hall. Nymphs and satyrs edge Bartolomeo Ammanati's Fountain of Neptune; Grand Duke Cosimo I rides a bronze horse at left. The slender campanile of the Badia church and the tower of the Bargello museum rise above crowded pink roofs. The hills of Fiesole form a green backdrop.

→ Overhanging gallery and clock tower of the Palazzo Vecchio reflect in the sunglasses of an Israeli hosteler.

Rise and Shine! Late Sleepers → Fare Poorly in Bustling Florence Hostel

The shelter adjoins an open-air movie theater. At night boys stand on their beds and lean from the windows to watch the films. Joining the free viewers, the author watched a Hollywood musical with dubbed-in Italian dialogue.

Overnight lodging at this 250-bed hostel costs about 30 cents.

eled and rubbery and tasted something like scallops. It was almost delicious.

The next day I explored Milan. I was fascinated by the immense railroad station, the intricately sculptured Cathedral, the charming La Scala Museum and Opera House, and the roomy old castle in the park.

Back at the hostel I had just checked in for the second night when two familiar voices rang out. "Joe, you old rascal!" There was no need to turn around. Syb and Biff had turned up once more.

"Gee, it's good to see you characters again." Then I took a good look. "Oh, no! You've cut your hair! It's as short as a boy's. First lederhosen and now Italian haircuts. You sure are becoming continental."

"Now, Joe," Biff said innocently, "you know that underneath we're still our unspoiled, unsophisticated selves."

When we parted the next morning we didn't even bother to say goodbye, just a wave and "I'll be seeing you."

Hitchhiking to Venice

I shipped my bike to Imperia, a small town on the Italian Riviera 70 miles southwest of Genoa. Dressed in shorts and with an American flag hanging from my saddlebags, I set off to hitchhike to Venice, 160 miles from Milan.

Eight rides later, at 9 o'clock, chilly and hungry, I arrived in Venice. Two hot cups of coffee and a doughnut revived me spiritually and physically, but it was unnecessary, for the ride down the Grand Canal of Venice would have done just as well.

It was fairyland. Blue and green floodlights illuminated the fantastic lacework façades of the palaces. The rippling of the waves, the soft music of unseen guitars, and the shadowy, silent gondolas cutting knifelike through the water all merged into a scene from another world. I found myself unconsciously humming the "Barcarolle" (page 140).

The hostel was full, but I was given an address somewhere along the run-down waterfront where I might get a bed for the night.

As I walked, barefoot boys were chasing a black dog, women leaning out of windows shouted to those walking below, bursts of laughter came from bars. The street grew lonelier and darker.

I finally found my address, swung open the door, and was hit by a dank, musty smell. At the end of the pitch-black hallway a weak bare bulb illuminated a shaky stairway.

I walked up two flights to a dimly lit door, reinforced with many iron strips. I knocked and waited. Everything seemed so melodramatic. "All I need now," I thought, "is to have a wrinkled old face peer out cautiously."

The stillness lasted for long moments and then I heard three heavy bolts being slid open. A wrinkled old face peered out cautiously.

The old woman shook her head when I indicated with gestures that I wanted a bed, but her tall, handsome nephew came to the door and, in good English, politely invited me in-

side. I entered a room whose elaborate inlaid floor, intricate decorations, and sheer vastness hinted at a long-lost grandeur.

"My aunt says the beds are all taken by boys from the hostel. But we can put a thin mattress on the floor. It will not be too comfortable, but you are welcome to it."

I accepted gladly, and fell asleep as soon as my head touched the mattress.

Armed with a map, I spent two days rummaging around the city from the slums to St. Mark's Square, where the pigeons easily outnumbered the people.

When I unpacked my suit, which had remained neatly folded for 30 days at the bottom of my carrier pack, I found that the creases were so well defined that it looked as if it were made up of foot-square sheets of blue metal. After half an hour of industrious ironing it looked almost respectable, and I wore it to a symphony concert in the square.

My next stop was Florence, 140 miles distant (page 142). This day my rides were quite varied: a scooter driven by an elderly woman, a slow truck loaded with steel, a tiny Renault with two gesticulating businessmen, a panel truck that developed a flat tire two minutes after I hopped inside, a tiny Italian coupe where I was telescoped into the back seat with a poodle who eyed me with a great deal of mistrust.

Hostel Yields New Friends

In the Florence hostel I made new friends. There were Max, a Swiss business student; Bruce, a red-haired mathematician from Ohio; Judy and Miriam, two Israeli girls who had fought for their country; Marsha, a Baltimore architectural student; Sergi and Victor, two Parisians; Clint, a Japanese American

146 Karl Gullers, Magnum

An Emperor's Monument Towering Above a Piaza Reminds Modern Romans of Their Heritage

Dominating the Piazza Colonna, this column honors Marcus Aurelius. Spiraling reliefs depict his victories; St. Paul crowns the shaft. *Carabinieri,* special police (left), wear tricornes. The kiosk advertises daily papers.

from California; and others. We described our native lands, told what we did back home, and engaged in political debates. Here was one of the biggest advantages of hosteling, the fruitful contacts with the youth of the world.

Florence contains many art treasures, but the one which I recall most vividly was the statue of David by Michelangelo. As I entered the Gallery of the Academy of Fine Arts, I saw the magnificent marble figure bathed in light at the end of a subtly lit hall. I was so moved that, like many others around me, I sat down and gazed meditatively at this immortal creation of mortal man.

