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THE NATIONAL GEOGRAPHIC MAGAZINE

JULY, 1945

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War's Wake in the Rhineland

BY THOMAS R. HENRY

Washington Evening Star Correspondent, First U. S. Army

THE castled Rhine Valley of song and legend, of Heine's *Lorelei* and Wagner's *Der Ring des Nibelungen*, today is a desolate land of rubble piles which yesterday were great cities, of highways strewn with the bloodstained, rain-soaked debris of fleeing armies, of scared and sullen people whose brief opium dream of world empire has burst like a land mine under a tank.

Such cities as Aachen, Düren, Cologne, and Koblenz essentially have ceased to exist (map, page 4). They must be rebuilt almost entirely to be habitable again, for today large areas, including their principal business and residential sections, are flattened deserts of stone and plaster strewn with rags, waste-paper, and fragments of furniture. Whenever the wind blows, these ruins are veiled in clouds of dust. In the cold spring rains they present a picture of dire and dreary desolation.

Often in western Europe's troubled history conquering armies have marched, both eastward and westward, over the low, spruce-covered Eifel and Hunsrück mountains and the flat, black, dismal Cologne plain, bringing with them tragedy and destruction.* But the effects have been relatively mild in the past, for no hostile troops hitherto had crossed the area since the start of the Machine Age, with its ever more terrible weapons of annihilation.

The Rhineland escaped very lightly in the last war. It was not entered by the Allies until after the armistice, and the military occupation of the country was exceptionally mild. There was no devastation. Contacts between the Rhinelanders and American, British, and French soldiers were, on the whole, friendly. About the only inconvenience suffered by the natives was that of providing billets in their homes for the occupation forces.

Soldiers fell in love with the land.

It is one of the most beautiful countries on earth, especially in spring with orchards in bloom, vineyards turning green on terraced hills and river banks, and forests whose great trees are in almost perfectly straight lines, without any undergrowth. They are like cathedral aisles. They are filled with the organ tones of falling waters. The sunshine through the high branches falling on the leafy floor is like light through stained-glass windows. Almost every American soldier who spent a few months there has felt a nostalgic longing sooner or later to go back.

War Plays Tricks of a Tornado

But far different is the picture today from anything the soldier of 1918 would remember. The greatest war tornado in all history has swept the land.

War, in fact, plays all the queer tricks of a tornado. It literally wipes one town from the face of the earth, while the town five miles away escapes nearly untouched.

I have just been through the greater part of the Rhineland campaign with the United States' First Army, to which fell the job of conquering the greater part of this area and establishing the first bridgehead across the Rhine which eliminated Germany's last good natural line of defense.

During the past three years of war I have seen many bomb- and shell-ruined cities. There was a constantly rising curve of destruction.

We used to look with horror on the devastation of the great French naval base of Bizerte

* See "Map of Germany and Its Approaches," 10-color supplement with the July, 1944, issue of the NATIONAL GEOGRAPHIC MAGAZINE, and page 7.

U. S. Army Signal Corps, Official

In High Spirits, Winston Churchill Crossed the Rhine While the Battle Still Raged

An American officer said the British Prime Minister, an old soldier, seemed "more perturbed about lighting his cigar in the wind" than about a shell which landed 50 yards away. With Churchill in the American-manned LCVP are Maj. Gen. John B. Anderson, Lt. Gen. William H. Simpson, Field Marshal Sir Bernard L. Montgomery, and Field Marshal Sir Alan F. Brooke (in cap right). The oceanlike horizon is due to censor's airbrushing of identifying shoreline.

during the Tunisian campaign of 1943. Day after day it was pounded by American and British medium bombers.

When troops of the U. S. 60th Infantry finally entered the city, there was hardly a habitable house left and only a few hundred citizens remained. We wondered how anyone could have stayed alive under the bombing, to the intensity of which the ruined blocks gave terrible evidence.

The Army moved on to Sicily and found that the destruction of Bizerte was relatively mild compared to the rains of ruin from the skies which had flattened the harbor districts of Palermo and Messina.

We passed on to France, and the devastation in Sicily seemed mild in turn compared to that of a few towns in Normandy. The worst example was the once lovely and prosperous market town and railroad center, St. Lô.

Here was a town which was little short of pulverized. It was not rubble. It was dust. Probably for all time it will remain the outstanding example of how thoroughly bombs from the sky and thousands of tons of shells from cannon can erase a city in a few days.

But while passing through town after town in the Rhineland in the last few weeks, we remarked, over and over again, "This is almost as bad as St. Lô." Sometimes, because of the dismal rainy weather, it looked even worse.

Not that the Allied Armies followed any deliberate policy of destruction. Quite the contrary. They withheld artillery fire, sometimes to their own disadvantage and against their better judgment, to spare historic shrines. Bombardiers were thoroughly briefed before starting, on their missions on spots which, if possible, should not be hit.

Rhinelanders Sullen, Bewildered

But war is war. These towns and cities resisted—often foolishly and hopelessly. Destruction was the only alternative to losing lives of Allied soldiers in clearing the way to the Rhine.

The Allied soldier of 1918-19 would hardly recognize the Rhinelanders today. Then they were a rather pleasantly ingratiating folk. Now the troops passing through get only looks of sullen hatred from the people on the sidewalks.

Bert Brandt from Acme

GI's Provide Music for a Merry-go-round at a Belgian Carnival

In Verviers, near the German Rhineland border, joyous citizens gave their liberators a wild reception. These two are enjoying their last chance to play before plunging into enemy territory. The German population of near-by Eupen, also in Belgium, gave conquering Yanks a chill welcome (page 4).

The Rhinelanders are bewildered. Until a few weeks before V-E Day most of them honestly thought that Germany was winning the war. Such had been the effect of Goebbels' propaganda on the average citizen (page 10).

Suddenly they heard of Allied tanks only a few miles away, and a few moments later the tanks were rumbling and belching fire through their streets. But they also are mad—mad at Hitler, mad at the Allies, mad at everybody in the world except themselves.

There are, of course, exceptions—doubtless lots of exceptions. In nearly every town it has been possible to find some responsible citizens willing to cooperate.

There has been from the first a strict ban on any fraternization between the populace and the Allied soldiers. Fines ranging from $50 to $125 have been imposed for engaging in casual conversations with Rhinelanders; so the soldier has not had much opportunity to judge his unwilling hosts except from necessarily superficial observations. These have not been favorable.*

Apparently, aside from the disruption of life due to bombing, the Rhinelanders suffered few hardships during the war. They are well fed and well dressed. Huge stores of wines and liquors have been uncovered in almost every town.

In one small city an American division found itself in unexpected possession of 250,000 bottles of high-quality champagne, presumably brought from France by German troops. There also were about 50 hogsheads of cognac. Because of strict antilooting orders sternly enforced, the supply was left untouched. But messes notably improved after entering Germany, because we overran German Army food dumps.

Contrasts in Belgian Welcome

The First Army's advance from the western border of the Reich to the Rhine started on September 11, 1944, when, late in the afternoon, spearheads crossed the Luxembourg line north of Trier. Within 24 hours another group crossed the Belgian line on September 12, near the small town of Rötgen (page 13). With a couple of minor exceptions, these soldiers became the first enemy troops to step on western German soil for more than a century—that is, under actual war conditions.

* See "Americans Help Liberated Europe Live Again," by Frederick Simpich, Jr., National Geographic Magazine, June, 1945.

Drawn by Theodore Price and Irvin E. Alleman

The Rhine Barrier Parallels Germany's Western Border

Since Napoleon, this swift, muddy river had held Germany's enemies at bay until Lt. Gen. Courtney H. Hodges' First Army crossed at Remagen on March 7, 1945 (page 17). American doughboys, fighting in the Rhineland, saw at first hand the famous cities, churches, castles, vineyards, mountains, and scenes of mythology which have attracted travelers from around the world.

The armistice had been signed several days when the first Americans entered the Rhineland in 1918.

The picture that afternoon remained fairly typical, except that Rötgen was undamaged. The town was deserted. A white sheet or tablecloth was hung from an upper window of nearly every house, in token of surrender. The people had fled to the woods. Within the next two days they began drifting back, led by Rötgen's one policeman in full uniform, riding a bicycle. They were stunned into a sort of apathy, so rapid and unexpected had been the armored dash across Belgium.

Actually the American soldiers had had their first taste of the civilian reaction they were likely to receive in Germany the evening before, when they had entered the Belgian border town of Eupen. This had been a part of the Reich until the last war, when it was awarded to Belgium.

When the Nazi forces crossed the border in 1940, the district immediately had been incorporated in the Rhineland again. The German element of the population, actually in the minority, had been in the saddle for four years. The Belgians either were "underground" or discreetly silent, awaiting their day.

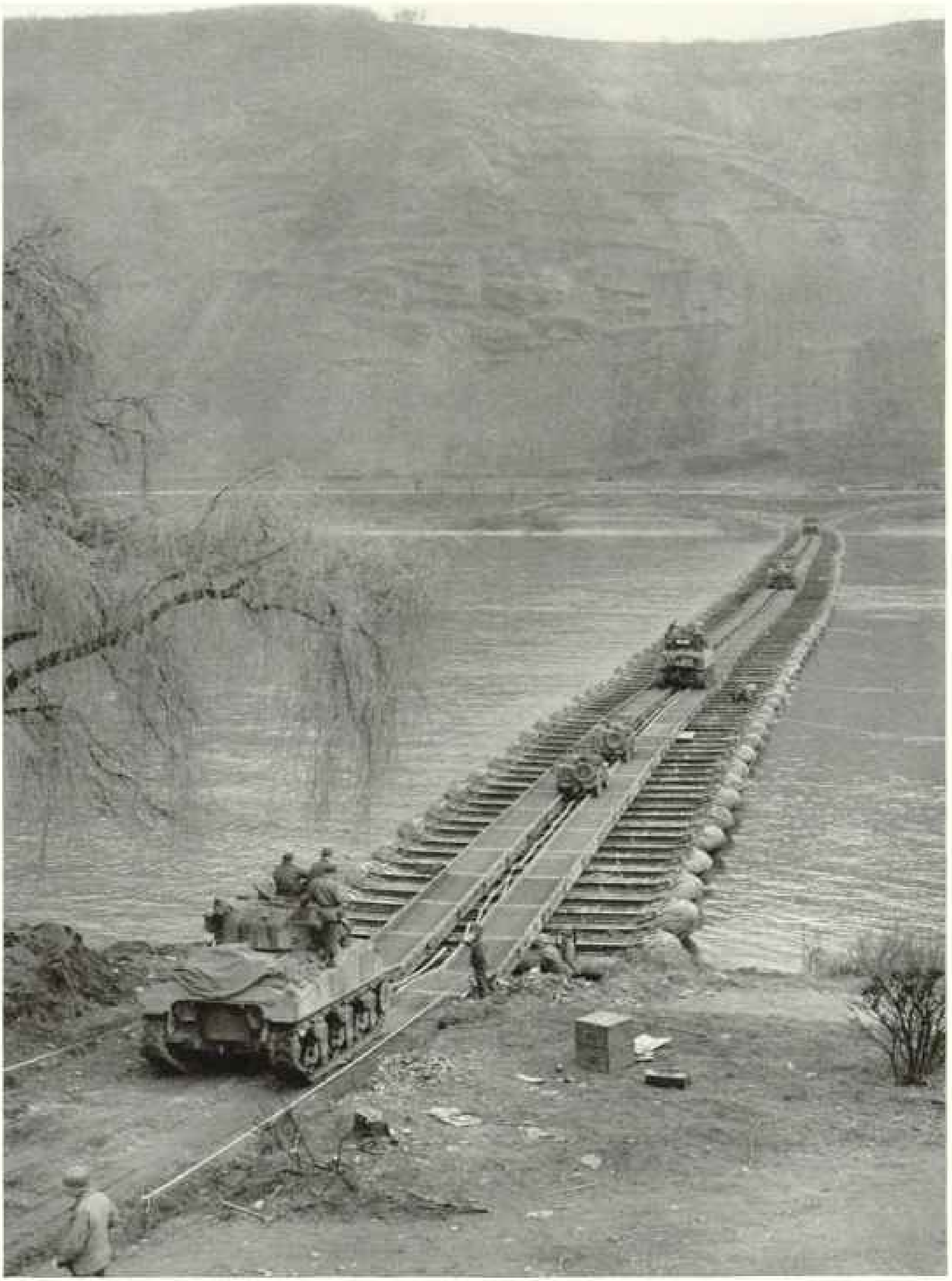
The armored division which I accompanied had swept northward on the tail of the disorganized German Army with unexpected speed. We had stopped the night before at Verviers. There the Americans had received the wildest reception of the whole war. They had been pelted with fruit and flowers, their uniforms were soaked with wine, their faces were scarlet with lipsticked kisses from thousands of joy-frenzied women. It had been the climax of the whole progress across Belgium (p. 3).

Eupen was only a few miles away, but the difference was dumfounding. Here were no kisses, no flowers—only silence, scowls, and soles. The only cheers were for a German prisoner riding on the hood of one of our jeeps.

A few days later the Belgians came out of hiding and the Germans went "underground." Eupen proved as hospitable as any other Belgian city. But to the American soldier, accustomed to the role of liberator, the entry into Eupen was like a dash of cold water.

The troops swept over the border into the Rhineland. Within a day they had punched holes through the great green dragon teeth and massive concrete pillboxes of the Siegfried Line. They moved eastward over hills blanketed with evergreens and through cathedral-like forests to the real gate of the Rhineland and the Cologne plain which lay beyond, crossed by broad automobile highways leading straight into the northern Rhineland's largest city.

The tang of autumn was in the air. The hills were redolent with the odor of spruces, musical with the thunder of falling waters. We were in the Eifel mountains.



U. S. Army Signal Corps, Official

Patton's Tanks Roll Across a Ponton Bridge Spanning the Rhine South of Koblenz

From an engineering viewpoint, the task of getting the five American Armies across the Rhine in a hurry was the biggest job of its kind ever tackled. Five weeks after the Remagen crossing, 35 ponton, treadway, and railway bridges spanned the Rhine. Three floating bridges were constructed in less than 10 hours each! (Page 25.)

U. S. Army Signal Corps, Official

"Did You Ever Hear of a Guy Named Frederick I of Prussia?"

Wisecracks fly as this Ninth Army light-armored car in Mörs passes a statue of a founder of German militarism, the first king of Prussia and grandfather of Frederick the Great. Antitank mines strapped to the side (near hatchet) are planted in a circle around the reconnaissance car during night bivouacs.

In a few days the Ninth Infantry Division had taken possession of the gem of the countryside, the wonderfully picturesque little city of Monschau, without firing a shot. The town crier was going about the streets ringing his bell and calling out to the stunned people on the street corners the proclamations of the American Military Government (page 28).

The First Division pressed toward Aachen. Part of the way they proceeded through one of the most magnificent forests in Europe, a cool wonderland of eternal shadow, through which flickered stray sunbeams like silver threads. Three days after entering Germany, infantrymen were looking down from the hilltops on the roofs of Charlemagne's ancient capital, above which rose the steeples of the churches. The next day they were in the outskirts of the city.

Seen from a distance, Aachen appeared not badly damaged, although it had been the target of several air raids. Its walls stood erect, its roofs seemed intact. There was little evidence of resistance. The First Division drew up a surrender proclamation.

There seemed little doubt that the terms would be accepted in a few days and the proud city which had once been the chief center of the Holy Roman Empire taken without the loss of American lives.

Aachen Falls—at a Price

But Aachen chose to resist. More than a month of hard fighting followed before it was securely in American hands. We paid a high price in blood and agony.

But Aachen paid a higher price. Today it is the corpse of a city, lying unshrouded and unburied in the dust-filled winds and cold spring rains. Much of it is as flat as St. Lô. Most of the rest consists only of tottering walls. It is covered with wind-blown debris. It is doubtful that there is a single building intact.

U. S. Army Signal Corps, Official

French Girls Follow Patton's "End Runs" by a National Geographic Map of Germany

The U. S. Army printed, for orientation purposes, 20,000 large-size "blowups" of the map which members received with their National Geographic Magazine for July, 1944. Third Army Combat Engineers erected the chart board to guide GI drivers passing through the town.

The rubble pile which was 2,000-year-old Aachen must be swept away by a fleet of bulldozers and the town rebuilt to be habitable again for any great number of people. It took the worst Allied air power and artillery could give. It is hard to see how it could have been spared anything it received.

Next important city to fall in the progress eastward was Düren (pages 11, 16). This town of 45,000 inhabitants and historic monuments, such as the Gothic St. Anna's Church, was an even worse mess than Aachen when, after crushing air bombardments and cannon shelling, it finally was entered by the veteran Ninth Infantry Division. Here again is a corpse in the rain. It awaits bulldozers to bury it. Townspeople say there still are hundreds of unburied dead under the rubble piles.

Away from Düren the Cologne plain stretched eastward. The way was open to the Rhine—goal of the Allied Armies since the first landings in Normandy.

Beside the swift-flowing Rhine just ahead lay the Rome of the North. Biggest and best-known city of the Rhineland and one of the loveliest in Europe, holy place of European Christendom with its celebrated Cathedral and scores of spired churches, Cologne for months had been the immediate goal of the Allied Armies. During the first few days of March soldiers could look down from the hills to the west on Cologne's rooftops. The final entrance was almost unopposed.

Cologne "Had Had It"

Nobody expected to find much more than a shambles. This important German war center, with about three-quarters of a million inhabitants, large industrial sections, and railroad marshaling yards, had sustained some of the heaviest air bombardments.

In 1942 the RAF had showered it with destruction from the bomb pits of a thousand planes, first of the massive bombings which

Scherl-Pix

Beneath British and Nazi Flags, Excited Germans Filled Bad Godesberg to See Hitler and Chamberlain in September, 1938

This Rhine health resort became a favorite city of Hitler when he found refuge there after being evicted by the old university town of Bonn (page 14). Since Bad Godesberg had been turned into a military hospital area, it was little harmed by our bombers, and our troops encountered no resistance. The other side of swastika-decked Rhein-Hotel Dreesen faces the river (pages 9, 15, 17).

U. S. Army Signal Corps. Official

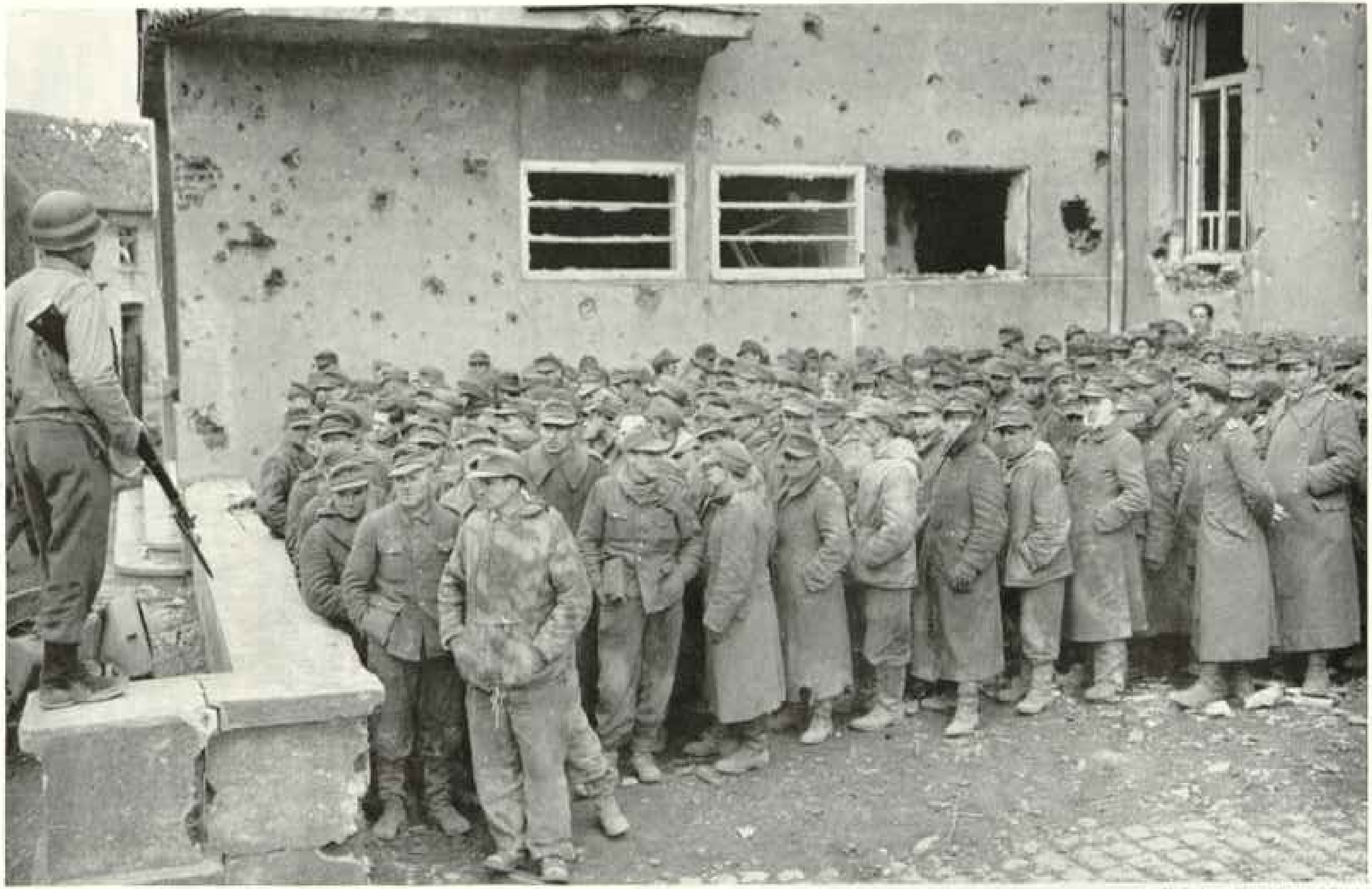
Germans Surrender to Yanks Outside the Famous Rhein-Hotel Dreesen, Bad Godesberg, Where Hitler and Chamberlain Met

Here the British Prime Minister came to discuss with the Führer details of transferring the Sudeten lands to Germany. The Munich pact, a week later, dismembered Czechoslovakia and was supposed to bring "peace in our time."