Trouble at the Post Office

The shops and stands of Florence bulge with all varieties of leatherwork from matchbook covers to handbags. A little haggling with the vendors yielded three attractive handbags at bargain prices.

The bags were too bulky to carry with me, so I wrapped them for mailing. For 45 minutes I worked on that package, finishing with a double binding of very strong cord.

The next morning I brought my indestructible package to the post office.

"But, signore," the clerk said politely, "it must be registered by the customs officer." After half an hour's weary search I found the customs office on the other side of town.

"It is necessary that we inspect the contents," said the unsmiling clerk. "You will please unwrap the package."

"But it was not required of me when I mailed a similar parcel in Switzerland," I protested.

"Perhaps, but now you are in Italy... please."

Sadly I cut the cord. I had made the knots so tight they couldn't be untied. After the inspector okayed the package, I repacked everything. The last cruel blow came when I was charged 50 *lire* by the official for a new piece of cord!

In Rome, History Is Beside You

I was confident I could hitchhike to Rome in one day, but my luck ran out. Dusk found me in the lonely mountains of central Italy, halfway between Florence and Rome, stranded near a small village with the closest hostel miles away.

My luck smiled again as I met a young Frenchman who had also run out of rides. He had a pup tent, and within half an hour we were eating our supper beside our newly erected shelter. The next morning a car finally responded to my wave, and in three hours I was in the City of Fountains.

With palm trees and tables set in an attractive patio, the Rome hostel had a country-club atmosphere, but it was full. I went to a *pensione*.

There was much to see in the Eternal City. In the United States we marvel at colonial homes perhaps 200 years old, but in Europe the far older past is always in view. Here ancient history can be touched, entered, prayed before, lived in, eaten at, walked on, and sailed over (opposite).

While haggling with a vendor of guidebooks near the Colosseum, I saw three girls in familiar green outfits. I rushed up to Annabelle, Marilyn, and Red, the Girl Scouts.

"What are you doing in Rome?" I asked delightedly. "You were on your way to Paris when I left you in Switzerland."

"We were halfway through Switzerland," Red answered, "when we decided our trip would be incomplete if we didn't see Italy. So we took a train down here."

The four of us toured the magnificent ruins and agreed to meet the following day at St. Peter's Piazza in Vatican City.*

Two Coins for the Fountain

There, in the vast piazza where the Pope speaks to crowds from the balcony of St. Peter's Church, we brought each other up to date on our travels. Then we explored the Vatican museums.

That evening blond Marilyn and I walked down to the world-renowned Fountain of Trevi and, like countless others before us, tossed coins into the water (page 148).

"I'll meet you in Rome in a couple of years," I said.

"Okay, it's a promise."

I hurried Marilyn home to the YWCA just before the midnight curfew. The next morning the eight wanderers set out for Paris.

On my last night in Rome, two friends and I followed the crowd to the ruins of the Baths of Caracalla along the Appian Way to see the opera *Aida*. The vast stage was set between two colossal columns of the bathhouse, completed A. D. 217. A capacity audience sat on wooden seats under the clear night sky.

* See "The Smallest State in the World," by W. Coleman Nevils, NATIONAL GEOGRAPHIC MAGAZINE, March, 1939.

148 National Geographic Photographer B. Anthony Stewart

Rome's Fountain of Trevi Catches the Coins of Romantic Travelers

If the departing visitor throws a coin into these waters, he will return, tradition promises. Youngsters who fish out the money profit most from the custom. Neptune rides a winged chariot above the basin.

"How Much? . . . Too Much!" Travelers Haggle with a Sidewalk Merchant in Cannes

"Bargaining for goods in Europe is great sport," says the author, "but I was meeting little success with this rug-draped North African until the Algerian hosteler at left came to my aid and acted as interpreter. Israeli girls examine the silver bracelet which I later purchased."

The gloomy ruins in the background were perfect props for the ancient setting of the opera. It was a wonderful climax to my stay in Rome.

I went by train to Naples and on to Pompeii, destroyed when Vesuvius erupted nearly 19 centuries ago. Excavations have uncovered many of the temples and villas, but other sections of this ancient graveyard are still half buried under ash and pumice stone.

Sun Accents Tragic Atmosphere

The brilliant sun had reduced the roofless walls and fluted columns to a world with no middle tones, only dark shadows and glaring highlights. The black figures of the visitors walking in the shade only heightened Pompeii's strange feeling of death.

In sharp contrast to the ruins was the hostel near Sorrento. Perched on a cliff overlooking the Isle of Capri and surrounded by lush vegetation, it was all that Pompeii was not. On the rocky, black-sanded beach I washed off Pompeii's dust of centuries.

The next morning I took a bus to Sorrento, whence a boat sailed to the Isle of Capri. The way the bus tore around the narrow mountain road made me doubt we'd reach our destination. Horn blowing seems to be a prerequisite for a driver's license in all of Europe. Our driver lifted his hand from the horn only when making a particularly difficult turn.

Our ferry carried a happy group of holiday-makers to the twin-peaked chunk of limestone. A boy with an accordion played Italian songs in the back of the boat, and as we sang the mist lifted to reveal the pastel-colored houses which seemed pasted on the mountainside, one row above the other.

As soon as I landed, I was swept with the crowd into the funicular station. A cable car carried us up to the town of Capri, called by my guidebook "The Vacationland of Millionaires." Expensive restaurants, shops, and travel agencies lined the spotless streets. Tanned, handsome tourists wore the latest sports clothes. And from high on the mountain I could see a vast display of yachts,

motorboats, and sailboats in the fantastically clear water of the Gulf of Naples.