U. S. Army Signal Corps, Official

German Women, Old Men, Children, Even a Dachshund, Wait to Be Registered in an Erkelenz Detention Center

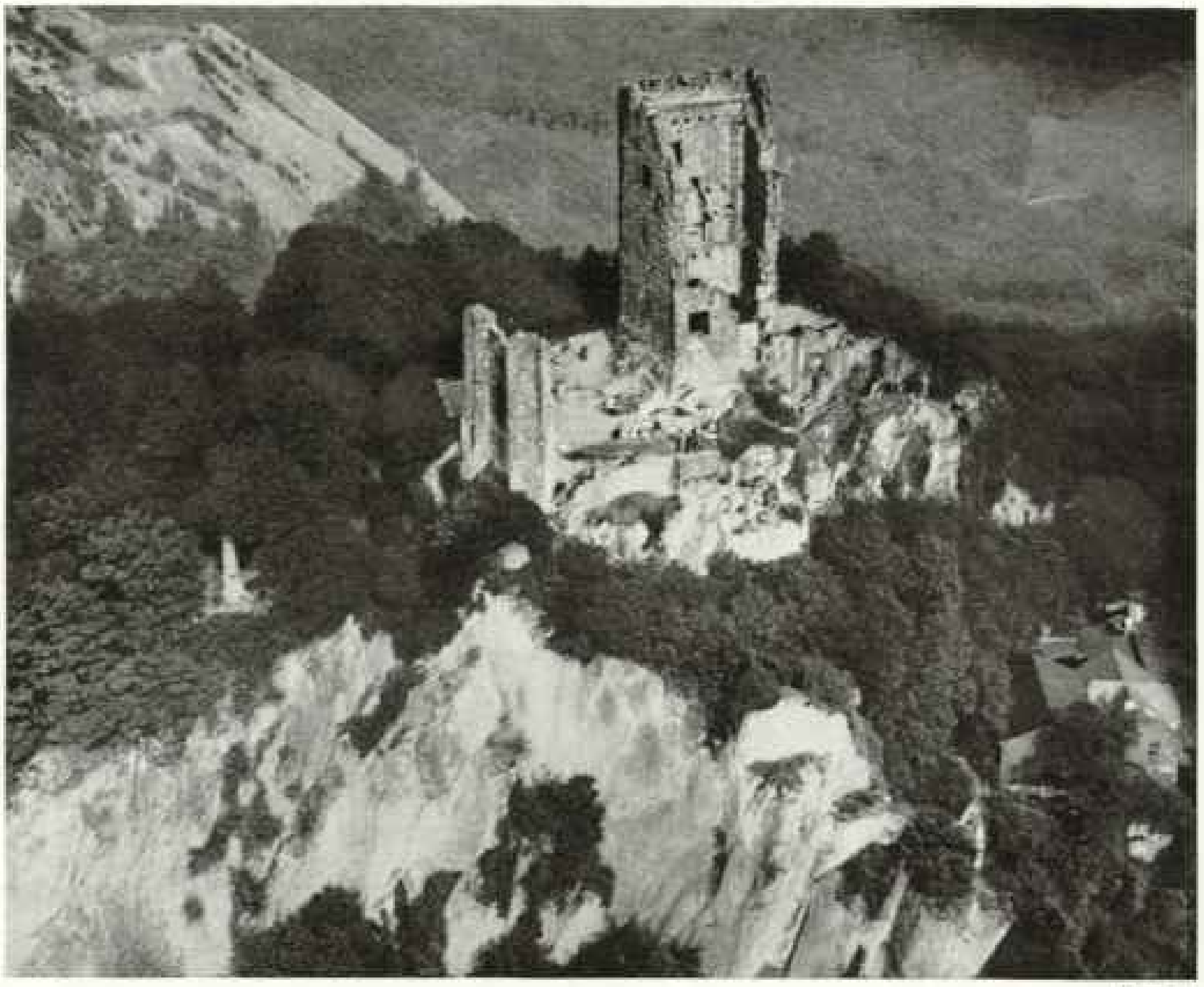
Civilians appeared bewildered by the sudden appearance of the Americans. Goebbels' propaganda had been effective. Many people thought the Reich was still winning the war until American tanks approached. Under military government, Germany's ex-slaves, or "displaced persons," eat better on German food than their former masters.



U. S. Army Signal Corps, Official

Hard and Sullen, German Prisoners Captured at Düren Reveal No Shame or Guilt, but Show Respect for a Yank's Bayonet

Since D Day, Eisenhower's armies on the western front have taken some 5,000,000 prisoners. Düren, about halfway between Aachen and Cologne, was a busy manufacturing town of 45,000 people in prewar days. A section of its medieval wall still stood, and the Gothic spire of St. Anna's Church rose above the town.



European

Yanks Stormed "the Castled Crags of Drachenfels," Where Siegfried Slew the Dragon

Nibelung legends say the hero bathed in the dragon's blood and became invulnerable except where a leaf lodged against his skin. Today the red wine from grapes grown on the castle's slopes is called *Drachenblut*—"Dragon's Blood." The ruins, nearly 900 feet above the river, served as an artillery observation post (page 28).

two years later were to become commonplace over German cities. At that time, air photos showed, Cologne was rather thoroughly demolished. But strangely enough, since landmarks could not be distinguished by the bombardiers in the dark, the Cathedral remained uninjured.

Air photos taken six months later showed that the city apparently had been almost entirely rebuilt. How much of this showing was deceptive, because of clever camouflage, nobody knows.

But since then swarms of Allied bombers had visited the Rome of the North over and over again. Long since, there had been no major war industry left aboveground. Large completely flattened areas were shown. And this is exactly what the Third Armored Division found when its tanks rolled in over the crater-pocked streets.

Cologne, as the soldiers say, "had had it." It was about as badly smashed as Aachen. It is difficult to imagine how any city could be much more thoroughly smashed. Here is another job for the bulldozers—to inter decently what once was one of the loveliest cities of Europe.

But in the center of block after block of rubble still stands the great Cathedral (page 20). It is damaged, badly damaged. There are bomb holes, which have been bricked over, in its roof. All its windows are broken, its floor covered with debris. But the essential structure stands. The nearest parallel is St. Paul's Cathedral in London, one of the few reasonably intact buildings in many blocks of flattened rubble.

On D Day the Nazi Government declared the Cologne Cathedral "a historic monument." This, of course, was a futile gesture. Obviously the structure was without military significance. No bombardier would deliberately have hit it in daylight. At night it would be impossible to distinguish it.

U. S. Army Signal Corps, Official

Hitchhiking Infantry Ride a Bulldozer Tank Through Dragon's Teeth of the Siegfried Line

Near-by Rötgen, first German town to fall to the western Allies, saw the beginning of the bitterly fought, six-month battle for the Rhineland. Men of the First Army, who crossed the border near here in September, 1944, were among the first troops to invade western German soil in more than 100 years (page 3).

The speciousness of the gesture was recognized by the Church authorities. The Archbishop, in the best tradition of his long line of princely predecessors, protested. He would prefer, he said, to see the sacred structure a heap of stone and plaster rather than allow it to be used as a cover for Nazi intrigue. The Sunday after the American Army entered the city reporters looked for him in vain, until he finally was located celebrating a requiem Mass for American dead of the Eighth Division.

A GI Plays Beethoven's Piano

Eerie through the after-midnight darkness, in which the thick mist was like a fine spray of ink, came clear piano notes of the "Moonlight Sonata." In the ruins of a house on a wrecked street in Bonn some soldiers had sought shelter from German shells falling from across the river. They were awaiting the dawn to continue mopping up pockets of resistance in the shell-smashed old university city on the Rhine, which they had entered late the previous afternoon.

The music startled these chilled, mist-drenched men. It was as if a ghost were playing. But they were not superstitious. The strains seemed to come from a little house across the street. They went over to investigate.

In the flickering glimmers of their flashlights a gnomelike figure appeared before them. One leveled his rifle at it, but before he pressed the trigger he recognized the figure as a statue. The squad proceeded into the next room.

There sat a man in an American uniform playing on a grand piano. He was one of their own comrades. In civilian life he had been a professional pianist. Wandering into this house, through whose roof a shell had fallen, he had found this piano and started to play in the dark (page 14).

Not until next day did the soldiers find they had stumbled into the birthplace of Lud-

U. S. Army Signal Corps, Official

In Bonn, Beethoven's Home Town, a Yank Corporal Strikes Up a Tune

During their first night in this university town on the Rhine, before all Germans had been cleared out, Americans heard the strains of Beethoven's "Moonlight Sonata" drifting across the misty darkness. Investigating, they found a GI, formerly a professional pianist, playing on Beethoven's own piano in the great composer's birthplace (page 13).

wig van Beethoven, preserved as a shrine to the great composer and filled with Beethoven relics. The pianist-private had come upon what, presumably, was the composer's own piano, on which, entirely unaware of the circumstances, he had played old Ludwig's great composition!

Hitler Once Ejected from Liberal Bonn

Except for the hole in the roof, the little house was not badly damaged. The relics remained intact, such of them as had been left by looters in the city's own population, who had enjoyed a heyday as the Americans were entering and the Germans leaving the city.

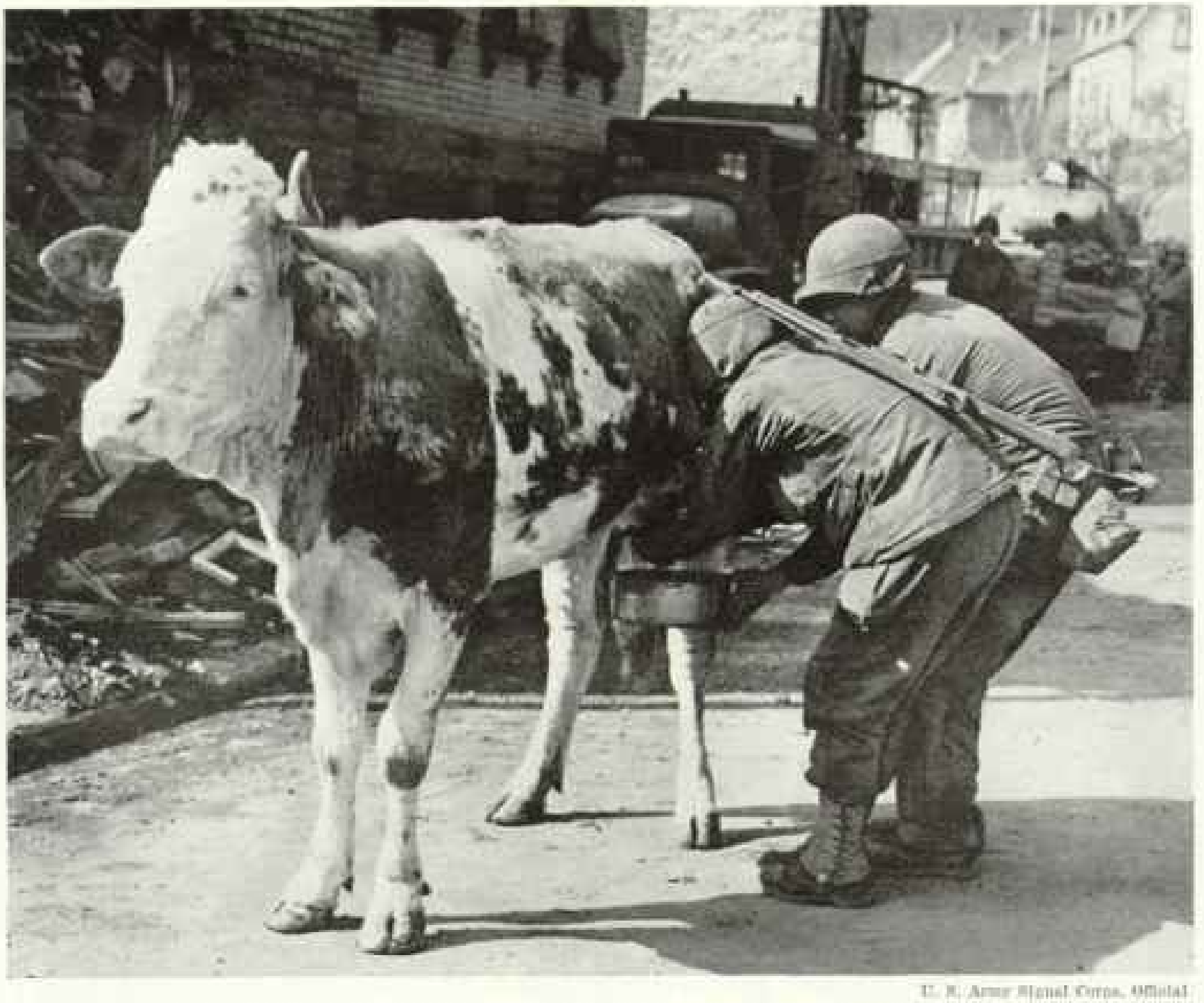
This was the first house placed under soldier guard when the American Military Government took charge the next day. The tradition of Beethoven is the soul of Bonn. The spirit of the great composer still broods over the ruins.

The destruction has been moderate compared to that at Aachen, Düren, or Cologne. Still, it is very considerable. Much of the center of the city in a rubble heap.

A pathetic sight is the old university, a center of liberal tradition in Germany for centuries. At the start of the Nazi regime, students and faculty were openly rebellious.

Even to the end, Bonn people say, a faint aura of liberalism lingered about the venerable institution, and the perverted psychology and racism of Nazidom were accepted with tongue in cheek. Citizens say that Hitler was thrown out of the city in 1933, when he attempted to speak there, and that he found refuge in near-by Bad Godesberg.

The main university buildings are in the center of the city, near the city hall and the railroad station. They have been smashed badly, although not demolished. Every window is shattered. The more valuable books,



U. S. Army Signal Corps, Official

Bossy Raises an Eyebrow as GI's Milk Her from the Wrong Side

Nothing like a cup of fresh milk after weeks of Army rations. These two Seventh Army men found the one-horned white face as they passed through Geislautern in the Saar. They divided the tiny bit of milk they coaxed from her with eight friends.

doctoral theses, and historic records are stored in cellar vaults, together with the largest accumulation of Rhine wines in the city. Military guards now protect the university from looters.

Another historic landmark is the Münster (Cathedral), which has two or three bomb holes in the roof and every window smashed. Floors were covered with debris of shattered stained glass, and cold rain was pouring on the roofless altar.

When the Americans entered, more than a third of Bonn's normal population of about 100,000 had fled. But 5,000 were found huddled in one lightless, airless, fetid air-raid shelter. They had lived there for at least three weeks. Only a few flickering candles broke the pitch-darkness. At least 5,000 other persons, we were told, were hiding in air-raid shelters and in cellars under the rubble, terrified of the bomb-shaken daylight.

Near the center of the city, in a little park in front of the old Münster, stands a life-sized bronze statue of Beethoven. Two bombs recently landed in the park. There are two big fresh craters. The iron fence and the trees are a tangled mass. The base of the statue is shattered. But the short, big-headed Beethoven overlooks the ruins uninjured, like a symbol of genius triumphant—the immortal musician eternal in a crashing world.

Far different is the picture four miles up the river at Bad Godesberg (pages 8, 9). This celebrated health resort early in the war was turned into an enormous military hospital center. A third of the houses in town have red crosses on their roofs. These were respected. The city was spared by Allied bombers, and, when Lt. Col. Frank Gunn of the Ninth Infantry Division led his troops into the town after three days of hard fighting to reach it, he encountered no resistance.

Instead, he was met by the Swiss consul, with a message from the German general in command offering to surrender the city,

U. S. Army Air Forces, Official

Saturation Bombing Nearly Erased Düren, When Nazis Resisted Desperately

The Germans' makeshift defense line along the Roer River (foreground) proved more of a barrier than either the Rhine or the Siegfried Line. But this bomb-blasted city was suddenly left far behind when the First Army sprinted to the Rhine and beyond. Compare this picture of devastation with that of Kettig (page 25), which offered little resistance. Germany has many such examples of war's trickiness, like a tornado's path.

together with himself and all his troops. Thus Bad Godesberg and the near-by watering place of Bad Neuenahr escaped the tornado of war.

But Colonel Gunn felt considerable personal satisfaction in taking over Bad Godesberg. It was here, at the luxurious Rhein-Hotel Dreesen, that Chamberlain and Hitler met in September, 1938, to discuss Czechoslovakia. This was prior to the Munich conference, from which the English Premier returned convinced that he had established "peace in our time."

The city was particularly favored by the Führer. He came there often. He liked the great watering place as much as he disliked Bonn, citizens of the latter city say. Bad Godesberg had extended him hospitality in the days before his position was secure, when the university town had thrown him out.

The proprietor of the Dreesen proudly showed a group of correspondents around the hotel, and we sat in the chairs of Hitler and Chamberlain. But it was risky, for snipers were shooting through the hotel windows from across the Rhine. A bullet pinged through the room. This was "peace in our time."

The Watch on the Rhine Fell Asleep

A certain little Rhineland city has emerged from this campaign one of the historic places of the earth—Remagen (page 19). Every American schoolboy will be memorizing this name a century hence.

But the town has paid dearly for its immortality. Today it is nearly a total wreck, mostly because of German shellfire from the black volcanic hills across the Rhine and jet-plane bombings.

It was at this 2,000-year-old city that the watch on the Rhine fell asleep for a few moments, with the result that the broad, swift river which is Germany's last great natural bulwark against invasion from the west became valueless (page 18).

It is pure speculation, of course, but military experts of the First Army have estimated that at least 15,000 American lives were saved by the miracle of Remagen.

The shabby little city of 5,000 leather tanners and wine makers, watched over by the locally famous church and monastery of St. Apollinaris on the gradually rising Viktoriaberg mountain, became the gateway to inner Germany, the country across the river which always has been Germany.

Remagen owed its first place in the sun to a miracle nearly eight centuries ago. Even then it was ancient, for originally it was a Celtic town. Later it was fortified by the Romans. The Roman period still shows in several ruined walls, a Roman gate, and a Roman road built A. D. 162. But it was known chiefly as the shrine of St. Apollinaris.

He was, according to the legend, one of the pupils of the Apostle Paul and was beheaded at Ravenna in Italy. The martyr's followers obtained possession of his head and preserved it in a silver casket. In 1164 Frederick Barbarossa sent this sacred relic to his personal friend, the Archbishop of Cologne, for the Cologne Cathedral. The wanderings of the head between Rome and Remagen were complicated, but the final stage of the journey was by boat down the Mosel to Koblenz and then down the Rhine.

At Remagen, as the legend is recounted by the Franciscan monks on the mountaintop, the boat stopped dead against the current and its prow turned toward the shore, despite the utmost efforts of the helmsman. This was considered a miracle. It was the Divine Will that the head remain here.

In 1246 a great church was erected as its shrine, and there the silver casket remains to this day. The monks showed it to many American soldiers during the first few days of the town's occupation.

The relic long was reputed to have miracle-working powers of healing. There was a considerable Apollinaris cult throughout the Rhineland for centuries, which brought to Remagen thousands of pilgrims each year. But for the past century the cult has been on the decline, the monks say, and they themselves now attach no special virtues to the relic. A new church was erected on the site of the pilgrim church, which itself had been built on the site of a Roman edifice.