I trotted down the fiercely beautiful cliffs to a small pebbly beach where I changed into bathing trunks and mingled with the Bikini-clad crowd. A man in diving goggles emerged from the water, dragging a good-sized octopus he had speared. He tossed the slippery creature on the beach near me, where it occasionally lashed out weakly with a tentacle. I left the beach to the octopus and took the boat back to Naples, where I caught a train to Rome.

Back to the Bicycle

I spent the night in Rome and left by train the next morning for Genoa, 275 miles and eight hours away. I was eager to get back to my bicycle and start some real exercise again.

Past the window of the train flashed a montage of the country I was leaving: long fields with huge melons, the Leaning Tower of Pisa, the rocky Mediterranean coast, the dark tunnels, blocks of Carrara marble, a lonely farmhouse still pockmarked with bullet holes from the war, old women working the fields, ox-drawn wagons invisible under preposterous loads of hay.

I picked up my bike at the Imperia station and spent the night at Bordighera.

The next morning I set off for Nice, France. It was a scorching day, and the roller-coaster roads, while providing thrilling views of the palm-covered coast, made pedaling strenuous. After crossing the border easily, I entered Monte Carlo. The famous Casino looked just the way I pictured it: white, elaborately decorated, stately, and . . . too expensive. I couldn't afford to pay 300 francs admission to look at the gaming rooms.

At the hostel in Nice I met a youth from Haiti who was studying engineering in Paris. He spoke English with a soft French accent. That night we sauntered along the fabulous Promenade des Anglais, fascinated by the night life of this famed resort town.

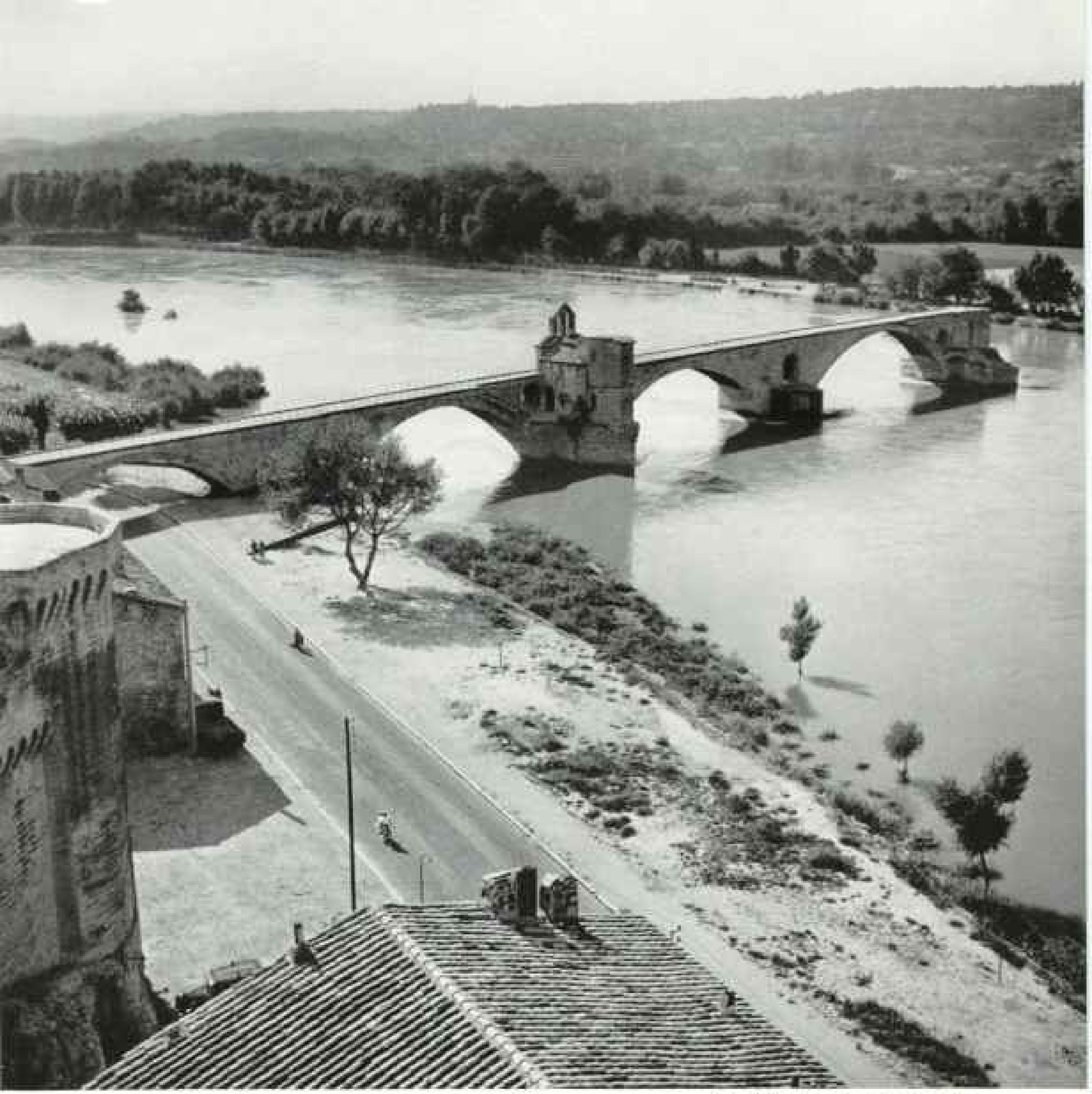
In Cannes I boarded a steamer for the island of Ste. Marguerite, visible in the Gulf of Napoule. Rising out of the sheer cliffs of the north side of the island was an immense fortress which once imprisoned the "Man in the Iron Mask," immortalized by Alexandre Dumas. It is now run as a historical attraction. The French Hostel Association had been assigned one of the large turreted buildings.