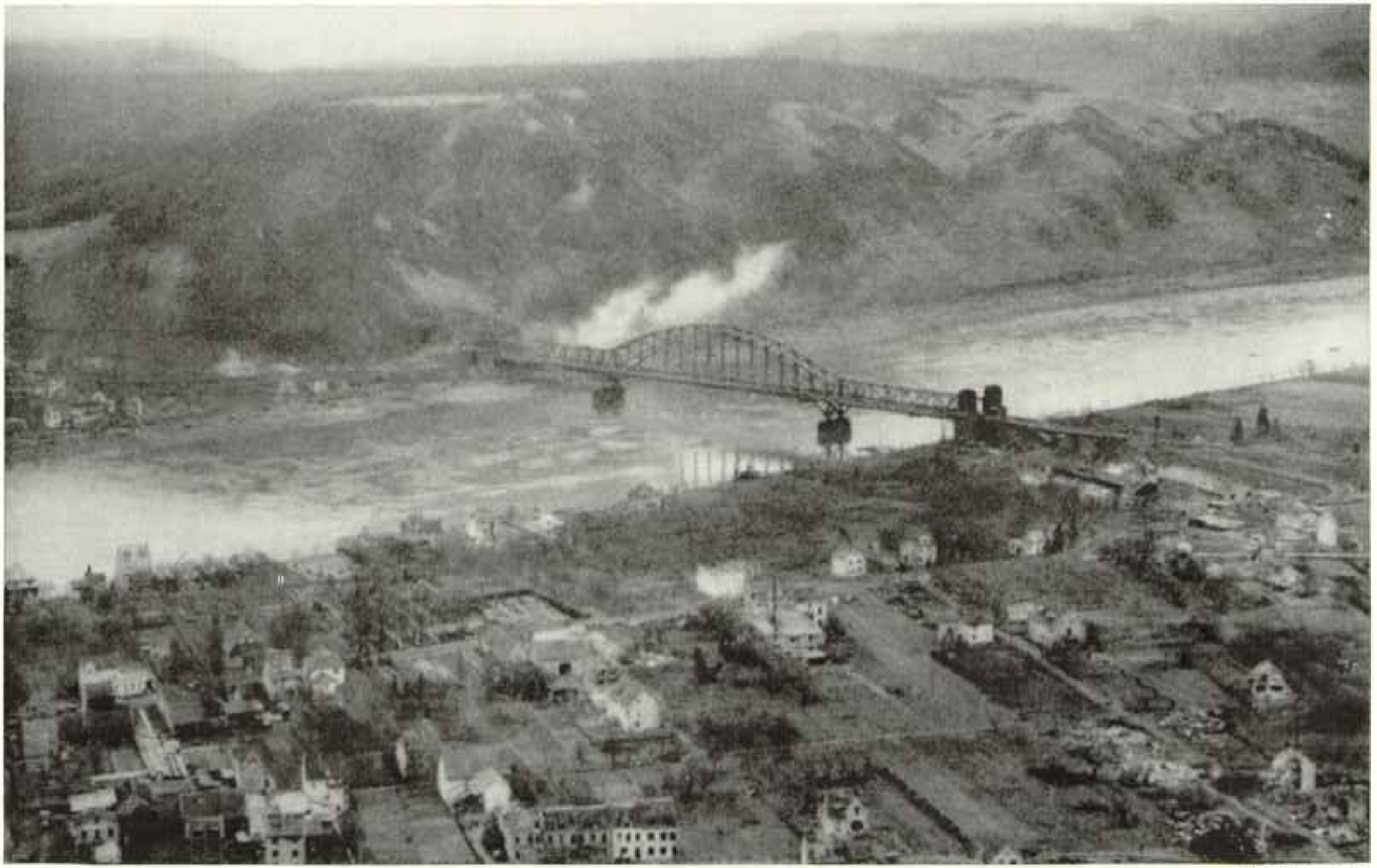
The Miracle at Remagen Bridge

Remagen owes its second place in the sun to another miracle, concerning which there is no element of legend, although the exact circumstances are still somewhat confused because everything happened so quickly and without previous planning. But the basic facts are undisputed.

On March 7, 1945, a combat command of the Ninth Armored Division, commanded by Brig. Gen. William M. Hoge, builder of the Alaska Highway,* had been ordered to seize the city, the natural gateway of the Ahr River valley, and secure a bridgehead over this small stream near the point where it empties into the Rhine.

It was a rather routine military operation to which no particular importance was attached.

* See "Alaskan Highway an Engineering Epic," by Froelich Rainey, NATIONAL GEOGRAPHIC MAGAZINE, February, 1943.



AP from Press Ass'n

Here the Watch on the Rhine Fell Asleep: Americans Seized This Bridge Intact, Neutralizing Germany's River Barrier

Troops, tanks, and artillery funneled across Ludendorff Bridge at Remagen to throw the German defenses completely off balance. Later crossings by Patton and Patch to the south and Montgomery to the north forced the Nazis to shift their reserves back and forth. From the cliffs of Erpeler Lei (background), Germans shelled the bridge; Erpel on far bank, and Remagen in foreground. Allied prisoners built the span during World War I. It collapsed two days after this picture was taken.

U. S. Army Signal Corps, Official

Hugging the Walls of Remagen for Protection from Enemy Artillery, GI's Move Up to the Captured Bridge

This little city without sidewalks on the Rhine's west bank emerges from the war as "one of the historic places of the earth" (page 17). So swift was the U. S. First Army advance that Remagen fell with hardly a fight. The picture was taken before German artillery and jet planes totally wrecked the city.

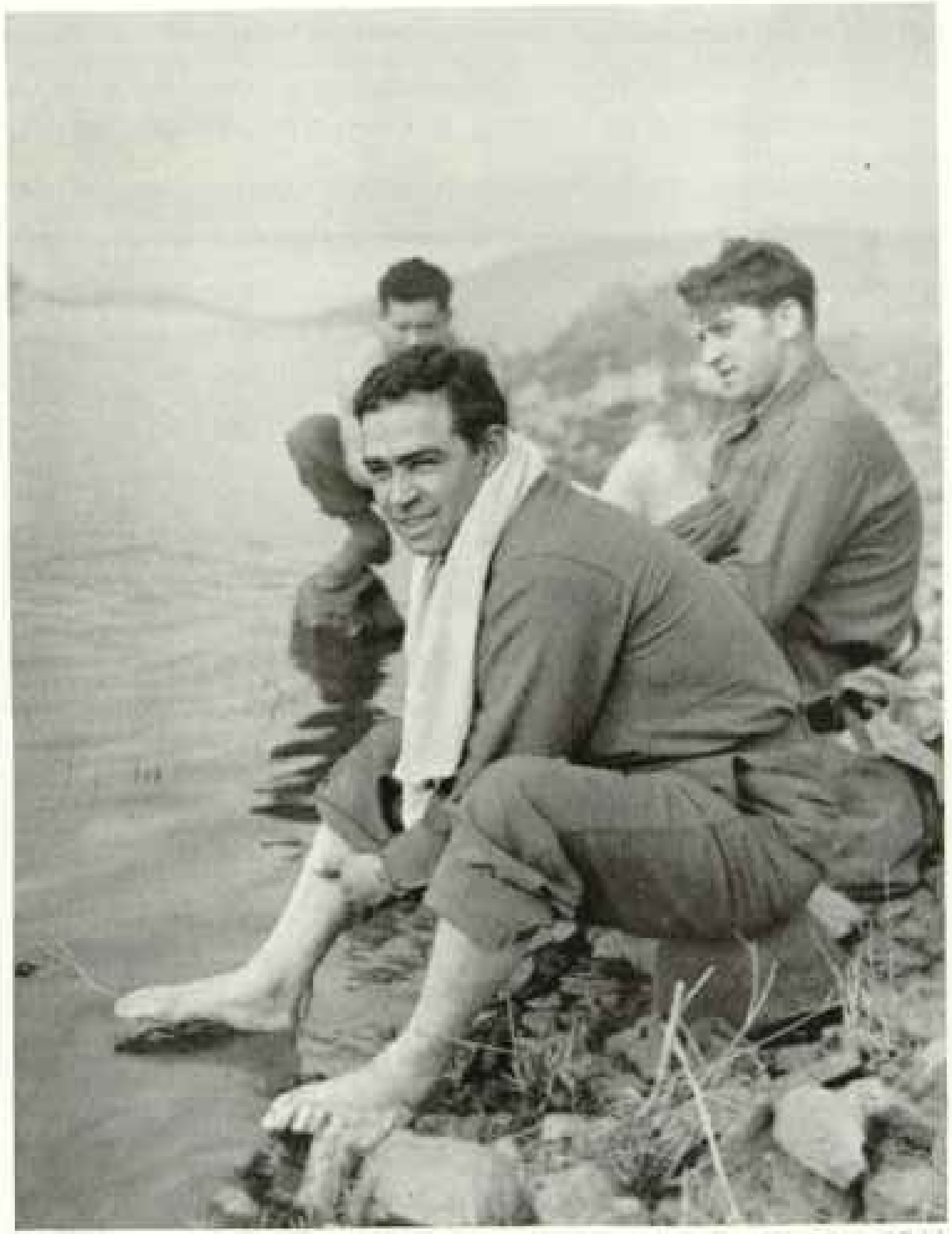
U. S. Army Signal Corps, Official

Yanks with Guns at the Ready Advance Through Cologne towards Its Twin-spired Cathedral

Though avoided by Allied bombardiers and artillerymen, the church sustained much damage from near-misses and fierce fighting in the vicinity (page 7). German rear guards defended this downtown area to the last, but citizens ignored Hitler's order to make Cologne a fortress city. The Cathedral, a Gothic masterpiece, is mostly of modern construction, having been completed in 1880. After World War I Cologne was headquarters of the British Army of Occupation until January 10, 1926.

Bit of America on the Rhine

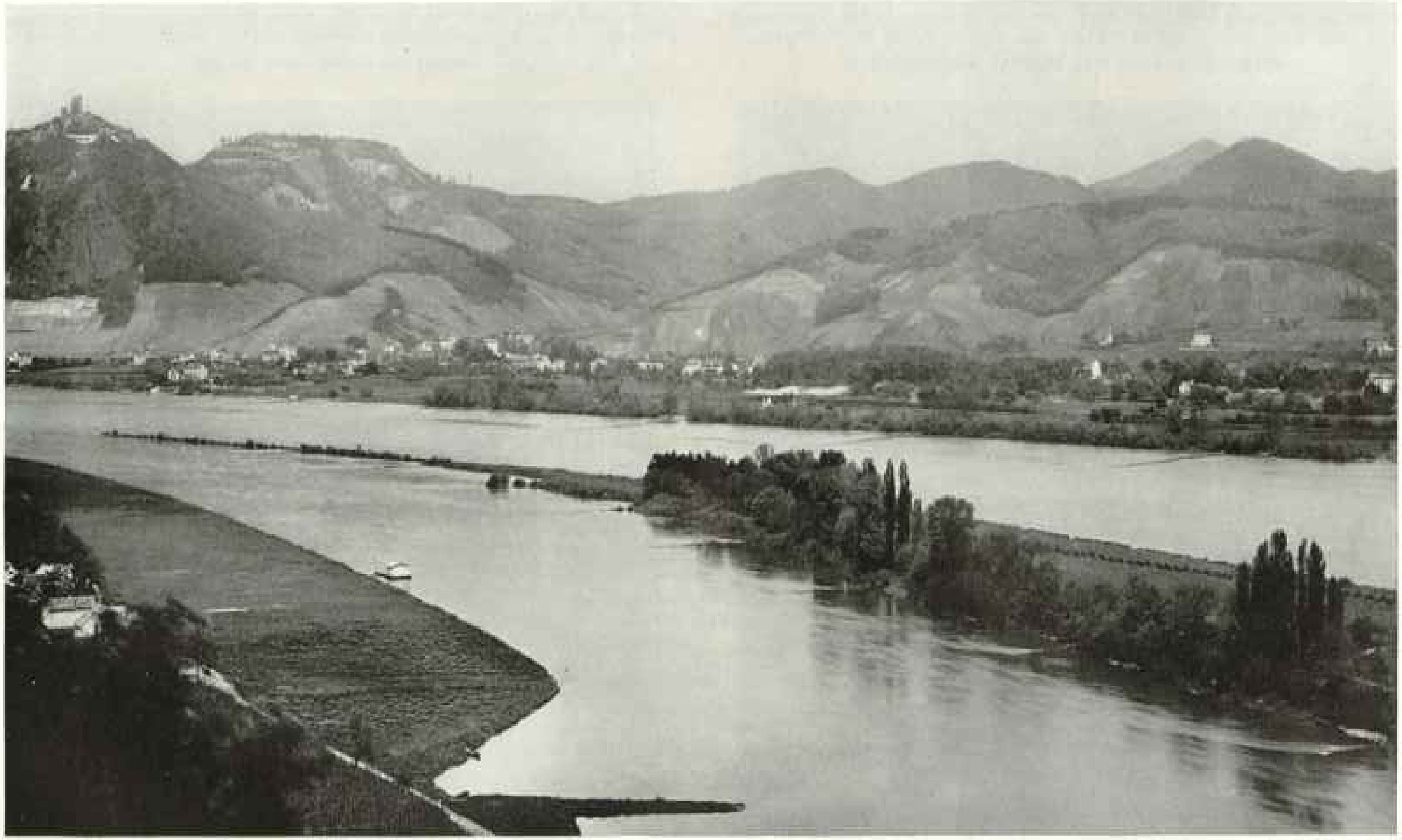
From Burma's Stilwell Road to Germany's dual highways, Yank sign painters make the countryside seem like home. This town was in the Ninth Army's sector of the Rhine, opposite the Ruhr. A German helmet decorates the post.



U. S. Army Signal Corps, Official

A Californian Washes His Feet in the Rhine

During a rest period at Linz, Pfc. Alfonso Argott from San Fernando put Germany's "sacred" water to good use. Linz, about three miles upstream from Remagen, was one of the first towns east of the Rhine to fall.



Bertrand W. Hemma

In Romantic Germany's Heart, the Legend-steeped Rhine Flows Below the Siebengebirge, Home of Dragons, Giants, and Heroes

Peacetime visitors scaled Siegfried's Drachenfels (Dragon's Rock, upper left) by a rack-and-pinion railway from river level (page 12). Legend says the Rhine near Königswinter once drained into a great lake which periodically flooded the countryside. Local folk asked a tribe of giants to dig an outlet. The "Seven Mountains" are seven giant spadefuls left after the job was done. Flat-topped Wolkenburg was once the tallest peak in the range, but modern giants—quarrymen—have gradually leveled it. Island of Nonnenwerth in foreground (page 29).

U. S. Army Air Forces, Official

U. S. First Army Guns Rake Hönningen, a Bridgehead Town Six Miles Upriver from Remagen

For a few days the town marked the southern limit of the bridgehead. Rhineland towns and small cities cling to river banks, farm lands fill the narrow valley, and cultivated strips climb the rugged, wooded hills like a ragged haircut. Hönningen made carbolic acid from mineral-spring gases.

U. S. Army Signal Corps, Official

German Women Receive Supplies Taken from Unoccupied or Damaged Homes

Poles and Russians, former slave workers, also helped AMG officials distribute food. German civilians failed to follow Hitler's "scorched earth" policy because Eisenhower warned them they would have to feed themselves. Yanks were often surprised at the large stores of food and liquor found. Army messes improved as the Allies moved out of impoverished Nazi-occupied countries into Germany itself. "Waschpulver" labels on boxes mean "soap powder."

It was known that there was a steel railroad and pedestrian bridge across the Rhine itself between Remagen and the squalid little town of Erpel on the opposite bank. But nobody had any idea this bridge would not be demolished long before any American troops could reach it.

The possibility of capturing it intact was, in fact, considered so remote that it was not even included in General Hoge's orders. It now is recalled, however, that the night before, a high-ranking officer had remarked half jokingly to the general, as he pointed to the black dot indicating the bridge on the map, "If you can capture that, you will live in history."

But as the armored column came over the brow of the mountain into the city, before them stretched the Ludendorff Bridge, an unbroken span over the Rhine. Somebody had blundered!

Hoge took the responsibility of disregarding his actual orders in the face of this development. He rushed a company of infantry accompanying his tanks at double time across the bridge, bayonets fixed, to establish themselves on the opposite bank. As the men dashed across, without any opposition, there were two relatively small explosions.

At the time, it appeared they did little damage, for German engineers charged with demolishing the bridge had delayed too long. The electric wiring to their demolition charges was faulty. When the button was pressed, the expected blasts failed to follow.

Two days later three higher-ranking German officers in charge of the demolition detail faced the firing squad for what was perhaps the worst single blunder of the war. Very likely they will go down in popular German tradition, bound to seek scapegoats, as the

U. S. Army Signal Corps, Official

Like Laundry Hung Out to Dry, White Flags of Surrender Line Kettig's Streets

Patton's armored divisions, spearheading the Third Army's drive from Luxembourg to the Rhine, found little fight in this town near Koblenz. Kettig, one mile from the river, was reached after a 58-hour dash of 50 miles that outflanked all Nazis remaining west of the Rhine. Townspeople often fled to the woods, leaving their conquerors a dead city to administer until they straggled back next day (page 4).

fools or traitors who lost the war for the Reich. That is what nearly everybody across the Rhine will tell you with sneers today.

It was an unjust sentence and it is an unjust reputation, says the officer charged with demolishing the bridge at Bonn, who was a personal friend of the executed men. He was captured a few days later after succeeding where they failed.

The Rhine Is Spanned!

After hearing of the executions, he himself passed a terrible three hours. He had been ordered to wait until the last moment before blowing his own bridge, so that as many German troops as possible could escape over it. He was doubtful of his electrical installations after the terrible bomb shocks to which the bridge had been subjected. He knew the fate which awaited him if they failed. But his installations worked.

The Rhine had been crossed and a bridgehead established on the other side without the loss of a single American life. It had been crossed at least a week before any such undertaking had been contemplated.

The night which followed was one of cold, driving rain and such complete darkness as is hardly imaginable to one who has not experienced it. Troops were gathered up wherever they could be found within 25 miles of the bridgehead and rushed across in an endless stream. By dawn at least a regiment of infantry was in Erpel, and a day later a division headquarters was set up there.

With the advantage of this bridgehead, American engineers got busy throwing pontoon bridges over the Rhine, the greatest river-spanning military operation in history (p. 5).

The Germans were quick in their efforts to correct the fateful blunder. They had nearly ideal artillery positions on the hills

U. S. Army Signal Corps, Official

Dispersed on a Sunny Meadow in the Eifel Hills, Third Army Infantrymen Rest Before Crossing the Mosel near Kochem

Secondary roads like this carried Patton's men over rough country in their dash to the Rhine. When slowed by bad roads, tanks prowled about in the hills looking for better going. The Eifel, a peacetime resort area, has volcanic heights of more than 2,400 feet.

Three Lions

Past Island Forts of Robber Barons, Vineyard Terraces and Castle-crowned Hills, the Rhine Flows Through Western Germany

The Pfalz, breasting the swift waters like a battleship, was built in the 14th century as a "tollhouse" preying on river shipping. In medieval times, Rhine merchants paid "protection money" every few miles or risked their cargoes and lives. Rich traders and enemies were held for ransom in its below-river-level dungeons. The six-sided fort never was captured. On the hill above the town of Kaub stands Gutenfels Castle, a restored legend-haunted pile older than the Pfalz.

U. S. Army Signal Corps, Official.

Mother and Daughter Are Checked Through an Outpost in Monschau, Germany

Daughter seems fascinated by the netting on the Yank's helmet. This borderland town, set amid some of the Rhineland's finest scenery, first fell to the Americans in the autumn of 1944 and changed hands twice in the bitter fighting of the year-end Battle of the Bulge. A town crier still rings his way through Monschau, intoning time and news (page 6).

above Erpel. Seldom have towns received such terrible shellings as Remagen and Erpel during the next few days. The Americans, well dug in, withstood it. The enemy could not bring up guns and infantry fast enough to turn back the torrent of the conquerors. The Rhine was spanned.

Such was the miracle of Remagen.

At sunset one afternoon two weeks later I was coming over the mountaintop past the Franciscan monastery. Far below lay the remains of the Remagen bridge. It had just collapsed in the center. Most of it lay under the Rhine. The blunderers had succeeded better than they could ever know, for they lay in traitors' graves.

Almost all the way from the Siegfried Line to the Rhine, infantrymen and tankers of the First Army marched and fought through lands of faërie. They tramped along Roman roads, they entered towns through gates built by Caesar's legions, they bivouacked on hilltops among the stones of hoary temples. Their steps were dogged by the ghosts of history.

Perhaps the most picturesque fight of the campaign was the capture, a few miles up the Rhine from Remagen, of the ancient ruins of Drachenfels, towering over the historic river. This was, of course, a small action and will have little significance in history.

The mossy ruins of the castle stand at the summit of a 1,053-foot-high mountain (page 12). This was taken by an infantry battalion of the 78th Division led by Lt. Col. Richard Keyes, of Houston, Texas, at the point of the bayonet.

On three sides were almost perpendicular cliffs. The battalion attacked up the vulnerable rear and took the summit after two hours of stiff fighting. The small German garrison in the ruins gave up quickly. For two days before the attack the mountain had been sub-

jected to terrific artillery pounding, and the nerves of the defenders were shattered. The ruins afforded the best artillery observation point for miles around.

"Too Tired to Worry About Dragons"

The doughboys slept in their blankets on the mossy wet stones that night. They were not bothered by ghosts. The first man over the walls, Pvt. Leslie Wright, of Fenton, Michigan, was asked if he knew the legend of Siegfried and the dragon. "I'm too damn tired to worry about dragons," he said.

But, however little it might concern the fighting soldiers too weary to think of anything but sleep, they had captured one of the great legendary spots of the earth, around which are woven essential parts of both the *Nibelungenlied* and the cycle of Roland.

There was the cave of the dragon slain by the great Teutonic knight Siegfried, the legendary figure for whom the Nazi's tough Siegfried Line is named. This perfect exemplar of all the warlike virtues probably would be none too pleased with his status as patron saint of Hitlerism.

At Drachenfels, according to one story, he was sent by a ruse to be devoured by the monster. Instead, in singlehanded combat he broke the fire-belching brute's back with one blow of his oaken club. Then he bathed in the dragon's blood, which made his body invulnerable, except for one spot where a leaf from a lime tree had fallen during his blood bath. This spot was revealed by Siegfried's wife Kriemhild to the fierce Brunhild, for whom the "grim Hagen" slew the knight.

Another legend, possibly modern in origin, associated with Drachenfels is that of the French Roland, nephew of Charlemagne, who came to the shores of the Rhine and lodged at the castle with the Burgrave Heribert, vassal of the emperor.

He fell in love with the Burgrave's daughter, Hildegunde. Suddenly came news of a Hun invasion of southern Germany. Roland left for the wars. Hildegunde received word that he had been killed. She took the veil and entered the convent of Nonnenwerth, an island in the Rhine near by (page 22).