Slacks to Frills in 10 Minutes

The entire setup was perfect for young vacationers. During the day they would sunbathe, swim, or go skin diving in the numerous secluded, rocky coves. At night they could dance to scratchy records on an open cement floor or simply strum a guitar and sing.

Theoretically, three days was the longest one could stay at any hostel in Europe, but many managed to stretch their holiday here to a week.

A Tandem Leads the Way as Cyclists Play Follow-the-leader Down a French Highway



151 Howell Walker, National Geographic Staff

St. Nicholas Chapel Juts from a Pier of the Pont d'Avignon, a Bridge to Nowhere

Immortalized by the children's rhyme, "Sur le pont d'Avignon, tout le monde y danse en rond" (On the bridge of Avignon, everybody dances in a ring), the bridge once spanned the Rhône. En route to Paris, the author spent a quiet Sunday in the walled city of Avignon, famed in medieval times as the papal capital.

I never ceased to marvel at the girls who went hosteling. Many of them would enter the baggage room dressed in mannish-looking slacks and jackets, but after 10 minutes of primping and changing to skirts they would emerge as sparkling examples of femininity and charm.

It was a biting cold morning when I cycled southwest along the Riviera to St. Raphaël. The leaden sky opened up and a steady rain lasted the entire day. I sloshed over the mountain roads with water trickling over my face and into my shoes. When I reached Fréjus I was thoroughly soaked.

Next day the sun was shining brightly as I headed out on the flat road to Avignon. But the wind was blowing so strongly that I was stopped dead in my tracks. I might just as well have been on a bicycle exercising machine.

I flagged down an Avignon bus and with my bicycle on the roof rack I settled back for the three-hour ride. Avignon, like many medieval communities in France, was a walled city; and here the wall is largely intact. It was the papal capital during most of the 14th century; the great Palace of the Popes is still one of the town's main attractions.

152

Paris Houses Her Art Treasures in the Louvre, a Palace Where French Kings Dwelt

Eight thrill-filled days in Paris climaxed the author's tour and left him longing to return to the City of Light. "Words cannot do justice to its many-faceted personality," he writes. In the galleries of the Louvre he watched artists paint large-scale copies and eye-straining miniatures of the world's masterpieces. A copy of *The Last Supper* by Leonardo da Vinci hangs at right, with Titian's *Entombment* centered beneath.

The hostel was ideally situated on the north side of the Rhône overlooking the palace. At night we looked across the water to see the wonderfully turreted walls ablaze with colored searchlights while a voice boomed out the history of the city.

The next morning I cashed a $20 traveler's check. I had only one more left. A sudden emergency could leave me with very little capital.

Alternately cycling and getting lifts on trucks, I arrived at the hostel in Valence. There a Frenchman came over to me.

"I see by the register that you are from Philadelphia. In 1943 when I was in the French Navy, our cruiser stopped at your city, where I met a young lady. If I give you her name and address, will you call and tell her Pierre says hello?"

"Certainly."

He handed me a slip of paper.

"Why, she lives only 10 blocks away from me, but it's been over 11 years. Perhaps she has forgotten you."

He brightened up with a broad smile. "Oh, I am certain she will remember Pierre!"

I found out the next day that hitchhiking in France was very difficult. Finally I took a bus to Lyon and went looking for transportation to Paris.

Bus travel would be cheapest, I found, but they wouldn't transport my bike such a long distance. If I took the train, I could carry the bike, but the fare was $10.

I decided to try my luck one last time as a hitchhiker. I spent the night at the Lyon hostel. It was pouring steadily the next day. I waited two and a half hours, but no ride was forthcoming. Soaked to the skin, I rode back to town and bought a train ticket to Paris. It looked as if the rain would last a long time. The *Seven Seas* sailed on September 3, and I knew she wouldn't wait.

It was still very cloudy and damp when we hit Paris at 8 o'clock. I cycled to a small hostel in the Malakoff district. The woman in charge spoke excellent English.

"Ah, my friend," she said, smiling. "I am afraid you are too late. Every space is taken, even the emergency cots. The only thing left is the box my cat sleeps in, since she is always staying out all night. But I will tell you how to get to another place. It is only half an hour by subway."

Night on a Kitchen Table

"But I'm on a bicycle, and I am not familiar with Paris. I'll sleep anywhere, even on the table."

"Ah, the kitchen table. A good idea. Tomorrow we will try to find a respectable bed for you."

As I was eating my meat and cheese sandwiches, a South African sitting near by spoke to me.

"I say there, you just came in a little while ago, didn't you? I know the place is frightfully jammed. Where is your bunk for tonight?"

"You're eating on it now," I answered him.

My eight-day stay in Paris was a brilliant kaleidoscope of impressions: the spacious legs of the Eiffel Tower straddling the vendor selling miniatures underneath; the view from the top of the Arch of Triumph where the wide boulevards radiate like bright-green veins through a gray leaf; the Paris subway and its maze of direction signs; the medieval church containing television equipment for a special broadcast.

I walked along the bank of the Seine where homeless men slept huddled in their ragged garments. A solemn procession chanted its way to the Church of St. Louis, past young couples holding hands in the bright morning sunlight. I watched a merry-go-round operator trying to make an indifferent little girl, mounted on a wooden pony, smile. I recall the woman bent over a pile of sweepings outside a market, filling a paper bag with discarded fruits and vegetables; and the three men engaged in a violent argument over a painting one of them had just finished of the Church of the Sacré Cœur.

There were the garish neon signs outside the multitude of night clubs in the Place

"Souvenir of Paree, M'sieu?"

A bereted vendor hawks his wares beneath the Eiffel Tower's girdered legs.

154

An American in Paris: So Much to See, So Little Time

Body-jarring stone paving blocks forced the author to park his bike and tour on foot. Here France's Unknown Soldier lies beneath the Arch of Triumph. Sculptures re-create scenes of French military history.

Departing for Le Havre to catch a ship for home, Mr. Nettis found only 250 francs and a $5 bill remaining in his pocket.

Pigalle; the uniformed doormen urging strolling tourists to enter; the open-fronted shops where every variety of seafood was spread temptingly on the counters.

I remember a cripple lighting a candle in Notre Dame Cathedral; the famous Flea Market where you can buy almost anything—even a plate full of glass eyeballs; the windmill silhouetted against a vivid sunset; the expensively furred and bejeweled matrons and their husbands looking at colored pictures of show girls outside the theaters; the innumerable magazine stands and bookshops where students spend long hours looking but rarely buying.

A bartender gave me a beer when I thought I was asking for water. A patient little man with a black derby and a white poodle desperately tried to find a bank for me before they closed.

I watched wide-eyed children at the Sunday bird market; stared at a 1906 motoring magazine in a stall along the Seine, a stuffed horse in an antique shop, the one-minute sketch artist in the lobby of the Folies Bergère, the incongruously bearded youngsters talking with their hands at the café table in St. Germain des Prés.

City of Many Faces

All these merged into a Paris which makes all who have seen it long to return. It is the most beloved city in the world, and words cannot do justice to its many-faceted personality.

On Friday, September 3, I boarded the Council on Student Travel's bus, with many other young Americans, and headed for Le Havre and our waiting ship. My journey through Europe had taken nine weeks. I had spent $165 on gifts, camera, and film, and $230 for all other expenses. A $5 bill, looking very strange indeed after these many weeks, was in my pocket, with 250 francs—worth about 70 cents.

We sang familiar French tunes at first, and the French bus driver smiled, but soon we changed to nostalgic American songs. It gave me a warm feeling about the wonderful land to which we were returning.

And if any French farmer was listening closely that bright afternoon in Normandy, he might have been surprised to hear a bus singing:

"I've been workin' on the railroad, all the livelong day. I've been workin' on the railroad, to pass the time away. . . ."

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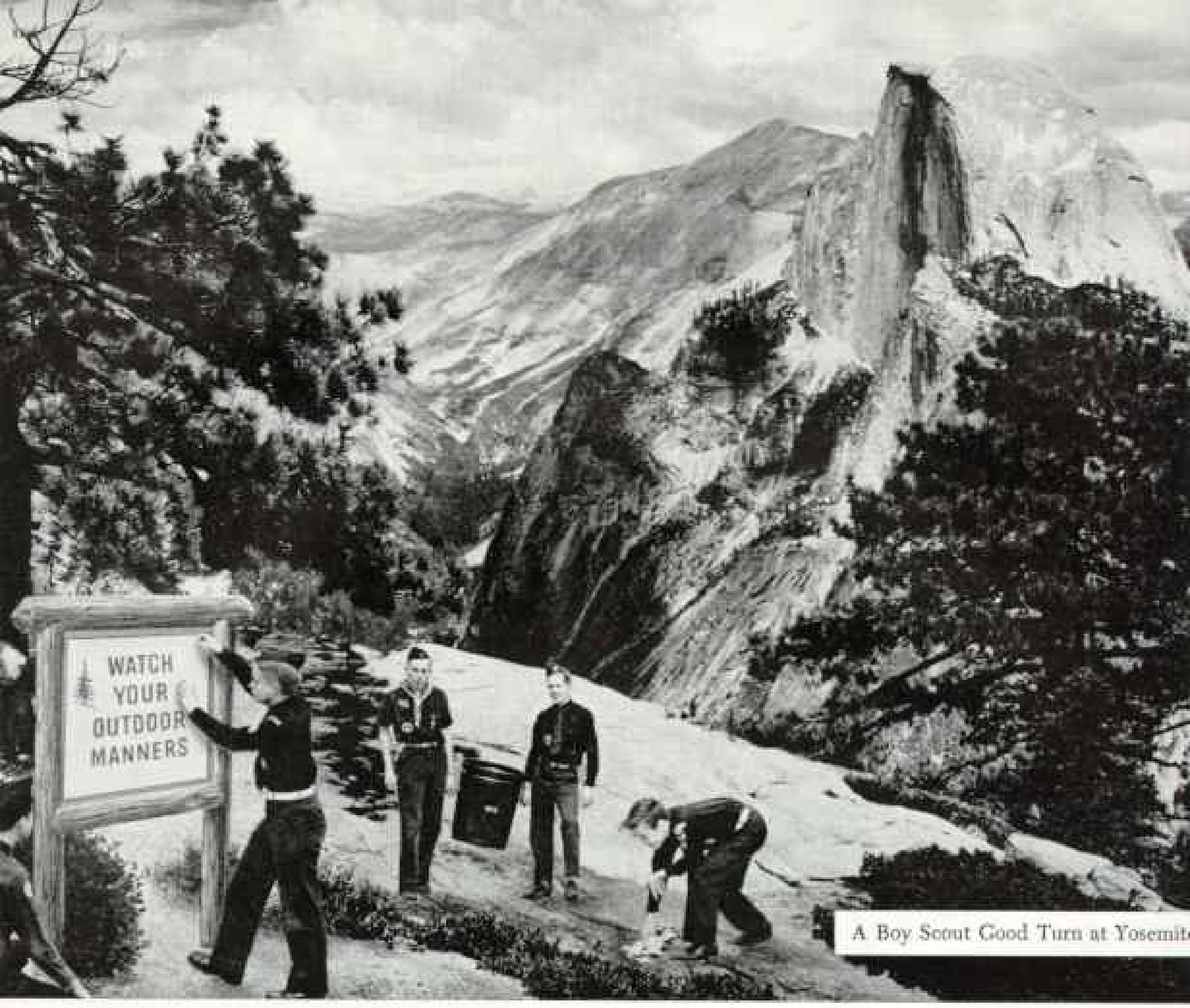