Roland came back, but the maid remained true to her vows. Heartbroken, Roland built a castle on the opposite shore from whose upper windows he could watch his lost beloved walking in the cloister gardens. One day he saw her funeral procession and vowed that the time of their reunion was near. He returned to the wars and fell fighting, after many victories against the Saracens, at the great battle in the valley of Roncesvalles in the Pyrenees.

Apparently there were other dragons on Drachenfels besides the monster slain by Siegfried. They persisted into the days of gunpowder, for, according to the legend, the last of them had the poor sense to attack a Rhine barge loaded with this new explosive. It blew the boat to bits when it exploded, and that was the end of dragons in the Rhineland.

Of course gunpowder killed dragons, just as electric lights have killed ghosts. Many of the old legends were symbolic, especially that of Siegfried and the lime leaf. One might say that the Ludendorff Bridge at Remagen was the spot where the leaf had fallen on the shoulder of Germany during her bath in the blood of the dragon Nazism.

The tired doughboys slept soundly on the wet stones of the ruined castle. It was built in 1147 by an archbishop of Cologne, whose tenants for centuries were entitled to wear a red coat of arms bearing the figure of a fiery-mouthed, silver-winged dragon.

Slave Labor in Underground Factory

The next day the same battalion went on to capture one of the highest of a row of seven mountains of which Drachenfels is one—the Petersberg. It forms the northwest corner of the Siebengebirge (Seven Mountains) and is a massive peak with a broad summit timbered with tall trees. Among the trees is a famous shrine, the Peter Chapel.

Excavations carried out by the Rhenish provincial museum confirmed the existence there of a prehistoric circular rampart which formerly surrounded the mountaintop and afforded refuge for the inhabitants of the countryside in time of need. It once was the scene of pagan sacrifices, which supposedly continued until the erection of an Augustinian monastery there by the hermit knight Walther in 1134.

This later passed into the hands of the Cistercian order and was the scene of great pilgrimages during the Middle Ages. It still is visited by thousands during Lent.

The enemy fired only a few shots on Petersberg, but its capture was extremely important for men of the 78th Division, who leaped over the walls of the ancient rampart to bayonet the defenders. It opened up the country beyond the Seven Mountains.

Of much interest to the Army was the discovery of an underground factory in an enlarged cavern on the slope of Petersberg. In it nearly 1,000 men and women, mostly Polish and Russian slave labor, were engaged in making airplane parts. The factory had been driven underground by Allied bombings, but had functioned efficiently. Its existence

E. M. Schumacher

Framed by Fruit Blossoms, Children Gather Flowers Near American-owned Schönburg

The "fairy tale" castle overlooks the Rhine and the river town of Oberwesel. Schönburg, owned by Maj. T. J. Oakley Rhinelander of New York, was built in the 12th century and billeted men of the U. S. Army of Occupation after the last war. Major Rhinelander, whose ancestors came from the Rhineland, spent prewar vacations in a restored section of the castle and again made it available to the U. S. Army.

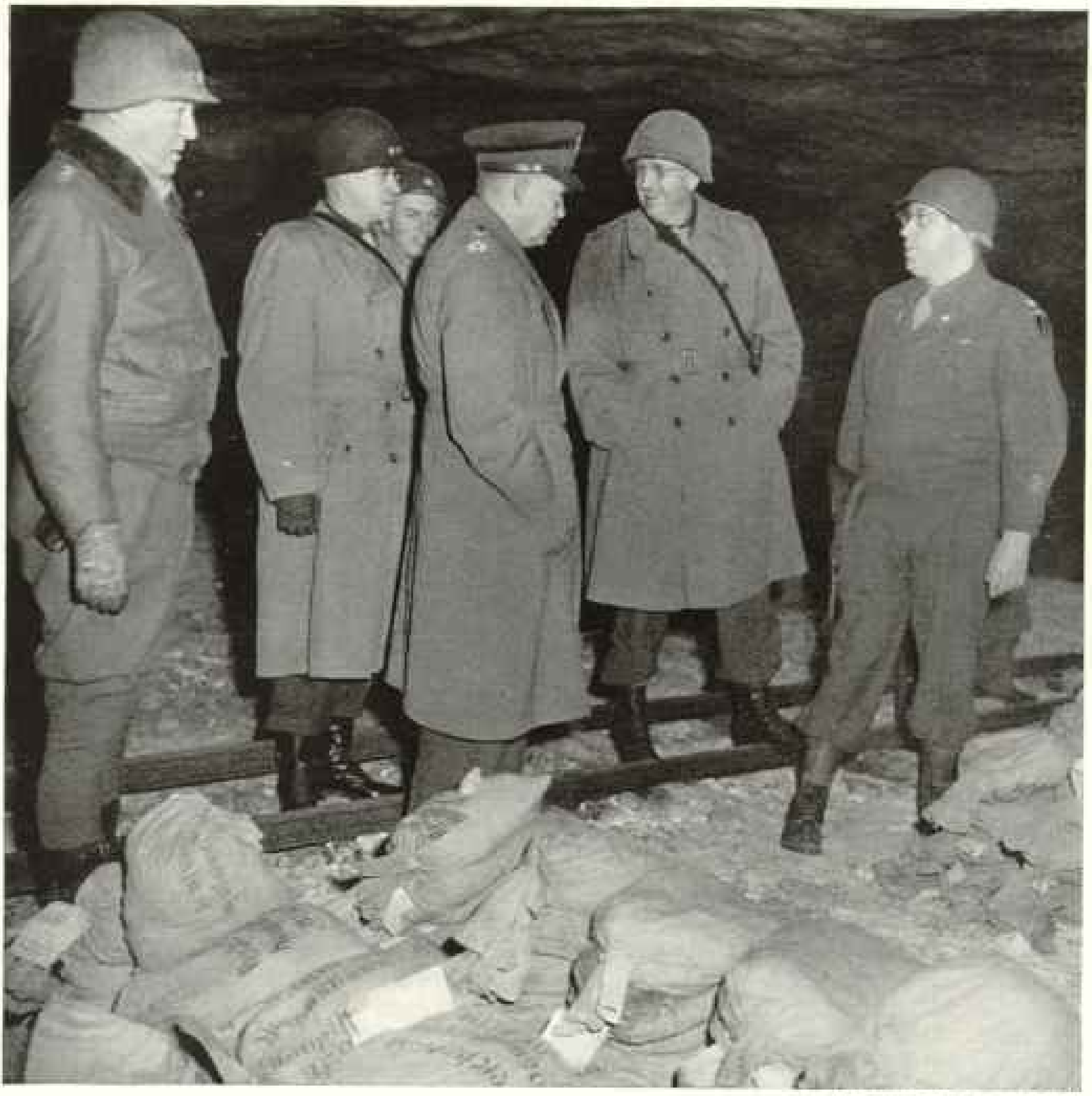
showed how the German armament industry had managed to survive.

The American doughboy in a few weeks became familiar with some of the most famous and elaborate castles on the Rhine which are still inhabited. Such, for example, was a family seat of the Hohenzollerns, the Catholic branch of the family and cousins of the Potsdam Hohenzollerns, with whom they claim never to have been on good terms. Second Division infantrymen were received graciously by a blond young princess, wife of the castle's lord, Prince Albrecht Hohenzollern.

She herself was of the Belgian royal line. Her husband's kinsmen included the royal families of Bavaria and Romania. Her tow-headed children playing about the courtyard were distant prospective heirs to half the former thrones of Europe. She showed the soldiers through the castle museum, filled with the armor of Crusader Hohenzollerns.

The prince, a major in the German Army, was a war prisoner in Romania. She is a Junker and hates Nazis, the princess said.

But the real thrill came at a neighboring castle. Here a mad, brave old lady, Baroness von Bethmann-Hollweg, of the family of the last German war chancellor, had just bested



U. S. Army Signal Corps, Official

High Command Inspects Nazi Gold Found Cached in a Salt Mine at Merkers

Generals Patton, Bradley, Eisenhower, and Manton Eddy and Col. H. A. Burnstein are pictured deep in the mine where Reichsbank bullion, SS loot, and stolen art works were salted away. The U. S. Third Army sped into central Germany so fast that Merkers, 15 miles southwest of Eisenach, was overrun before the Nazis could move their estimated $200,000,000 treasure.

60 German soldiers. The Germans, commanded by a major, had set up machine guns which swept the tortuous mountain road which the Americans must climb.

She argued with the major that he could not possibly stand out in the long run and that she had planned to raise a white flag immediately. Apparently her argument was convincing, for he begged her to hide him and his men in the cellar. She refused and gave them half an hour to leave her premises.

This doesn't seem half so convincing on paper as it did to hear the baroness tell it. She also was a Junker, she said, and all she liked about America was American cigarettes. The doughboys were allowed to enter without opposition, and she received a full pack.

Then there was the ancient walled city of Zülpich on the way to the Rhine. Its castle was presided over by an extremely belligerent young woman who protested vigorously when Americans trespassed on her premises.

It was found she had been a German WAC, a telephone operator at an airbase.

As such, she officially was a member of the enemy's armed forces and therefore was hurried away to a prisoner-of-war pen, protesting all the while that this was not the way to

U. S. Army Signal Corps, Official

Yanks Will Be Yanks, Though Shells Are Bursting a Few Miles Away

Staff Sergeants James R. Dowden of Greensburg, Pennsylvania, and Raymond Duncan, of Benton, Illinois, U. S. First Army infantrymen, furnish laughs for their buddies by staging an impromptu rodeo in borrowed clothes. Across the Rhine the Battle of Germany goes on.

treat a lady with royal blood in her veins.

There was much to interest the Ninth Division soldiers around Zülpich, especially the legends of a medieval William of Ulich, arch-foe of the archbishops of Cologne, who owned the town. Citizens love to tell of the time William returned from the wars to find his wife had been unfaithful. He stripped her naked, smeared her body with honey, and suspended her out of a tower window in a wire cage. Bees stung her to death.

William would have been a valuable addition to one of Hitler's torture gangs, who have recently performed in his old field.

Stars and Stripes over Ehrenbreitstein

Of interest to United States readers is the present condition of the Mosel Valley between Trier and Koblenz, and of Koblenz itself, the stately little city at the junction of the Rhine and Mosel. It was the headquarters of our Army of Occupation after the last war. Thousands of soldiers spent the winter and spring of 1918-19 there.

For four years the American flag flew from Ehrenbreitstein, the massive old fortress where the two rivers join. Now the very same flag flies there again.

This region was in the zone of the Third Army. It was the scene of violent fighting. Cities like Berncastel-Cues and Wittlich, together with scores of villages, are mostly rubble heaps left behind by the armored divisions. As for Koblenz itself, little more is left than of Cologne and Bonn.

All the way down the Mosel the desolation extends. The picture is much the same as that of the country swept over by the First Army. Only such ruined castles as Veldenz and the towering pile which overlooks Berncastel remain the same.

The people who seemed kindly and hospitable once, whose women actually wept when the Americans marched away, are stunned and sullen now.

They have had for the first time a dose of the devastation which their own country has inflicted so unscrupulously on others in the past. Their roads are littered with the pathetic, rain-soaked rubbish of defeat.

Along them march proudly, with flags flying high and dragging the few poor possessions they have been able to salvage in carts behind them, the hosts of the liberated Poles and French and Russians—masters now where they lately were slaves.

Potomac, River of Destiny

By Albert W. Atwood

IT HAS been said that few other national capitals in the world have near-by scenic values surpassing those of Washington.*

If this be so, it is because the Potomac River, almost enfolding the Capital in a gigantic Y, has remained largely unspoiled since 1608 when Captain John Smith ascended it, possibly to Great Falls.

But the Potomac has more than scenery: it is a river of destiny. Much of George Washington's life was devoted to the eventually successful project of uniting by way of the Potomac the Atlantic seaboard Colonies with the inland empire beyond the Alleghenies.

Every American schoolboy has heard of the Potomac. But the river that most people know is the broad tidal estuary from Washington to Chesapeake Bay, wider at its mouth than even the Mississippi.

It is the river of Mount Vernon, Wakefield, and Stratford; of the Lees, Washingtons, Fairfaxes, and Fitzhughs; of historic Tidewater Virginia and Maryland.†

But there is another and utterly different Potomac with which comparatively few people are familiar, a river of the upper reaches, from Washington to Cumberland, with its sources in the remote highlands of West Virginia, Virginia, and western Maryland (map, pages 36 and 37).

This is an equally historic river and was far more the direct concern of both the youthful and mature George Washington than the placid stretch on which he lived.

The Potomac of which I write ends at the head of tidewater and navigation in the historic Georgetown section of Washington, where the tidal estuary receives the river proper.

Nation's Capital at the Fall Line

It is no accident that the Nation's Capital was located at the fall line. Trenton, Philadelphia, and Richmond also sprang up at similar transshipment points; beyond are unnavigable rapids.

At Washington the Coastal Plain comes to an end at the fall line and the Piedmont plateau begins, giving way in turn to the Appalachian Mountain region.

The Potomac, from Washington to Cumberland, has an advantage denied to most rivers, in that the old Chesapeake and Ohio Canal roughly parallels and for the most part runs close to it for 184.5 miles.

The canal, which is entirely in Maryland except for a short distance in the District of Columbia, is held by the National Park Service as a memorial to the great canal-building era of the early 19th century.

In 1938-39, 22 miles of the canal, from Georgetown to Seneca, Maryland, were restored to the original condition, bed filled with water, towpath cleared for pedestrians and cyclists, and locks in actual operation.

Since the 1942 flood, however, normal water level is maintained only in the four miles adjacent to Washington, but the entire 22-mile stretch is increasing in popularity as a recreation area (Plates III, V, VII).

River Turbulent; Canal Serene

During summer months anyone may ride happily, for a nominal fee, on a horse-drawn barge, the *Canal Clipper*, at the terrific rate of 2½ miles per hour, along the Georgetown level (page 38). Partly because of contrast with the near-by, rugged Potomac gorge, the sleepy-serene canal has a unique charm. Time and Nature have mellowed it.

President John Quincy Adams dug the first spadeful of earth near Georgetown July 4, 1828, but the canal was not finished until 1850. It then operated until 1924.

During the canal's long period of operation, boats were lowered the 605 feet from Cumberland to Washington or raised on the return trip by a stepping up or down process through 74 lift locks, many of which remain, after nearly a century, in relatively good condition.

Curiously enough, one of the first private industrial telephone systems in the world was installed along the canal.

The boats, which bore such fancy names as *Darling*, *Rough and Ready*, *Cock Robin*, *Jenny Lind*, *Hero*, *Peacock*, *Unexpected*, *American Flag*, and *General George Washington*, averaged 4 miles an hour. The record speed was 30 round trips a year.

The mules, pulling at the end of 225 feet of rope, were carried in mule sheds at the bows of the boats when not at work. Children

* See, in the National Geographic Magazine, "Nation's Capital," by James Bryce, June, 1915; "Sources of Washington's Charm," by J. R. Hildebrand, June, 1923; "Washington: Its Beginning, Its Growth, and Its Future," by William Howard Taft, March, 1915; "Washington, Home City and Show Place," by Leo A. Borah, June, 1937; "Washington Through the Years," by Gilbert Grosvenor, November, 1931; and "Wonders of the New Washington," by Frederick G. Vosburgh, April, 1935.

† See "A Maryland Pilgrimage," by Gilbert Grosvenor, in the National Geographic Magazine, February, 1927, and "Approaching Washington by Tidewater Potomac," by Paul Wilstach, March, 1930.

A. Aubrey Bodine

High in Maryland's Mountains, a Speedboat Churns Deep Creek Lake

Though only seven miles from the Potomac, the man-made lake near Oakland, 2,462 feet above the sea, drains into the Ohio River system. Backbone Mountain separates the two watersheds. This comparatively undeveloped vacation land on Maryland's roof is twice as far from Baltimore as from Pittsburgh.

born on the boats began to help with the mule driving at 6 or 7 years.

Most of the traffic was downstream; at first lumber, stone, grain, flour, and whiskey, later almost altogether coal.

Georgetown, D. C., Once a Coal Port

In one of the heaviest years, 1871, some 850,000 tons of coal were moved and 540 boats were in service. Half a mile of barges waited at Georgetown to be unloaded.

Railroad competition, political interference, money troubles, depletion of western Maryland coal, motor-truck competition, and repeated floods, climaxing in the destructive 1924 freshet, finally put the canal out of business commercially.

Quite aside from the changing river and surrounding countryside, there is endless variety along the nearly 200 miles of canal.

There are the varicolored stone locks, sturdy brick and stone lock keepers' houses, 11 handsome masonry aqueducts carrying the canal over tributary streams, and a 3,000-foot tunnel through a mountain.

Although abandoned 20 years ago as a carrier of freight, the canal still has two important commercial customers in the industrial sections of old Georgetown, a paper mill and a flour mill, which have perpetual franchises to take water from it for power purposes.

But river and canal leave behind all urban and industrial traces soon after they pass under Key Bridge and by the lofty towers of the noted Jesuit institution, Georgetown University (page 39).

Directly adjoining the Georgetown end of Key Bridge are the dreary-looking remains of the once-attractive country home of Francis Scott Key, whose grounds sloped down to the river and through whose garden the canal was built.

Each spring several kinds of fish, including herring and shad, proceed from the sea up the Potomac to a few miles beyond Georgetown to spawn.

Even in these days, the rotating cycle of runs still produces large catches of fish, although nothing compared with a century ago.

One account written in 1832 says that the number of shad frequently obtained at a haul was 4,000 and upwards, and herrings from one to 300,000. A large roe shad sold in the Washington retail market at not over 6 cents. Today, in season, they bring a dollar or more in city markets.

Staff Photographer John E. Fletcher

Red Crosses in the Third-floor Windows Mark Clara Barton's Glen Echo Home

This house on the Maryland side of the Potomac, just outside Washington, was headquarters for the American Red Cross from 1897 to 1904. Clara Barton, Red Cross founder, lived here until she died in 1912. The table, small slipper stool, and chair were hers (page 36).

The Potomac gorge, from a few miles beyond Georgetown to Great Falls, has become famous for the variety and abundance of its native wildlife (Plate IV).

Northern and southern types naturally merge along the Potomac, and at the fall line the soft sands and clays of the Coastal Plain meet the hard Piedmont rocks, with a resulting wide range of soil and topography.

Wildlife in the Potomac Gorge

Aquatic plants flourish in the quiet waters of the canal, and the banks and woodland between towpath and river are especially favored with wildlife because of the lack of usual destruction by farm animals, plowing, and encroaching residential districts.

Here are found the few locally remaining nesting places of the infrequent pileated woodpecker; and here the most colorful of American ducks, the wood duck, finds favorable haven.

The variety of wild flowers common to the region has been enriched by those brought down by the waters of the Potomac from a more nearly mountainous region. Today, of course, the whole canal parkway is a wildlife refuge.

Plummer Island in the river has been for more than 40 years the home of the Washington Biologists' Field Club and, perhaps because it has been so intensively worked by its members, is said to be the "type locality" for more species, forms, races, and varieties of plants and animals than any other area of similar size in the world.

Much of the Potomac gorge on the Maryland side is readily accessible by streetcar as far as Cabin John Bridge. Jefferson Davis's name as Secretary of War was chiseled off the stone arch during the Civil War, but restored in 1908 by order of President Theodore Roosevelt.

Built from 1857 to 1863, it was for many years one of the longest masonry arches in the world and is still in constant use.

According to one tradition, John of the Cabin, an early settler, found gold in the creek, and for years deeds to land in the vicinity required purchasers to surrender part of any treasure found on the property.