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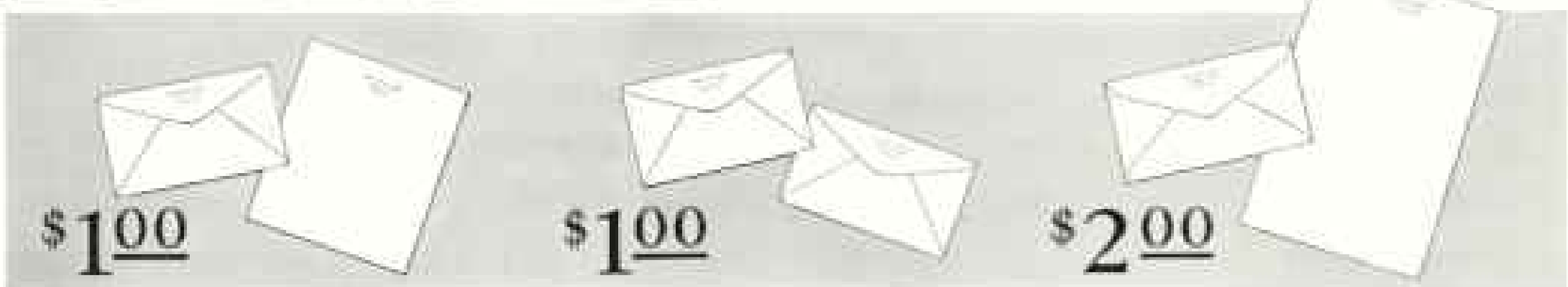

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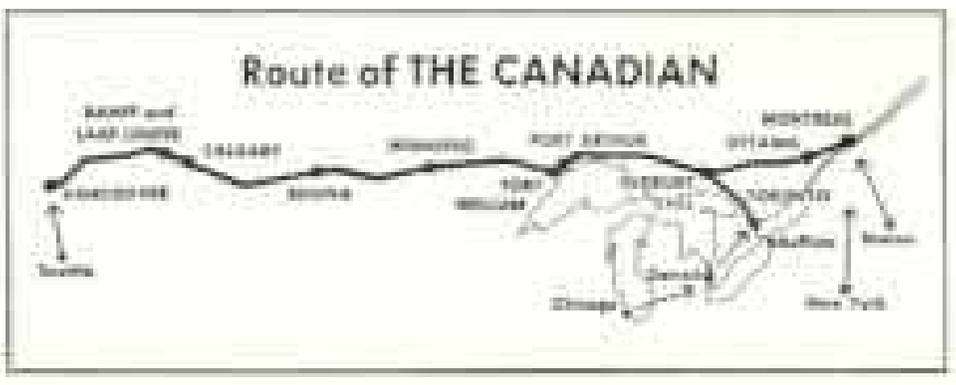

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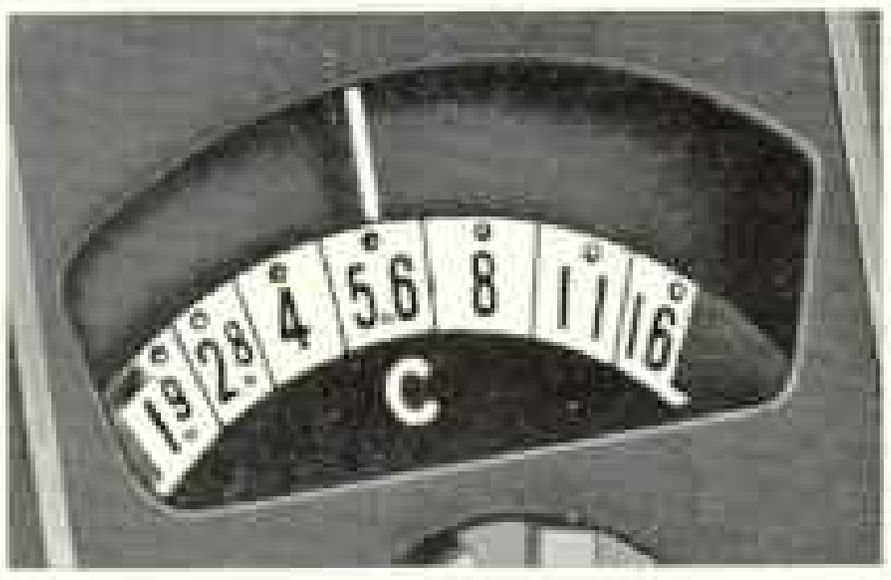

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Count 10 points for each question	Your Score	Perfect Score 100	Your Score
1. Are your brakes in proper working order?		**6.** Do you keep in line when nearing the top of a hill or a sharp turn?	
2. Do you carefully observe all traffic regulations, particularly about speed?		**7.** Do you take extra precautions about stopping during night driving?	
3. Do you watch movements of other cars and try to anticipate what their drivers will do?		**8.** Do you have your car checked before starting on a long trip?	
4. Do you always stop driving when you feel fatigued or ill?		**9.** Do you signal in ample time before stopping or changing direction?	
5. Do you drive with extra caution when pedestrians, especially children, are about?		**10.** Do you know the distances required to stop your car at various speeds?	

Every time you take the wheel . . . remind yourself that your driving is, at the moment, your most important responsibility. Then you will be a better driver, a safer driver. Most importantly, you will be doing your part to make our streets and highways less hazardous for everyone.

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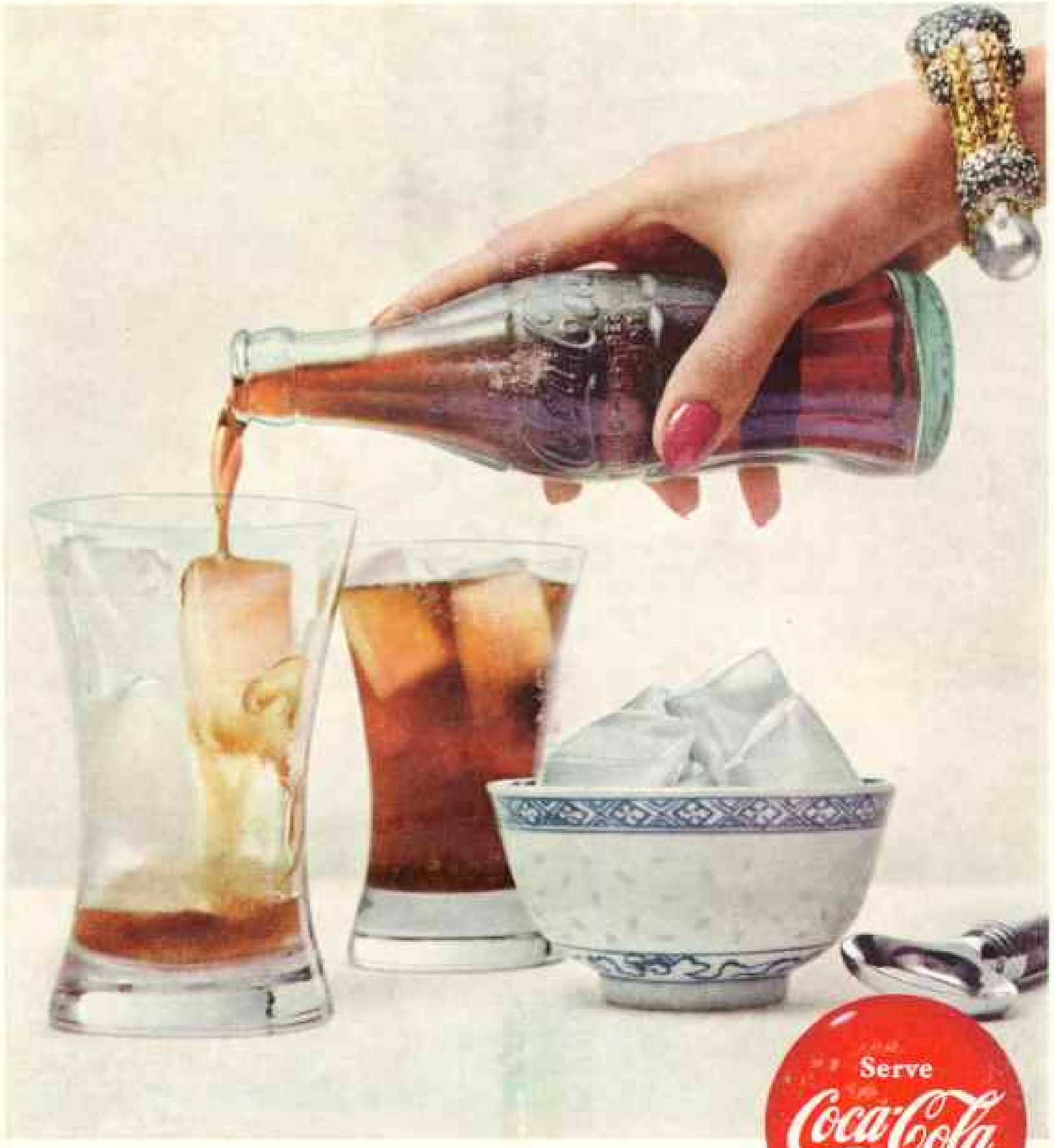