A short distance this side of Cabin John is a popular amusement park, Glen Echo, built originally to be a national chautauqua, with an amphitheater, Hall of Philosophy, School of Literature, and Conservatory of Music, but

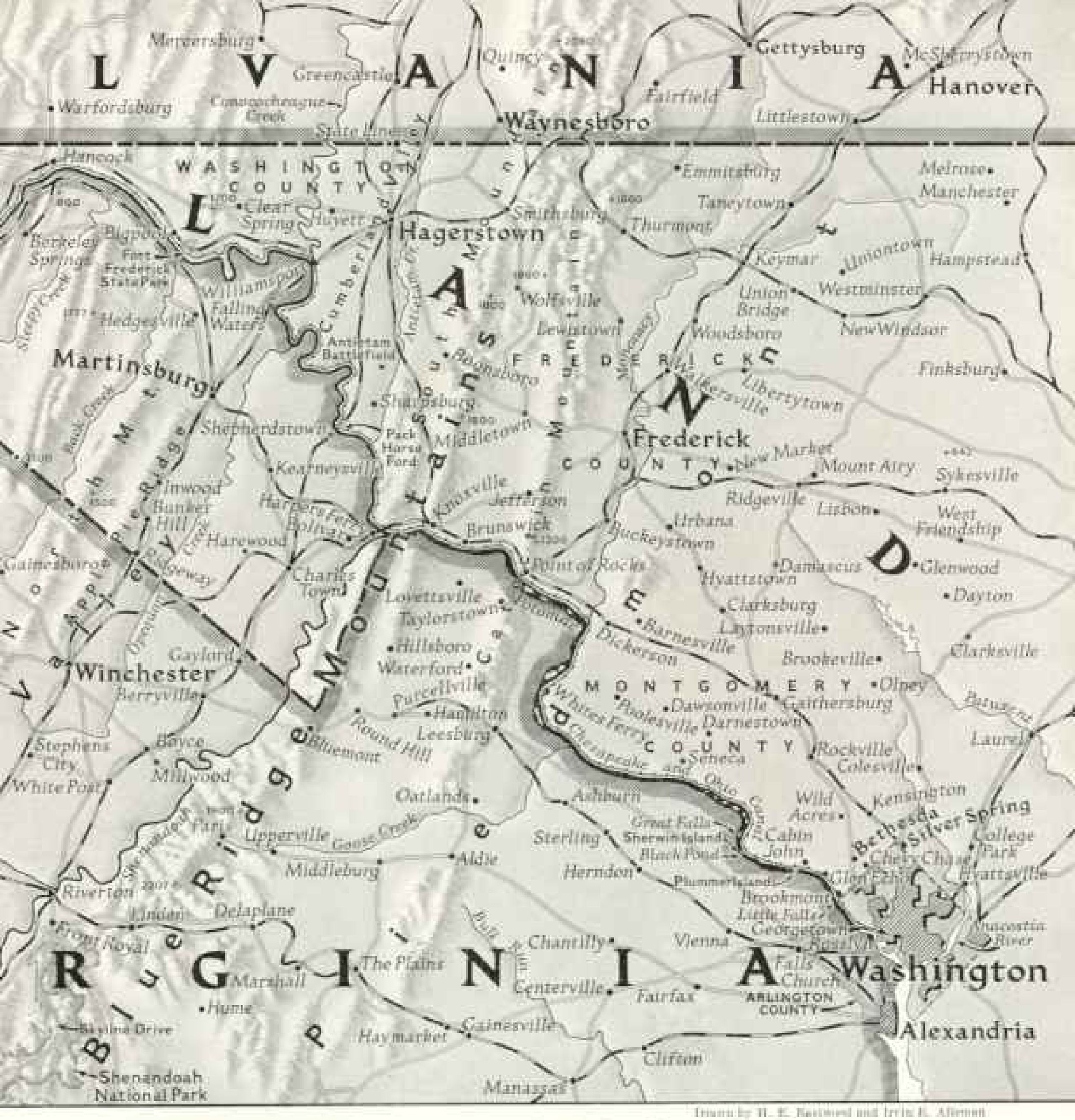
it was a failure as such. Near-by streets were named Harvard, Oxford, and Vassar.

Early Home of the Red Cross

The large, oddly constructed frame building on the bluff overlooking the Potomac at the rear of a parking lot was for many years not only the home of Clara Barton, founder and first president of the American Red Cross, but also headquarters of that famous organization.

The front middle windows of the third story contain panes of red glass arranged in the familiar Red Cross pattern (page 35).

The house was built from lumber taken from the temporary Red Cross barracks used to house thousands of refugees at Johnstown, Pennsylvania, after the terrible flood of 1889.



Drawn by H. E. Kalmbach and Irvin E. Akerman

Windings of the Potomac Nearly Cut Maryland in Two

The great river forms the State's southern boundary, Mason and Dixon Line its northern. The royal grant of 1632 gave Lord Baltimore all the lands north to the 40th parallel, which runs through Philadelphia. A later conflicting charter granted William Penn some of this territory. In the 1760's a century of border bickering ended when English surveyors Mason and Dixon laid out their famous line.

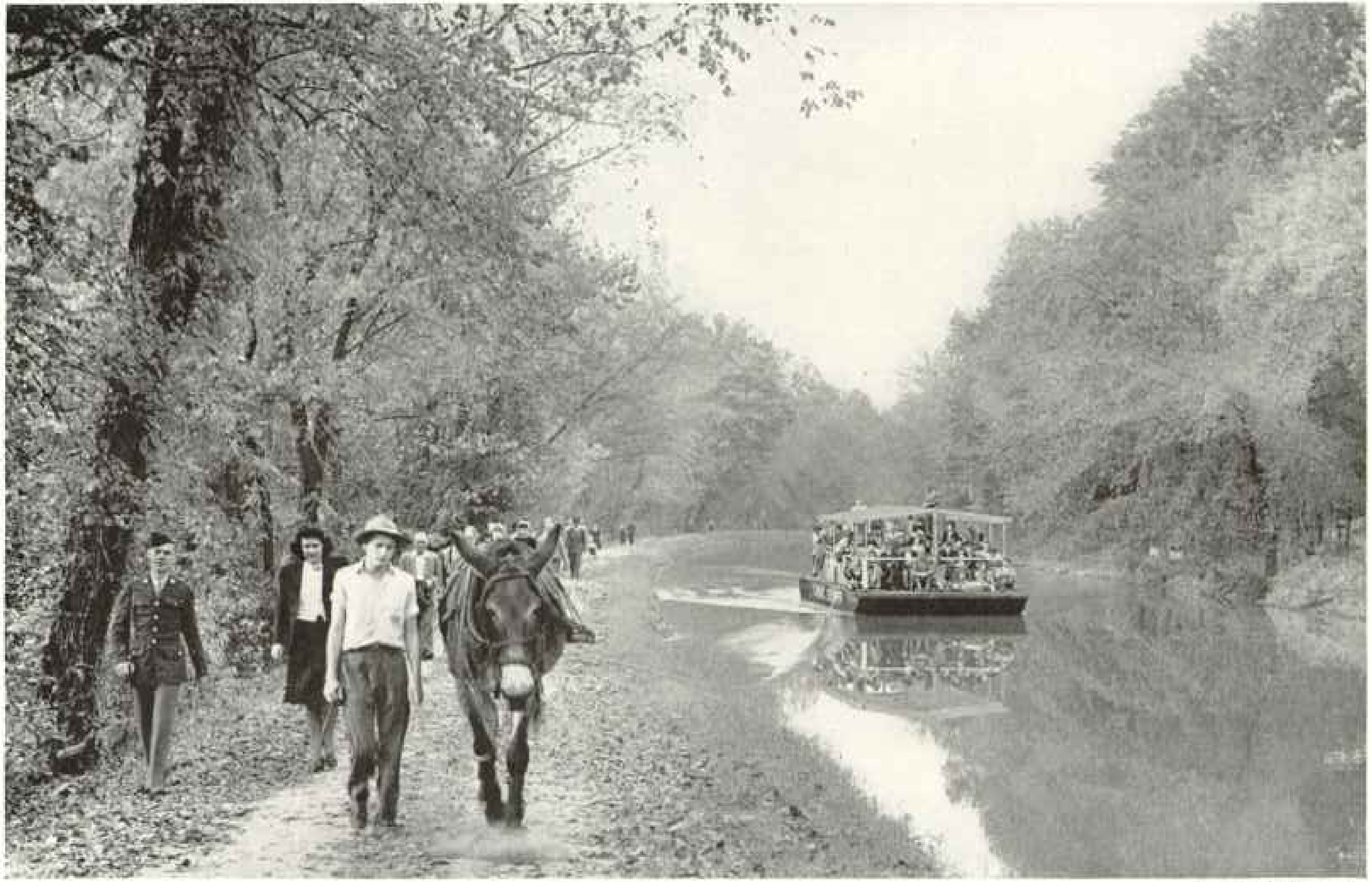
Clara Barton, who served in 19 battles in the Civil War and 9 in the Franco-Prussian War, died in 1912 at the Glen Echo house in her 91st year.

The appealing fact about the Potomac River is that no portion of the lengthy stream is more unspoiled than that close to the Capital City itself.

From the District of Columbia, or city limits, there are no bridge crossings for many miles, no towns of any size, and no industries. You and I see almost precisely what the boyish Washington saw on his first survey 200 years ago.

A century ago Mrs. Frances E. Trollope, an English visitor, wrote:

"At George Town the Potomac suddenly contracts itself, and begins to assume that rapid, rocky, and irregular character which marks it afterwards and renders its course . . . a series of the most wild and romantic views that are to be found in America."



U. S. National Park Service

After Three-quarters of a Century of Business, Pleasure Is King along the Chesapeake and Ohio Canal

For nearly two decades after the canal stopped operating, it lay in disrepair. Embankments gave way and trees grew up in the canal bed and on the towpath. Today water flows in the four-mile stretch between Georgetown, D. C., and Brookmont, Maryland, and the towpath is usable several miles farther (page 33).

Fairchild Aerial Surveys

Georgetown University's "Hilltop" Overlooks the Potomac and Dominates the Georgetown Section of Washington

John Carroll, founder of the Nation's oldest Roman Catholic college, also considered Capitol Hill as a site, but it was "too far in the country." This was in 1789, before Washington became the Federal City. The steel span being dismantled is old Aqueduct Bridge. When first built in 1843, it had a trough for canalboats.

But every now and then the river spreads out into broad, still pools in scenes of rare pastoral loveliness where field and woodland combine to give a natural, parklike effect.

Fairy, dreamlike islands, mostly small, a few fairly large, some lying low in the stream and others rising to surprising heights, dot the river's course.

The high, precipitous escarpment on the Virginia shore, along the base of which runs the swift, dark river, is broken at frequent intervals by hanging valleys, down which rush small but boisterous streams to drop far over into the river below.

Across on the Maryland side, still waterways thread an intricate pattern through quiet scenes of sylvan beauty.

For the canoeist there is recreation of every type. For the timid, the broad, placid stretches will do; for the brave, there is plenty of "white water work" in the foaming rapids.

The Majesty of Great Falls

Fifteen miles from Washington the Potomac gorge reaches its zenith in the Great Falls,* where the river makes a majestic plunge over a series of granite terraces and a riotous profusion of giant boulders (Plate IV). Wrote Mrs. Trollope:

"The falls of the Potomac are awfully sublime: the dark, deep gulf which yawns before you, the foaming, roaring cataract, the eddying whirlpool, and the giddy precipice, all seem to threaten life, and to appall the senses. Yet it was a great delight to sit upon a high and jutting crag, and look and listen."

The flow of water at Great Falls ranges from 500 cubic feet per second during droughts, or the merest dribble, to 480,000 cubic feet in flood. Anything over 100,000 feet per second is flood stage. During high water the falls are completely covered by continuous roaring rapids. The most effective scenic stage is between 4,000 and 40,000 feet.

On the Virginia side of Great Falls may be seen what are possibly the only remains of any engineering works actually done by George Washington which show his original directive genius.

These are a section of the canal and a series of partly ruined locks, as well as the ruins of a jail of the Potomac Company, of which Washington was president and which was the first corporate improvement of navigation for public use in America.

It has been said that the improvements made by the "Patowmack" Company and completed in 1802 were as great an engineering triumph for that day as was the Panama Canal at a later time.

A drop in the water level of 76 feet had to be overcome in less than a mile, with no adequate tools or explosives and no engineers or workmen familiar with lock design and construction.

Where the last lock enters the Potomac below the falls there is a practically solid granite wall of 50 feet, as anyone who visits the spot can see for himself, which had to be blasted through with powder. Old iron wedges used for blasting are still stuck in the granite wall.

After a century and a half and many disastrous floods, the dark "Seneca red" walls of the locks are still handsome and in places solid-looking. The great blocks of stone are beautifully hand-cut and fitted with precision and trim alignment.

Directly below the point where the last lock enters the river, the stream is narrow and flows swiftly and darkly. Steep rock walls rise on either side. There is no sign of life.

No scene in the interior of Alaska or Siberia could be more primitive.

Only the larger falls were by-passed with canals by the Potomac Company; from the lesser falls and ripples, rocks and other obstructions were removed. Some of the raft-like boats or barges did not attempt the hard upstream trip, but were broken up for lumber at Georgetown.

Near Great Falls there was an assembly pool for barges, each one waiting its turn to go through the five locks. Ruins of a jail indicate that western boatmen may have become unruly while waiting their turn.

George Washington and the Potomac Company

During its more than 20 years of operation, about 100,000 tons of freight were carried through the canals, and one dividend of $5.55 was paid. Washington invested $10,000 of his own money in the company and, until his duties as President of the United States took all his time, supervised its work.

He gave 50 shares of stock at a par value of $22,200 to found a university in the Nation's Capital (now George Washington University), but the stock became worthless because the shipping season was too short for profits, being limited to high water.

But the Potomac Company's limited financial success should not measure its historic significance, since all its rights were transferred to the new project, the Chesapeake and Ohio Canal.

* See "Great Falls of the Potomac," by Gilbert Grosvenor, National Geographic Magazine, March, 1928.

© National Geographic Society

Kodachrome by Willard R. Culver

In April, When Wistaria Blossoms on the Arbor, All Is Quiet Along the Potomac

This view is from the home of Mrs. William N. Doak, widow of President Hoover's Secretary of Labor. The house sits on the Virginia side of the Potomac Palisades near Chain Bridge. Here the stream is narrow, deep, and treacherous. Three miles beyond, it meets the tide and becomes fat and sluggish.

© National Geographic Society

Kodachrome by Robert F. Sisson

At Harpers Ferry in the Blue Ridge Three States Converge: Maryland (left), Virginia (right), and West Virginia (foreground)

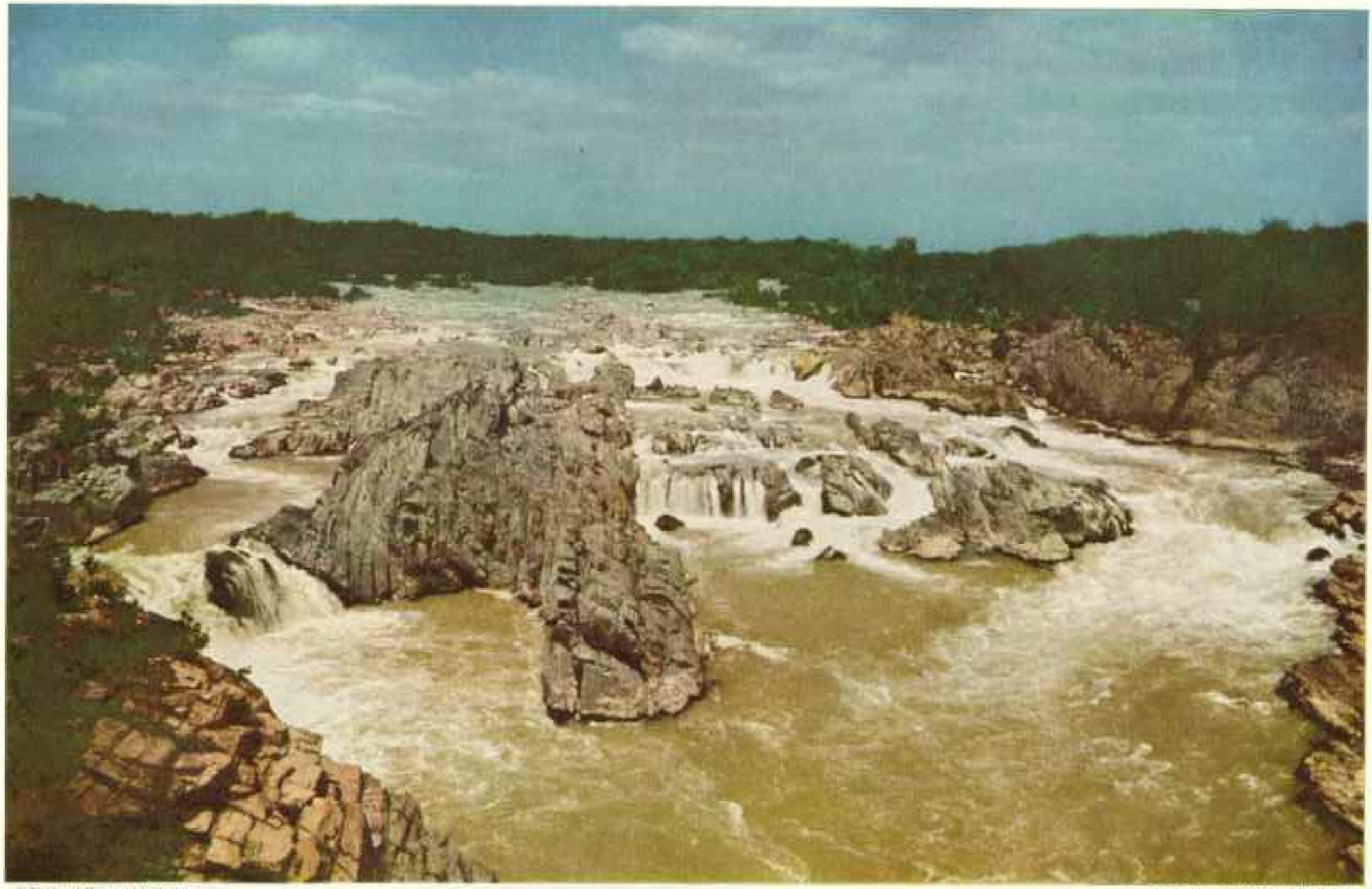
A Baltimore & Ohio freight crosses the Potomac at the spot where the line opened a road to the West a century ago. At tunnel's mouth the road bridges the C and O Canal, a vanquished competitor. Beyond the station stood the arsenal seized by John Brown in 1859. At the tip of town the Potomac absorbs the Shenandoah.

© National Geographic Society

Kodachrome by Robert F. Bloom

Cyclists Tread a Towpath That Once Resounded with Mule Skinners' Cries—the Old Chesapeake and Ohio Canal in Washington, D. C.

In 1871, 540 cargo boats were in service. Now horses tow at 2½ miles an hour an occasional pleasure barge (far side). Floods stopped commerce in 1924; now this section forms part of the National Capital's park system. Hikers and skaters visit the canal in winter.



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Kodachrome by Willard R. Culver

Amid a Primitive Wilderness 15 Miles from Washington, the Potomac Leaps Great Falls and Turns to Foam

In season, picnickers scramble on the granite; a roar assails their ears. Full flood levels off the cataract; then the flow greatly surpasses Niagara's average. No power plant mars the beauty. Here the river narrows into its gorge.

© National Geographic Society

Kodachrome by Robert F. Sisson

At Georgetown, Where the Channel Broadens, Bathing Beauties Get Sun Tan and Heat Relief

Teen-age divers find the bottom deep. Tide and flood, soiling the water, spoil their fun. Key Bridge, 1,650 feet long, connects Georgetown, D. C., with Rosslyn, Virginia. It is named for Francis Scott Key, author of "The Star-Spangled Banner." In Georgetown he built a home for his bride and fathered 11 children.

© National Geographic Society

Kodachrome by Willard R. Culver

"Worth a Voyage Across the Atlantic," Thomas Jefferson Said of the View from Jefferson's Rock, a Natural Bench on the Shenandoah

A short distance to the left, the river joins the Potomac—"one of the most stupendous scenes in nature," according to Jefferson. Here at Harpers Ferry in 1801 he watched eagles nesting. He sent one to the King of Spain. The latter returned a ram. For this Jefferson was accused of "receiving presents from a foreign potentate."

© National Geographic Society

Kodachrome by Robert F. Sisson

Signalizing a Regatta on the Potomac, the Washington Canoe Club Flies Bunting

Members sometimes paddle downstream the 7 miles to Alexandria, Virginia. Upstream, Little Falls stops them. In 1924 the club's canoe team won an Olympic championship in Paris. In Washington's Tidal Basin, spring brings out water scooters.

© National Geographic Society Kodachrome by Willard R. Culver

At Harpers Ferry's Oldest House She Feeds Pigeons on the Flagstone Public Walk

Settling here in 1734, Robert Harper established a Potomac ferry. Shenandoah Falls, his village, survived the Pumpkin Flood, so called for its washing away so many pumpkins from Indian fields. It was renamed in his honor. In 1780 he built this house but never lived in it. A recent ordinance has ousted pigeons.

But that was not all. A conference at Alexandria and Mount Vernon to consider disputes between Virginia and Maryland over control of commerce on the river led to a meeting at Annapolis the next year. This took on a broader purpose, and out of it grew the Constitutional Convention at Philadelphia the following year.

It is hoped that the Great Falls works of the Potomac Company may eventually be restored in intelligent, careful, and reverent fashion and included in a permanent memorial or park.

Nearly 40 miles from Washington, the steep rocky mass of Catoctin Mountain, an outpost of the Blue Ridge, rises abruptly from the river's edge. The only possible location for the Chesapeake and Ohio Canal for a considerable distance was along the very base of this bluff.

But on the same day that President Adams turned the first sod of the canal, the venerable Charles Carroll, of Carrollton, sole surviving signer of the Declaration of Independence and then more than 90 years old, assisted in laying the cornerstone, only 40 miles away, of the Baltimore & Ohio Railroad.

Baltimore could not build a canal to the west as did New York and Washington, or a complicated series of lifts and canals, as did Philadelphia. So it adopted a new device, the railway, and started building it across central Maryland to the Potomac at the Point of Rocks.

For several years the two enterprises clashed in the courts, holding up each other's construction. Finally they reached an agreement and went along close together much of the way, the railroad being completed first.

Harpers Ferry, Gateway to the Appalachians

At Harpers Ferry, 11 miles beyond Point of Rocks, we definitely leave the Piedmont, pass through a gap in the Blue Ridge, and enter the great Appalachian Mountain area.

This barrier proved a tremendous handicap to early migration and settlement beyond the Atlantic seaboard, for the Hudson-Mohawk Valley is the only considerable break in 1,500 miles of mountain wall.

The series of high, long, narrow, parallel Appalachian ranges enclose great valleys which are crossed at nearly right angles by the Potomac.

The Potomac and other streams cut through the ridges by gorges, or water gaps, one of the most famous being at Harpers Ferry, where Virginia, West Virginia and Maryland come together (Plate II).*

For nearly a mile the Potomac and Shenandoah Rivers, almost parallel and separated only by the narrow tongue of land on which Harpers Ferry stands, flow noisily over rapids, until "in the moment of their junction," as Thomas Jefferson said, "they rush together against the mountain, rend it asunder, and pass off to the sea."

Mr. Jefferson added that "this scene is worth a voyage across the Atlantic," and he spoke of "these monuments of a war between rivers and mountains which must have shaken the earth itself to its centre" (Plate VI).

Harpers Ferry is a strange mixture of scenic grandeur, unusual historic interest, sheer picturesqueness, and decadence.

Although surrounded by noble heights and itself a steep, rocky, and declivitous tongue of land, Harpers Ferry is the lowest point in the State of West Virginia. Thus it has suffered so grievously from a succession of floods that the lower part of town looks like an Italian hill village after the Nazis left, almost bereft of residents and trade alike.

After the Revolution, the arsenal system was founded under George Washington, the first national arsenal and armory being at Springfield, Massachusetts, the second at Harpers Ferry, a few feet from where the railroad station is today.

The Springfield arsenal is still one of the great units of our system of defense, and Harpers Ferry was long of comparable importance, with its 80,000 to 100,000 stands of arms at all times.

But it was destroyed at the very beginning of the Civil War and never rebuilt.

The four fine mansions erected by the Government for the superintendents and their help were given by Congressional act in 1868 to Storer College, one of the first established for the Negro race, and they still form the nucleus of that institution.

The little town is one of steep, narrow paths, rough, winding stone steps, and tall, narrow, gabled houses, almost stately in their old-time simplicity of line, even though half in ruins on their hillside perches.

Sitting on the steps in the evening, I watched a woman feed several hundred pigeons that fluttered down upon the porches of an apparently deserted and partly ruined but still massively dignified dwelling. She told me she sold no pigeons but raised them only for pleasure (Plate VIII).

Alas for romance! Several months later I read that the town council had banned the

* See "Pirate Rivers and Their Prizes," by John Oliver La Gorce, in the National Geographic Magazine, July, 1926.

Staff Photographer Willard R. Culver

Century-old St. Paul's Church Witnessed Point of Rocks' Heyday

Here converged, in the early 1830's, the C and O Canal and the B & O Railroad. Both needed right of way in the narrow gap between the rocky foot of Catoctin Mountain and the Potomac. A long court battle kept Point of Rocks in the news until a compromise squeezed both through. The doorway frames a section of the rich farmland of Frederick County, Maryland.

breeding and harboring of pigeons unless they are kept under enclosures.

Few American towns so small are as well known as Harpers Ferry. This is because in the early summer of 1859 John Brown, the abolitionist, secretly selected it as a site for a slave uprising, hiding his followers and nearly a thousand pikes in a mountain farm several miles away.

Frederick Douglass, the great Negro leader, protested that Harpers Ferry would prove a "trap of steel, and ourselves on the wrong side of it." But Brown paid no attention, with the fateful results known to every American schoolboy.

"John Brown's Fort" on College Campus

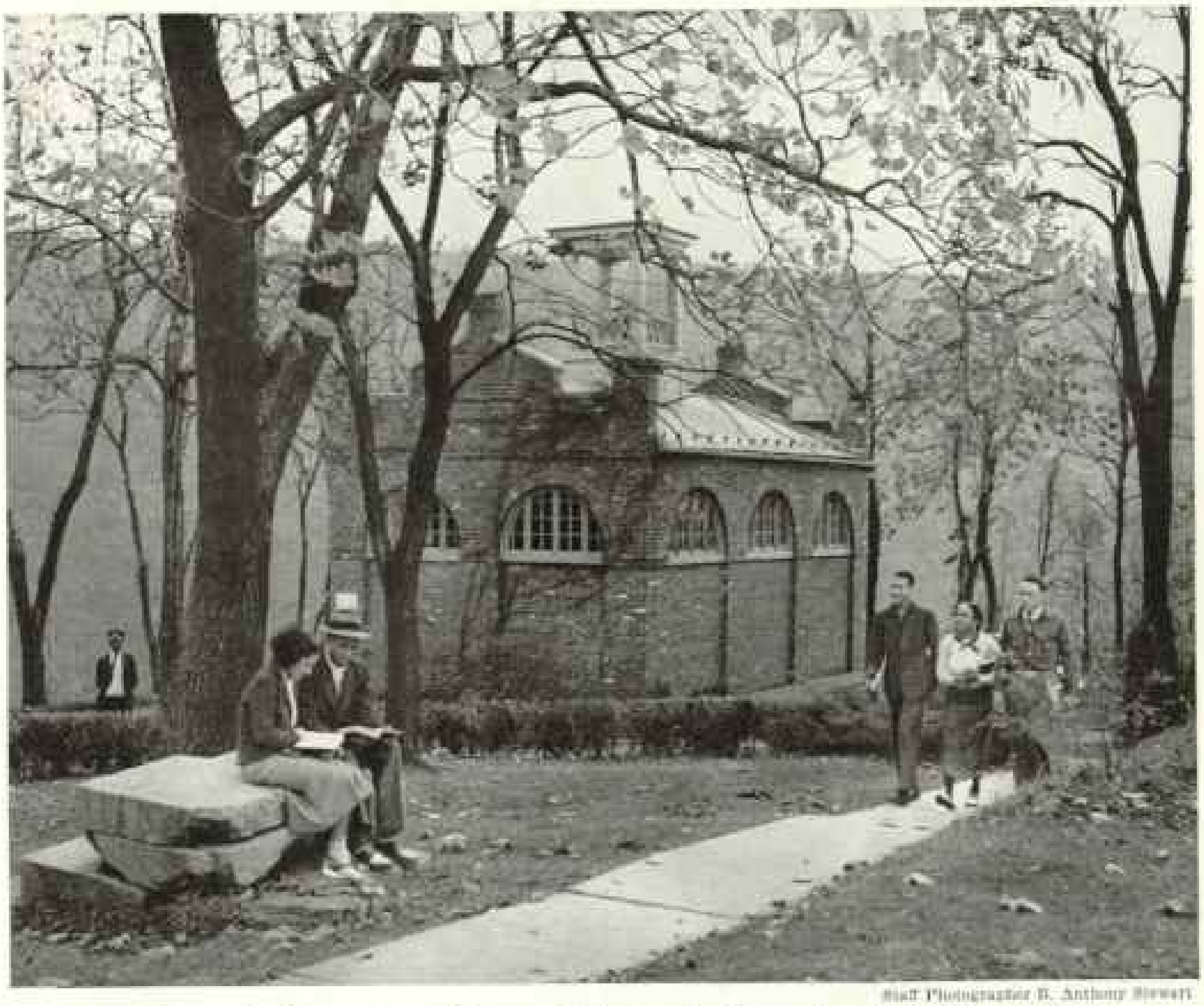
"John Brown's Fort," the ill-fated little arsenal engine house in which Brown and 21 followers sought to take refuge, was never destroyed.

It was dismantled in 1892, shipped to the World's Fair, brought back to Harpers Ferry and set up in a near-by field, repurchased in 1909 and removed to the campus of Storer College, where, far above town and rivers, it can now be seen (opposite page).

Except for the slow leveling processes of time and weather, the entire ring of Civil War fortifications which filled the two great heights overlooking Harpers Ferry remains in a remarkable state of preservation. In fact, the artillery roads are visible from the town.

A few miles beyond Harpers Ferry, what is generally considered the bloodiest and most bitterly contested single battle of the Civil War was fought on the banks of Antietam Creek, close to where it flows into the Potomac.

The river was of supreme importance during the war, with both armies repeatedly crossing this natural dividing line between North and South.



Staff Photographer B. Anthony Stewart

John Brown's Fort, after a Trip to Chicago, Is Home Again in Harpers Ferry

When slaves failed to rally to John Brown after his capture of the arsenal in 1859, he and his 21 armed followers made their last stand in this fire-engine house. Brown was captured and two of his sons were killed when Federal troops under Robert E. Lee stormed the fort (Plate II). Dismantled in 1892, it was an attraction at the Chicago Exhibition. The country's Negroes raised some of the funds to bring it back to Harpers Ferry, where it serves as a museum for Storer College, a Negro coeducational institution.

Lee's two disastrous invasions of the North, the first ending in Antietam and the second in Gettysburg, had to be made above Washington. The upper river was, and is, shallow enough to be forded in many places, while the lower, navigable portion was controlled by Union gunboats.

As a matter of fact, the upper river in dry season was easier for the Confederates to cross than the canal alongside of it.

In view of the destructiveness of modern warfare, it is suggestive that the Confederates were never able to blow up the locks or aqueducts, although they tried several times.

Lack of high explosives and power machinery, such as bulldozers and steam shovels, explains this failure.

Once Harpers Ferry is passed, we find ourselves between the Blue Ridge and Allegheny Mountains, in the Great Appalachian Valley. It is one of the longest mountain valleys in the world and one of the most fertile regions in this country.

In Pennsylvania and Maryland it is known as the Cumberland Valley, and in West Virginia and Virginia as the Shenandoah Valley, or Valley of Virginia.

A Valley Helps Make History

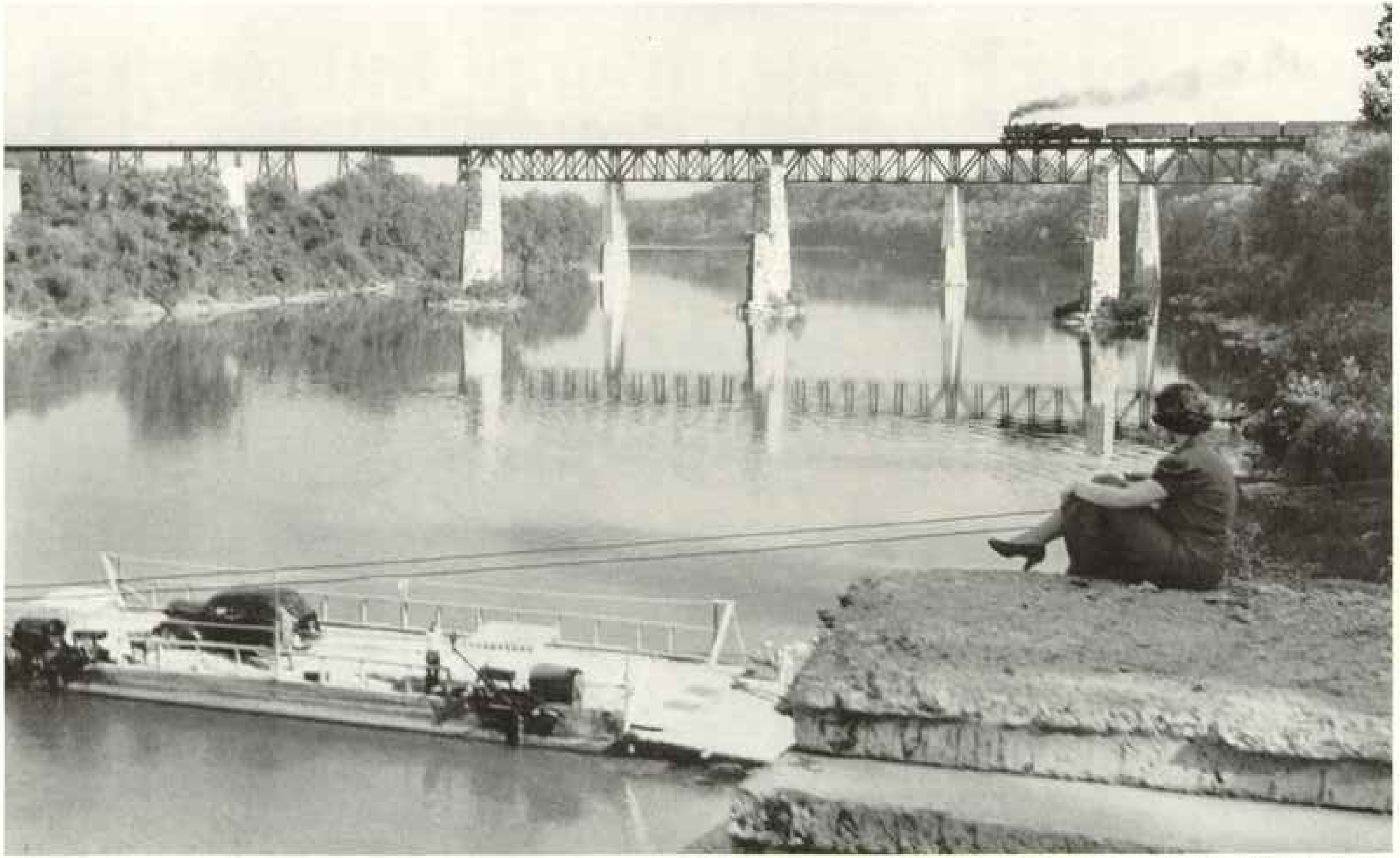
But the Appalachian Valley is a single natural pathway from north to south, down which the tides of migration, settlement, and commerce have flowed from earliest times, regardless of State lines.

The portion of the Great Valley which we enter at Harpers Ferry is the Eastern Panhandle of West Virginia, a neck of land almost completely surrounded by Virginia and Maryland and separated from the rest of West Virginia by the Alleghenies.

Fairchild Aerial Surveys

When It Became Public Land, Cupids Bower Lost Its Name but Retained All Its Charm

Trees hide the tiny channel that separates the wooded isle, now called Sherwin, from the Maryland shore (left). This view is downstream toward Washington; two miles upstream is Great Falls. The winding C and O Canal is seen between road and river. Black Pond, within the curve, is filled with dark, clear water.



Staff Photographer W. Baird B. Culver

A Motor-driven Cable Ferry at Shepherdstown Replaces the Road Bridge Washed Out in 1936

Periodic floods reaching unbelievable levels have ravaged the Potomac and its shore-hugging canal (page 40). Piers in front of the Norfolk and Western Railway bridge are gravestones of an old, drowned-out span. The girl sits on a pier of the ruined highway bridge, since replaced by a toll-free span. This barge and Whites Ferry were the last of the river's many ferries. Pack Horse Ford, in the far distance, saw heavy traffic during the Battle of Antietam, fought near by in Maryland (left). James Rumsey demonstrated his pioneer steamboat along this placid bend (page 56).

Staff Photographer Willard R. Culver

Rumsey Monument Soars above the Potomac

On a high bluff at Shepherdstown rises this column in honor of James Rumsey, an inventor of the steamboat. In 1787 Rumsey's boat achieved four miles an hour. It operated on the jet principle, using a steam pump to force a stream of water from the stern faster than it took it in at the bow. The same year John Fitch demonstrated on the Delaware a boat propelled by steam-driven oars.

Once part of Virginia, it is still as much Virginian as West Virginian, which is not surprising in view of the fact that the West Virginia capital, Charleston, is farther away than Richmond and almost as far as New York City.

One of the most picturesque migrations into this region was that of two brothers and other relatives of George Washington. Charles Washington, youngest brother of George, founded Charles Town (not to be confused with Charleston), 7 miles from Harpers Ferry.

The supposed exact location of John Brown's hanging is marked by a tablet on the corner of a residence, and the courthouse where he was tried is still in daily use.

At the time of my visit, sign painters were engaged in an activity now so common throughout the land. They were adding many new names to the already long honor roll in the courthouse yard.

Homes of the Washington Family

Several of the comfortable homes of the Washington family still dot the quiet, pleasant little southern town and its near-by countryside. Nearly all the original streets bear the Christian names of members of the family.

Still standing is Harewood, one of the Washington houses, in which the famous couple, Dolly Payne Todd and James Madison, later fourth President, were married (Plate IX).

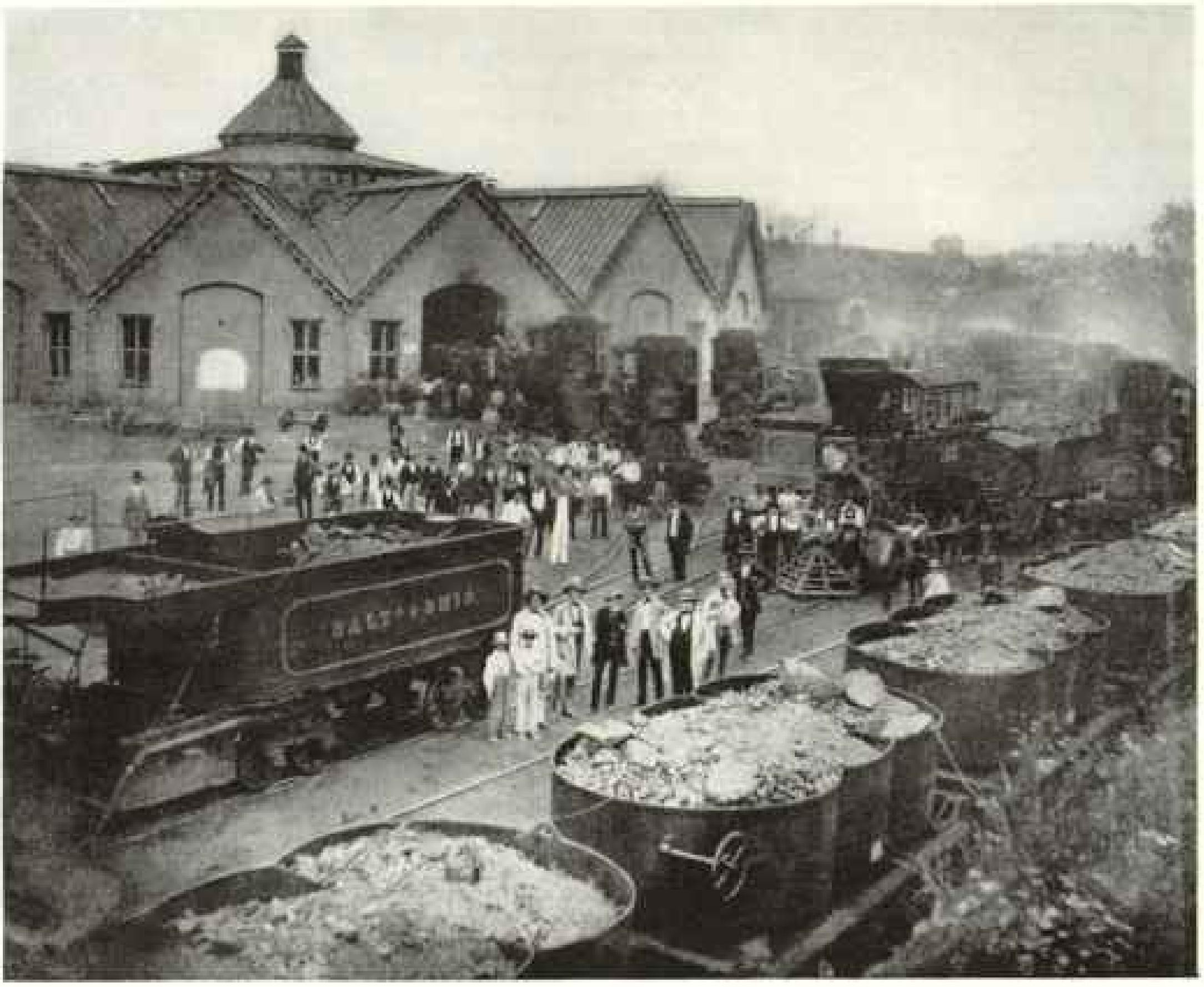
Even Martinsburg, industrial center of the Eastern Panhandle, has about it a picturesque, placid quality that is inseparable from long-established landmarks.

On East Burke Street stand two adjoining houses in which were born respectively Senator Harry F. Byrd and the late Newton D. Baker, Secretary of War in World War I.

A great new Army general hospital near Martinsburg is named after Mr. Baker. Only a few miles from where plodding mules once pulled canalboats at 4 miles an hour, airborne casualties were being brought in from foreign theaters of war.

The next time your train stops at Martinsburg, remember that from this station Col. Thomas R. Sharp, of the Confederate Army, acting on Stonewall Jackson's orders, confiscated B & O locomotives and by the use of 40 horses and jacks moved more than a dozen of them over dirt roads 38 miles to Strasburg, Virginia, the nearest Confederate railroad (opposite page).

President John W. Garrett of the B & O so admired this amazing engineering feat that after the war he made Colonel Sharp his master of transportation and right-hand man.



Stonewall Jackson Made Such Iron Horses Travel a Highway

This old photograph shows the Martinsburg, West Virginia, railway yard and original roundhouse before the Confederates captured them in 1861. The orders were, "Destroy all railroad property," but General Jackson saved 14 B & O locomotives. Forty horses hitched four abreast dragged each engine 38 rail-less miles up the Shenandoah Valley Pike to the Confederate railhead at Strasburg, Virginia. Engines are "camel-backs" with cabs perched atop the boilers. Old-type hopper cars, with three "ash cans," held 20 tons of coal.

Getting temporary control of this vital borderline railroad, the Confederates would tear up rails, melt them in bonfires made from the ties, and wrap them around the nearest tree.

The Choice of Our Nation's Capital

Two little towns on the river, Shepherdstown, oldest continuously settled community in West Virginia, and Williamsport, 12 miles beyond on the Maryland side, each had eager hopes a century and a half ago of becoming the Nation's Capital.

After the Constitution was adopted, Congress debated long and bitterly the location of a capital for the new Nation.

Finally Hamilton and Jefferson reached a compromise, Hamilton getting reluctant Southern support for certain of his financial measures, and the South getting the Potomac capital site, "at some place between the mouths of the Eastern Branch and the Conococheague."