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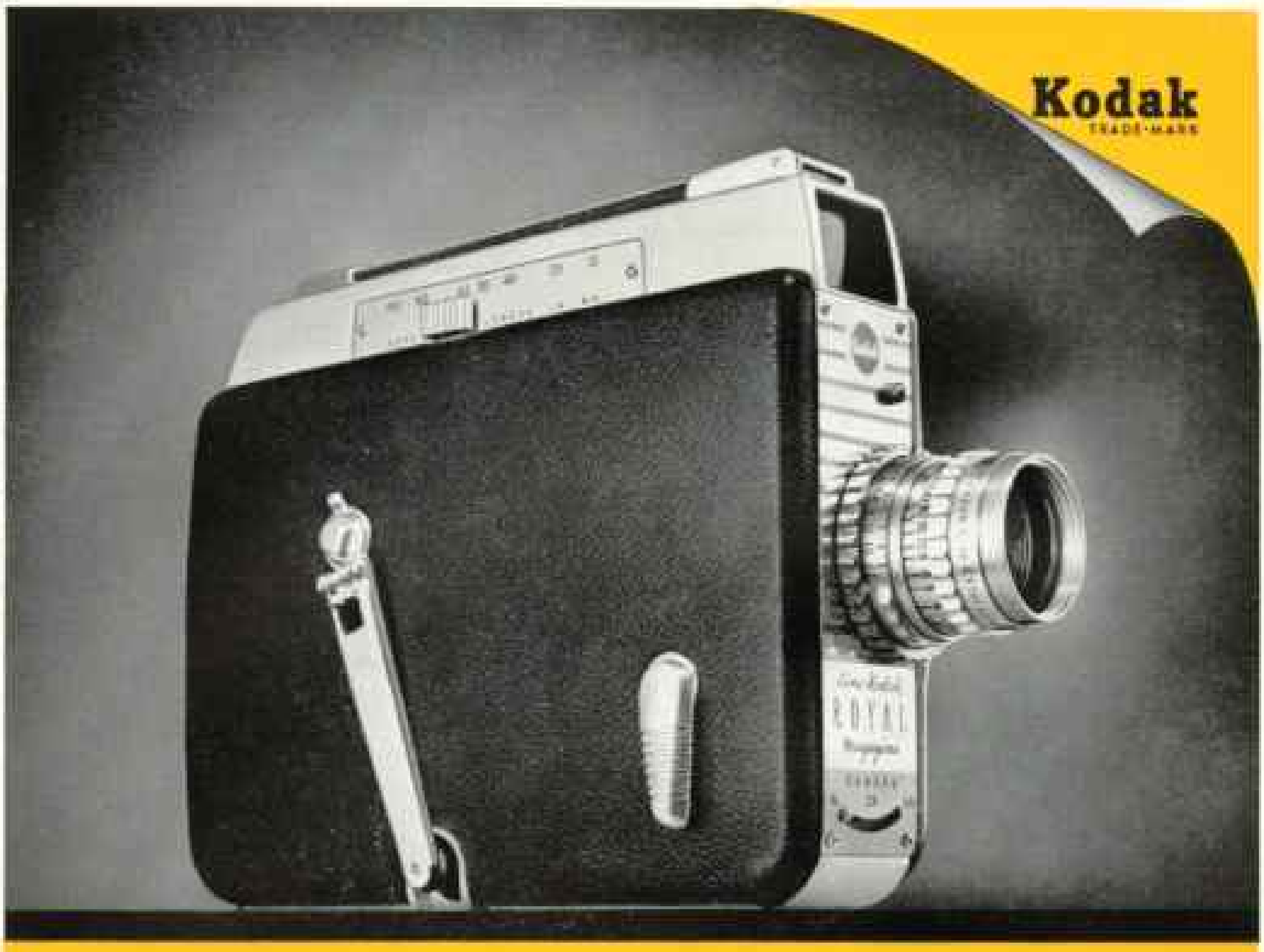

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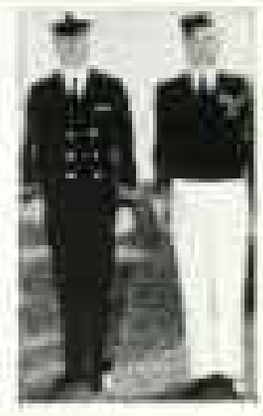

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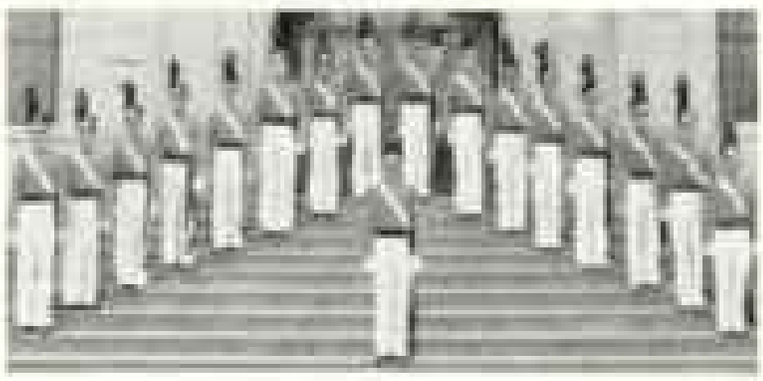

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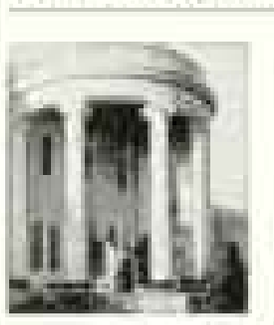

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