The Eastern Branch is the Anacostia River, which flows through the present Capital and into the Potomac, and Williamsport was and is at the junction of the Potomac and Conococheague Creek.* President Washington was given authority to choose the exact site between the two rivers.

He viewed the whole area and chose the most southerly site possible under the law. In so doing, he favored his home town of Alexandria, which the Northern States regarded as too far south.

But his motives were by no means selfish; he logically selected the head of deep-water navigation.

* See map supplement of "Historic and Scenic Reaches of the Nation's Capital," with the NATIONAL GEOGRAPHIC MAGAZINE, July, 1938. Separate copies in paper, 50¢; in linen, $1.00.

Wide streets were laid out in Williamsport in case it should be chosen; it had been an important junction of trails in the French and Indian War; in the neighborhood were many mills and forges. Later it became a supply center and canal port of consequence, and is today one of thousands of little industrial towns.

Shepherdstown, now a tranquil rural and college hamlet, was a commercial and business center before and after the Revolution. It was said that one could purchase anything there from a silver spoon to a church steeple.

Coaches, wagons, horsemen, and herds of sheep, swine, cattle, and horses passed through the town in a constant stream. Most of the German settlers from Pennsylvania and other points east crossed the river at near-by Pack Horse Ford.

Monuments are often dull affairs, but the imposing shaft high above the river at Shepherdstown, in honor of James Rumsey, one of the prime movers in the establishment of steam navigation, seems to make that highly creative genius come to life (pages 53 and 54).

Limestone and the "Great Valley"

But the Great Valley does not need the National Capital, or even a historic invention, to make it famous.

It is underlaid by massive embedded deposits of limestone. In comparatively few places in the world has one substance done so much for mankind as "stone" has done in the Valley.

In the first place, the Valley would not exist at all if the limestone had not worn away faster than the shales and sandstone. In the next place, because of available building material the Valley had good turnpikes early in American history.

Even after the advent of automobiles and before good roads were built along the Coastal Plain, motorists from New York to Florida went all the way down the Valley to Chattanooga before turning east.

In the Shenandoah portion of the Valley, large numbers of vast caverns, the delight of visitors, have been created by the action of water in leaching, or washing away the stone.

But from a practical standpoint, limestone is important because of its use in farming and for a great variety of industrial and chemical purposes.

It is widely distributed throughout the country, but the veins in the Eastern Panhandle are among the largest and most valuable.

Curiously enough, these West Virginia limestones are essential to two industries as different as water cress for salad and the great Pittsburgh steel mills.

Between Martinsburg and Williamsport, near the Potomac River, is the summer watercress farm of C. E. Dennis, American watercress "king," his winter farm being near Huntsville, Alabama.

Mr. Dennis supplies more than half of the water cress sold in this country. His father, Frank, founded the business in 1874, when he began to peddle wild cress to summer-resort hotels.

The cress is grown in shallow ponds fed by limestone springs. I saw a mile of these pools at the Martinsburg farm (Plate XVI).

The ripe cress is harvested by workmen in hip boots, precooled for the required length of time, and shipped in ice by express to the extent of 33,000 bunches in a single day.

The limestone mined near Martinsburg is one of the best known for steel fluxing purposes, and the great Pittsburgh steel mills take vast quantities of it, paying more in freight rates than for the stone itself.

Limestone does not become a part of the steel, but absorbs impurities like a piece of blotting paper.

I saw it mined in huge shafts, or rooms, 110 feet in height, where ladders 60 or 70 feet long are used.

The Land of Apple Blossoms

Partly because of its limestone soils, the Appalachian Valley has sustained a high type of general farming for some 200 years.

But what appeals most to the visitor is the fact that one of the country's leading apple regions stretches in a southwesterly direction from Allentown, Pennsylvania, all the way to the Virginia-Tennessee border, not only in the Valley itself but on the mountain sides, the plateaus, and detached hills as well (Plates XIV and XV).

I visited the apple section near the Potomac early in May when the blossoms were in full but fleeting bloom. No description can do justice to the soft, filmy, dreamy quality of a great hillside orchard at such a moment.

To a layman, the most fascinating feature of a commercial apple orchard in blossom is the artificial pollination by rented bees.

Until comparatively recent years, wild bees were counted upon to perform this function gratis, but that is not efficient enough for the modern fruit industry.

The bees, plugged into their hives, are brought into an orchard at night. At dawn the plug is pulled out and the bees go to work.

When the job is done they are plugged in, again at night, and moved by truck to the

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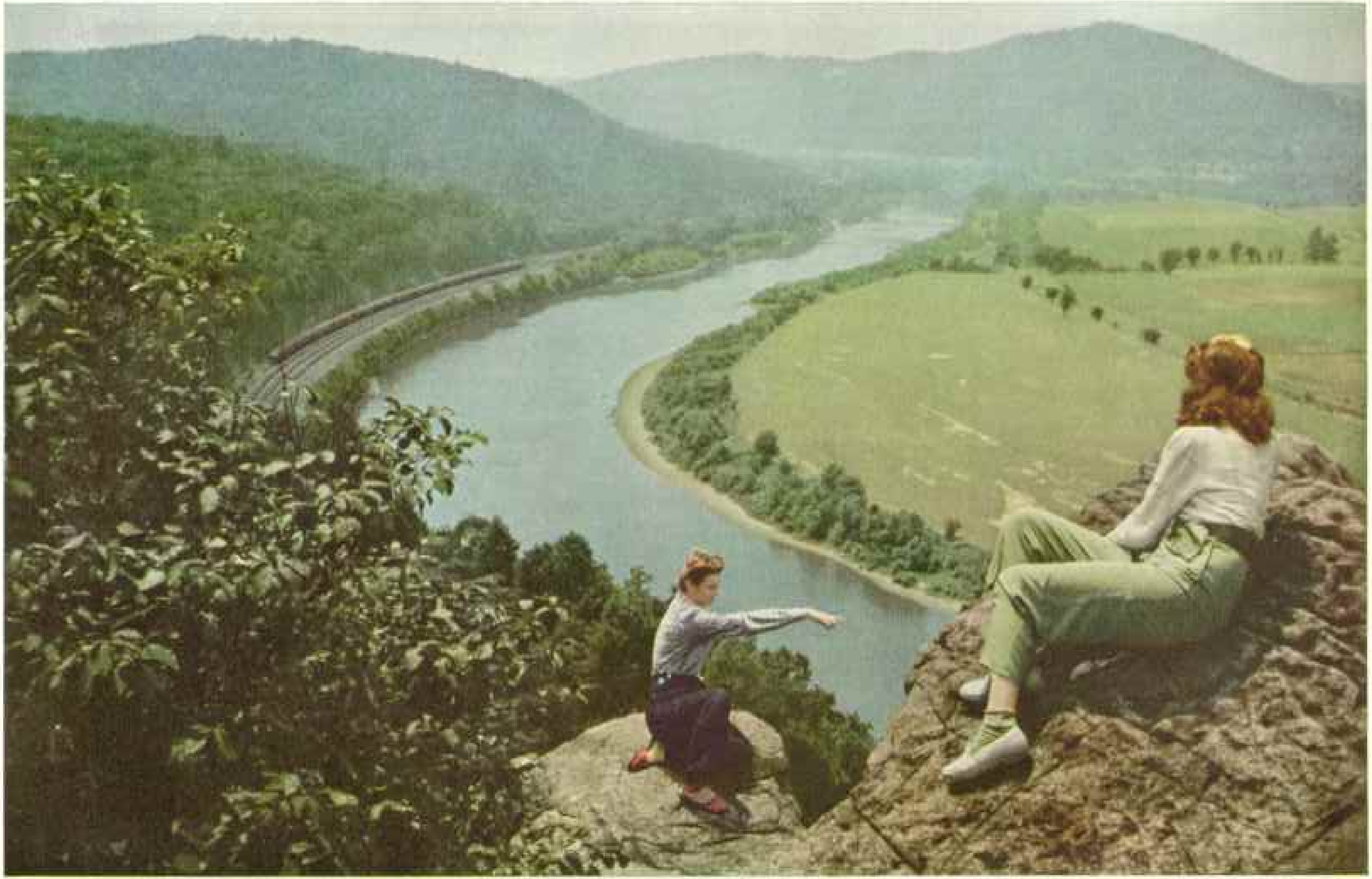
Kodachrome by Willard R. Culver

Col. Samuel Washington Hangs in a Room Where James Madison Wed Dolly Todd in 1794

Near by, Samuel is buried with two of his five wives. Harewood, his home, was designed by George Washington. It is near Charles Town, named for their brother, Charles. Harewood was built (1770) in Virginia. West Virginia claimed it in 1861. Old Charles Town folk refused to recognize the new State.



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Between Mountains and Meadows a B & O Train Follows the Looping Potomac; Trees Cover Its Old Rival, the Canal (Right Bank)

Sight-seers sit on Cacapon Mountain. From it four States may be seen: West Virginia (left), Maryland (right), Pennsylvania, and Virginia. The view was celebrated even in 1769, when George Washington "rid (rode) to see the prospect from thence." Nearly a century later Confederate troops mounted cannon on Cacapon.

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On a Virginia Bluff 300 Feet above the Potomac, Girls of the Madeira School Practice Jumping

This college preparatory school was founded in 1906 by Lucy Madeira, still its headmistress. Riding is a favorite sport. Here the river is so swift and dangerous that students are not allowed to swim or boat in it. Two miles to the northwest, the rapids above Great Falls offer a superb view from the school (Plate IV).

© National Geographic Society Kodachrome by Willard R. Culver

Paint-proof Respirators Cannot Mask the Beauty of Hagerstown, Maryland, Girls

At Fairchild Aircraft they spray the wing of a Navy PBM. The company is well known for its trainers, in which hundreds of thousands of Army pilots learned to fly. Lately it has built the C-82, a huge cargo plane. War-expanded Fairchild has plants and subcontractors scattered all over Hagerstown.

In Organ Making the Voicer Alters the Mouth of Each Pipe until the Tone Is Right

His is an old and skilled craft. Possibly one out of a hundred candidates makes good. Voicers made excellent inspectors when the M. P. Möller organ works in Hagerstown turned to making aircraft parts.

© National Geographic Society Kodachromes by Willard R. Culver

With an Airbrush, He Stains a Cowhide in a Williamsport, Maryland, Tannery

Seeking a site for our Capital in 1790, George Washington inspected this Potomac-side town. He rejected it because Great Falls impeded navigation. Now Washington, D. C., has 926,260 population; Williamsport, 1,772.

© National Geographic Society

Kodachrome by Willard R. Culver

Apple-blossom Time on the Potomac-side Is a Dream of Splendor to Martinsburg, West Virginia, Girls

In West Virginia, as in its neighbors, the fabulous Johnny Appleseed (John Chapman) founded orchards. Dressed in a coffee sack, he roamed barefoot from 1801 to his death in '47. With him went a bag of apple seeds for planting beside fences. During the War of 1812 his warnings of Indian raids saved hundreds of settlers.

© National Geographic Society

Kodachrome by Willard R. Culver

Sauce for the Armed Forces, Six Million Red Apples Await the Canners at Inwood, West Virginia

Some of these come from near-by Apple Pie Ridge, so known for the pies its Quaker women took to all-day meetings. Others, from trans-Potomac Maryland, were picked by German war prisoners. In season 15 freight cars a day are loaded with products of the C. H. Musselman Company, a processor.

Cutters in Hip Boots Crate Water Cress in a Living Salad Bowl Fed by Limestone Springs

Near Martinsburg, West Virginia, this is the farm of C. E. Dennis. Annually it ships 2,500,000 bunches in ice, some as far west as Denver. Each year ponds are drained, plowed, fertilized, harrowed, and replanted.

© National Geographic Society Kodachromes by Willard R. Culver

Summer Brings a Burst of Wild Morning-Glories to West Virginia Roadsides

Botanizers love the State. More than 200 flowering trees and shrubs color the countryside. Wild crab apple's pink blossom is a favorite. In the mountains grow 36 species of orchids; in slopes and dells, 58 kinds of ferns.

next customer. Washington County, Maryland, was reported to have used some 20,000,000 rented bees during blossomtime last year.

The largest individual applegrower in this country is Senator Harry F. Byrd, whose many different orchards are widely distributed in both the Shenandoah Valley of Virginia and the Eastern Panhandle of West Virginia.

With his brother, Thomas B. Byrd, he owns approximately 6,000 acres, including a thousand or more which he planted during years of relative depression and which have not yet come into production.

Senator Byrd went into apples 40 years ago as a boy. He told me that he loves nothing better than to see the trees grow and the harvest under way.

Despite his major role in Washington, he spends week ends at his properties, mastering complex technical phases of the industry and developing important new types of fruit.

Not until railroads made shipment to large eastern city markets possible, especially after the Civil War, did apple growing become a money crop for this region.

True, George Washington stipulated in his leases that tenants must raise apples, and almost every farm has always had an apple orchard. But there was no market for the fruit.

Indeed, one of the chief uses for fruit in early days in this country was for cider, apple jack, brandy, and wine.

The Story of Apple Pie Ridge

The first commercial applegrower in the regions of which I write was W. S. Miller, whose operations on "Apple Pie Ridge" date from about 1851.

No success as a wheat farmer, he tried a vineyard and a winery, but was forced out of that business by his wife when she was shocked by the sight of a drunken man in the gutter on her way home from church.

A buyer for a New York City commission house paid Miller $6,000 cash for one of his crops, and that unheard-of sum gave the whole Shenandoah Valley apple industry its start.

Apple culture is so intensive that one may travel miles through apple country without seeing orchards, for they are scattered or spotted about only in especially advantageous positions.

But though new plantings have come to the fore in recent years, Apple Pie Ridge, settled in part after the Revolution by released Hessian prisoners, is still one of the most densely planted areas in the East.

It is a low, irregular rise of land, which extends about 20 miles from the vicinity of Winchester, Virginia, to Martinsburg, West Virginia.

A story I ran across in the apple country concerned the planting of the great Tonoloway orchard, which covers four miles of a steep mountainside near the Potomac River at Hancock, Maryland.

A pioneer grower, the late Edmund P. Cohill, had serious difficulty in clearing the slopes of their rough covering of shrubs.

His son Billy, then only in his early teens, had read an article on the ability of goats to clear land and urged his father to give him the money to go to Texas and buy a large flock of goats. This was done. The goats proved highly effective and Billy sold them at a profit. Later he became a priest, served in China as a missionary, and died there.

Near Antietam battleground and a few miles northeast of the Potomac lies the city of Hagerstown, close by the crossroads of two great natural highways, the old Appalachian trail down the Cumberland and Shenandoah Valleys, and the historic National Road with its auxiliary highway from Baltimore to Wheeling on the Ohio River, now Route 40.

This was the most famous and important of all early highways, being the first constructed by the Government. Beyond Cumberland it took the route followed by Braddock in his disastrous campaign against the French and Indians.

The influence of the National Road, also known as the Cumberland Road, upon the early settlement of Ohio, Indiana, Illinois, Michigan, and Wisconsin was incalculable.

Hagerstown and Washington County have long been regarded as unusually favorable for survey purposes, as they are considered typical, or average, for the United States.

There is a nice balance of urban and rural, and of industry, trade, and agriculture.

Until the war caused the Fairchild Engine & Airplane Corporation to expand its operations in Hagerstown, the city had a highly diversified, locally owned group of industries, from organs to sand-blast machinery.

But in the process of making the city the hub of trainer production for the Army, since superseded by cargo planes (Plate XII), a policy of using existing space and of subcontracting of the most extraordinary proportions was adopted.

Taken over were the M. P. Möller organ works, the exhibition hall on the county fair grounds, a lodge of the Independent Order of Odd Fellows, a residence, a furniture store, a label and banner factory, a silk-hosiery mill, a paper mill, a flooring factory, a leather company, and a number of garages.

U. S. Department of the Interior

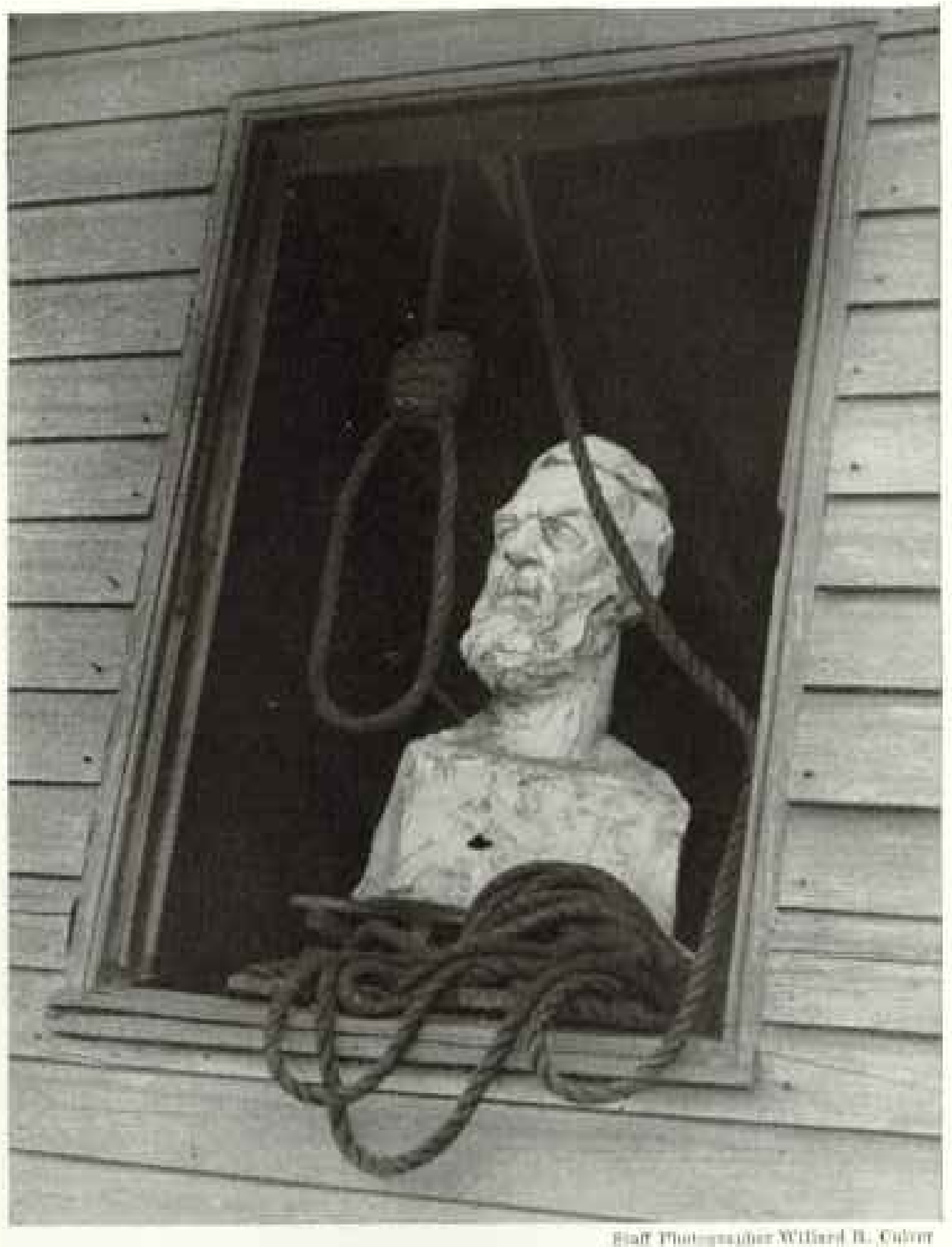
Skyline Drive, Running 96 Miles along the Crest of the Blue Ridge, Has Such Views as This Every Mile of the Way

In 1941 more than one million visitors to Virginia's Shenandoah National Park motored along this famous drive. Waters of "the Valley" reach the sea by a circuitous route, flowing in the Shenandoah northeast to Harpers Ferry, thence east and south by the Potomac to Chesapeake Bay.

Staff Photographer Robert F. Sisson

A Tablet Recalls One of Washington's Business Ventures

The Father of his Country became the first president of the "Patowmack" Company, which built and operated a waterway around Great Falls on the Virginia side. Investing $10,000 of his money in the venture, he gave 50 shares of stock to found George Washington University (page 40).



Staff Photographer Willard R. Culver

John Brown's Bust Gazes Through a Noose

In Harpers Ferry a sculptor started a bust of the abolitionist, but wandered off before he finished it. Someone placed it in a window of a deserted shack overlooking a cemetery and hung a noose before it. Caught after his 1859 seizure of the U. S. arsenal, John Brown was tried and hanged for treason.

Staff Photographer Willard R. Culver

At Hancock, Western Maryland Hangs to the Rest of the State by a Thread

This highway cuts across Maryland's two-mile-wide bottleneck, squeezed between West Virginia (foreground) and Pennsylvania (beyond the hill). The bridge crosses the B & O Railroad, Potomac River, and the old C and O Canal bed. In 1755, ill-fated British Gen. Edward Braddock took his redcoats through Hancock en route to his decisive defeat in the wilderness at the hands of the French and Indians.

Up to the time of its conversion the organ works, one of the world's largest, had produced more than 6,000 organs in actual use (Plate XIII). Today its chief job is still the manufacture and assembly of airplane parts, with only a little work on repair and reconstruction of existing organs and building of church furniture.

Hagerstown is a mixture of North and South, and of various early migrations. But such names as Highbarger, Stonebraker, Hornbaker, Blickenstaff, Humrichhouse, Horst, Zahn, Hagar, and Yeater greet the eye.

One prominent corner is occupied by the Nicodemus National Bank.

At 201 West Washington Street is the handsome Rochester House, "Mt. Prospect," built in 1789 by Nathaniel Rochester of Virginia, a colonel in the Revolution, Hagerstown's first banker, and the operator of a nail, lock, and rope factory. Later he founded the city of Rochester, New York.

Hagerstown Inspires an Essay

Capt. Oliver Wendell Holmes, later to become famous as a Supreme Court justice, was wounded in the neck at Antietam.

Trying to walk through Hagerstown, he collapsed in front of the Rochester House, was seen by a member of the family of Mrs. Howard Kennedy, the occupant, taken in, and nursed to health.

Later his father immortalized the incident in the essay, *My Hunt after the Captain.*

In a fine setting 15 miles west of Hagerstown, on the Potomac, stands Fort Frederick, one of the best preserved of Colonial stone forts. It was built after Braddock's defeat and

Staff Photographer Willard R. Culver

Here Stood the First Washington Monument, Destroyed at South Mountain 1862

The original "coffee creamer" memorial was erected by the citizens of near-by Boonsboro in one day, July 4, 1827. It was completed two years before Baltimore's Washington Monument and 57 years before the obelisk at Washington, D. C. The present structure, built in 1936, is the third on the site.

was large enough to house 700 settlers against French and Indian attacks.

During the Revolution, Hessian prisoners were kept here. Many escaped with not too much difficulty, settled down, and became good farmers. During the Civil War the old fort was occupied by Union troops.

At Hancock, Maryland is less than two miles wide, and I was driven from West Virginia into Maryland, across the State, and into Pennsylvania in less than five minutes.

The Potomac Valley narrows down at this point until the river, canal, National Road, and two railroads are practically side by side.

West of Hancock the river swings in winding loops through many Allegheny ridges.

On one of these ranges, high above the river, is the Woodmont Rod and Gun Club, one of the oldest hunting clubs in the country. Grover Cleveland was an early member, and the club is still noted for its distinguished guests and wealthy members.

Driving through the preserve, we saw wild turkeys in abundance. "During the short open season, about 1,200 are killed," the secretary said. "We have raised about 150,000 wild turkeys altogether. Many are sold to other clubs and to game preserves."

Several miles away, across the river in West Virginia, is Berkeley Springs, a portion of which Lord Fairfax had the 16-year-old George Washington survey. Later he set aside the land for the State of Virginia, in order that "these healing waters might be forever free to the publick for the welfare of suffering humanity."

In 1934 the West Virginia Foundation for Crippled Children established the Pines Clinic for infantile paralysis victims near the springs. The State helps support it.

Near Green Spring, 12 miles southeast of Cumberland, the main trunk of the Potomac is formed by the junction of the South and North Branches.

The South Branch rises near Hightown, Virginia. The North Fork of the South Branch rises near the top of Spruce Knob, highest mountain in West Virginia. They meet at Petersburg, West Virginia, and flow through a long rugged valley, little touched by industry, to the junction with the North Branch. The latter is considered the actual head of the river.

In early days the river from Harpers Ferry to the source of the North Branch was known as the Cohongaruton, or "Wild Goose Stream," and the South Branch as the Potomac.

But in his land grants Lord Fairfax applied the name Potomac to this section, and eventually it became the name of the whole stream.

We cannot follow the North Branch beyond Cumberland. Surveyors for Lord Fairfax marked the western boundary of his property with the Fairfax Stone, at the source, or "first fountain of the Potomac River."

There is now a marker on this site, near Thomas, West Virginia, and it is still known as the Fairfax Stone.

Cumberland Once a Frontier Town

Cumberland, one of the most historic of American cities, is a crowded, compact industrial and railroad center and, except for certain residential sections, is at the bottom of a natural bowl rimmed about by pile on pile of mountains.

Unlike so many cities of its size, Cumberland is not primarily an agricultural center and, because of its mountain surroundings, is 50 miles away from any other large town.

It was long one of the frontier outposts of eastern civilization, close upon the Narrows, an important natural gateway through the Allegheny wall to the west. In fact, the Narrows are now within the city limits.

In the past the Census Bureau found Cumberland to be the second largest city in Maryland. Whether the recent tremendous growth of suburbs immediately adjacent to Washington will make Silver Spring, one of the unincorporated portions of Montgomery County, slightly larger remains to be seen.

Cumberland early became a natural transfer and supply point on the National or Cumberland Road. It was the terminus of the Chesapeake and Ohio Canal, and also for ten years of the Baltimore & Ohio Railroad, although in Maryland it is nearer the Ohio than Chesapeake Bay.

The city is essentially industrial, but I could not walk through its narrow, one-way streets without sensing its great historic past.

The old city grew up around Fort Cumberland, which stood on a bluff overlooking the junction of the Potomac and Wills Creek.

A picturesque stone structure, Emmanuel Episcopal Church, and the county courthouse now occupy the site.

As a boy, George Washington had visited Thomas Cresap, field manager of the Ohio Company of Virginia, formed to trade with the Indians and acquire western lands.* George's elder half-brothers held shares in it. The company built a storehouse which later became Fort Cumberland.

Cresap and an Indian friend, Nemacolin, blazed a path over the mountains, where the fingertips of the Potomac interlock closely with the headwaters of the Ohio.

Practically all Washington's early military experience converged on Fort Cumberland and the famous trail over the mountains. When he was 21, he was sent from here almost to Lake Erie to warn the French to stay out of the trans-Allegheny country.

The next year he was made second in command of a Virginia regiment destined to strike the first blow in the French and Indian War.

Col. Joshua Fry, commanding officer, was thrown from his horse and died in Fort Cumberland, putting the youthful Washington in command of the campaign.

The next year Washington shared Braddock's defeat at what is now Pittsburgh.

The only physical reminder in Cumberland of these great events is the small cabin in the little park between the rivers and the bluff where the fort stood, the first of the many headquarters which Washington occupied as a commanding officer.

But the rivers and mountains are still there, enough to bring to the most unimaginative mind the steadfast purpose of the Father of his Country that the Potomac should be "the channel of conveyance of the extensive and valuable trade of a rising empire."

He was determined that the lands beyond the Alleghenies should not be lost to his country and divided up among European powers.

Not only the National Road, Chesapeake and Ohio Canal, and Baltimore & Ohio Railroad, but in fact the whole system of communication between our country's East and West, are the historic outgrowth of his early military campaigns and of his vision.

The Potomac is a river of destiny because George Washington made it so.

* See "Travels of George Washington," by William Joseph Showalter, in the National Geographic Magazine, January, 1932.

Paul T. Rimpo

Thus Looked Berchtesgaden Before Storm Troopers Cleared Out Civilians

When Hitler selected this south German town (on the Austrian border) for his home, it was a favorite summer and winter resort for Germans who climbed the Alps and took excursions on the lovely Bavarian lakes roundabout. Since Roman times salt has been mined from deep caverns here. Seventh Army troops captured Berchtesgaden without a fight. Decorations indicate the chalets house taverns and wine rooms *(Weinstuben)*.

European

"Give Back Our Cheers," Salzburg Must Be Saying Now—In 1938 Its Citizens Heiled Hitler's Bloodless Invasion

U. S. Army Air Forces, Official

Looking Straight Down on Hitler's Home—Before RAF Earthquake Bombs Wrecked It, April 25, 1945

From Berchtesgaden official visitors climbed a winding road past many guards to reach the Führer's chalet (right center), perched on the brink of Obersalzberg. Caves and tunnels honeycomb the rock beneath Nazi headquarters, Storm Trooper barracks, and gun emplacements. Vast quantities of arms, ammunition, food, even air-conditioned barracks, were provided in underground strongholds hewn by Russian and Polish prisoners.

U. S. Army Air Forces, Official

Liberators over Vienna Create Their Own Cloud Cover, a 15,000-foot Smoke Column from an Oil Refinery

Russians picked up the pieces when they captured the Danube city last spring. By that time the Allies, through captures and bombings, had deprived Germany of 96 percent of her oil. For lack of gasoline, almost a thousand grounded Nazi planes were shot up like sitting ducks by the Western Allies in one day.

© The Times from European

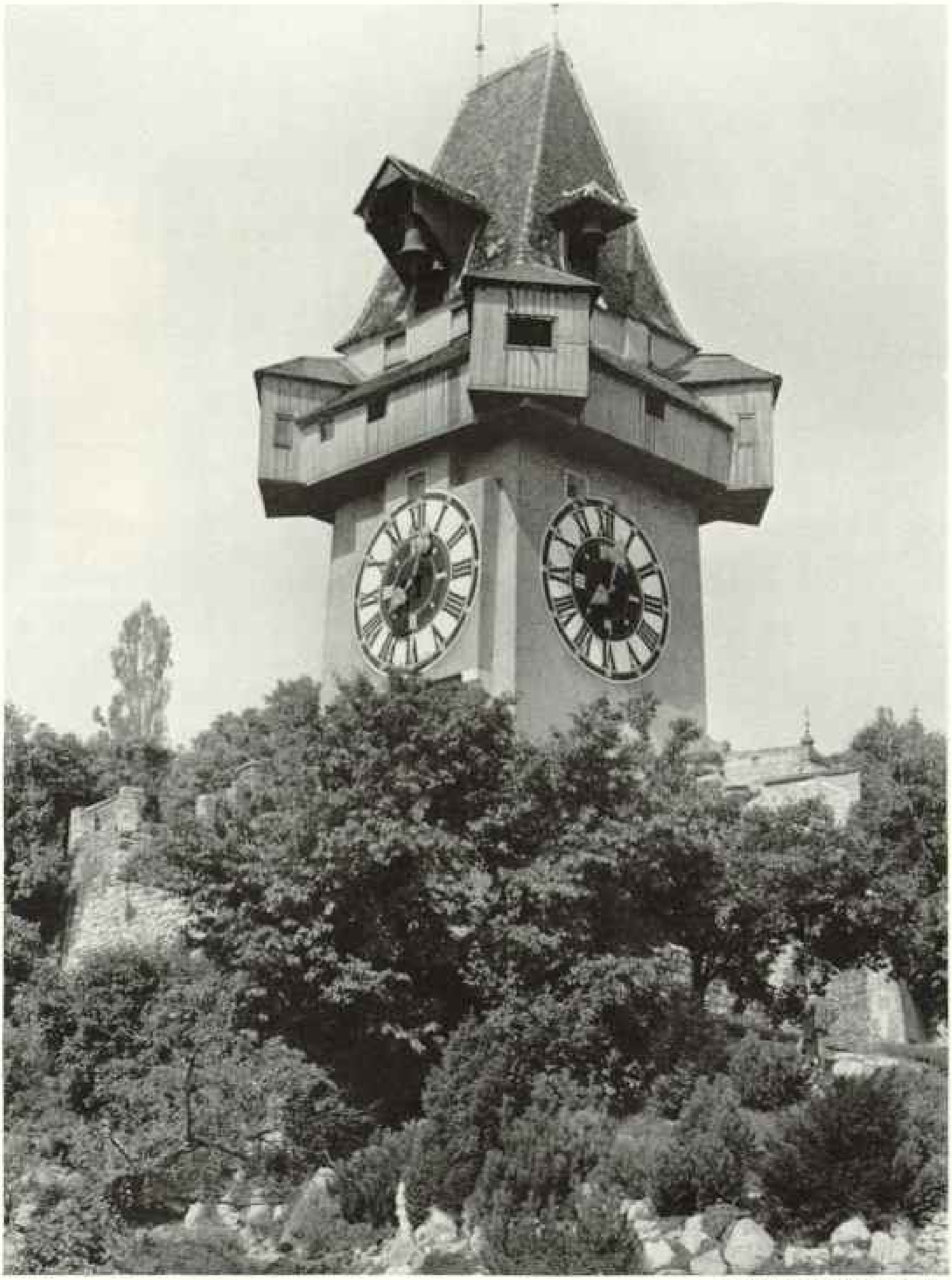
Hairpin Turns in the Austrian Alps Carry Gross Glockner Road into the Birthplace of Glaciers

Completed in 1935, this 8,400-foot-high military road cost $5,000,000. Its tunneled short cuts saved miles between southern Germany and Italy. A side road leads to Gross Glockner (Big Bell Ringer), Austria's highest peak, 12,461 feet. These mountains were expected to form natural fortresses for last-ditch Nazi stands.

Kurt and Margot Lubinski

In the Tyrol's Oetz Valley, Two of a Kind in a Doorway Look Like One at Her Mirror

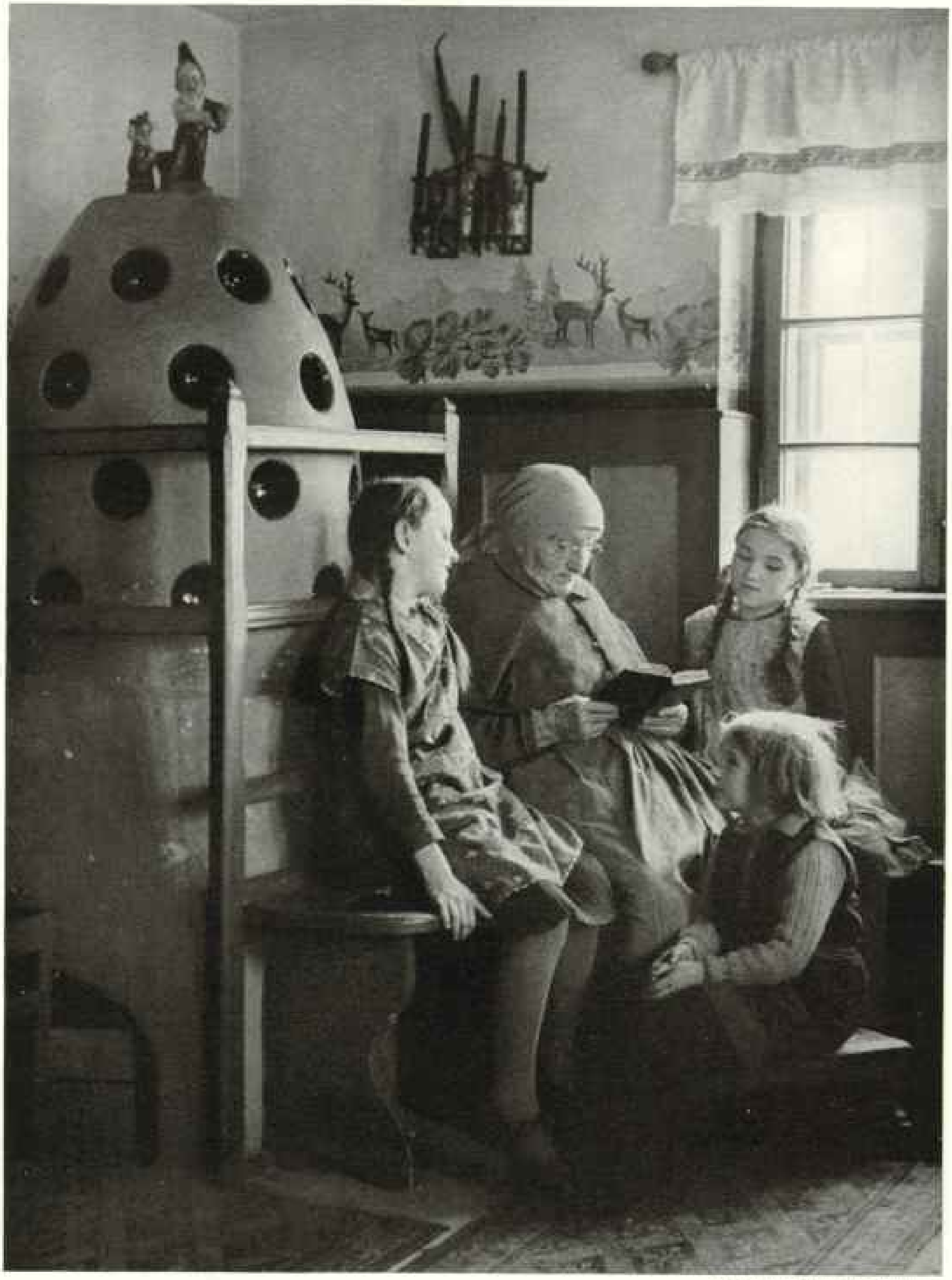
The Allies in 1943 offered Austria liberty, provided she helped earn it. Sweeping into Vienna in April, 1945, the Russians said: "Austrians are striving to justify the trust placed in them. Their independence will be reborn and democracy restored." Adolf Hitler was born at Braunau, Upper Austria, in 1889.



Staff Photographer W. Robert Moore

Perched on a 350-foot Hill, the Clock Tower at Graz Was a Landmark to American Airmen

Dating from 1571, the tower stands on Schlossberg (Castle Hill), a fortification that withstood Turks and French. Dismantled, the fort became a park to which people climbed to see the city. Our bombers based in Italy pounded Graz for more than a year. Toward the end they struck its rail yards to aid the advancing Russians.



John Gaither Roberts from European

"Now, Grandma, Read Us the Story about the Gnomes," Snowbound Tyrolese Children Beg

In the Alpine winter, life centers around the beehive stove. This elaborate wood burner, topped by fireproof pottery figurines, is a source of family pride. Glazed tiles fill the circles. Chairs are seemingly too close for comfort. In peacetime the Tyrol is a playground where children's faces reflect a lack of troubles.

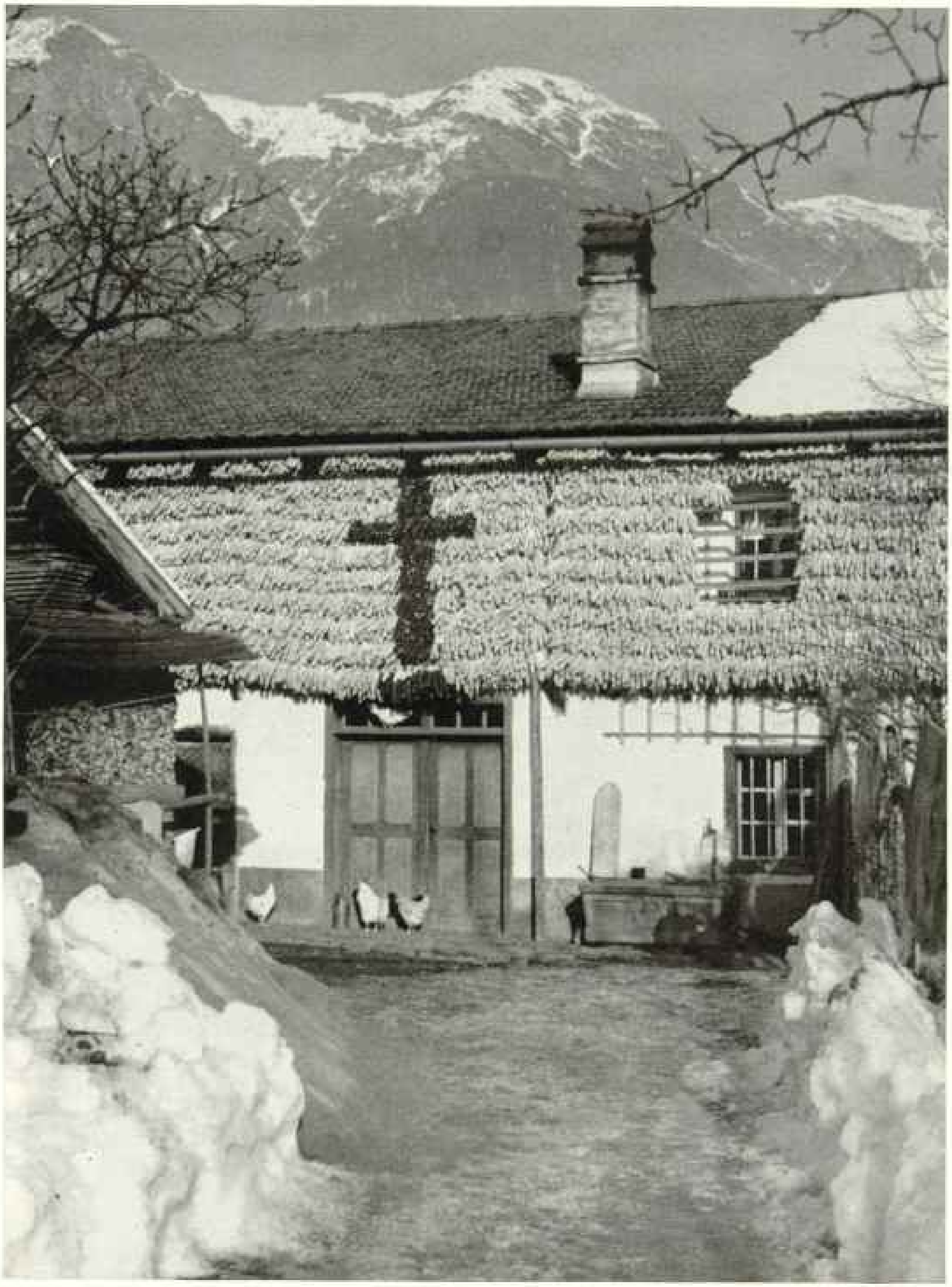
Maximilian Kamilottenfelder

Styrian Vintners, Some in Bare Feet for Treading Grapes, Turn the Wine Press

Prof. F. Brunner, Jr.

A Cart Adorned Like a Christmas Tree Leads a Herd Home from High, Lonely Pastures

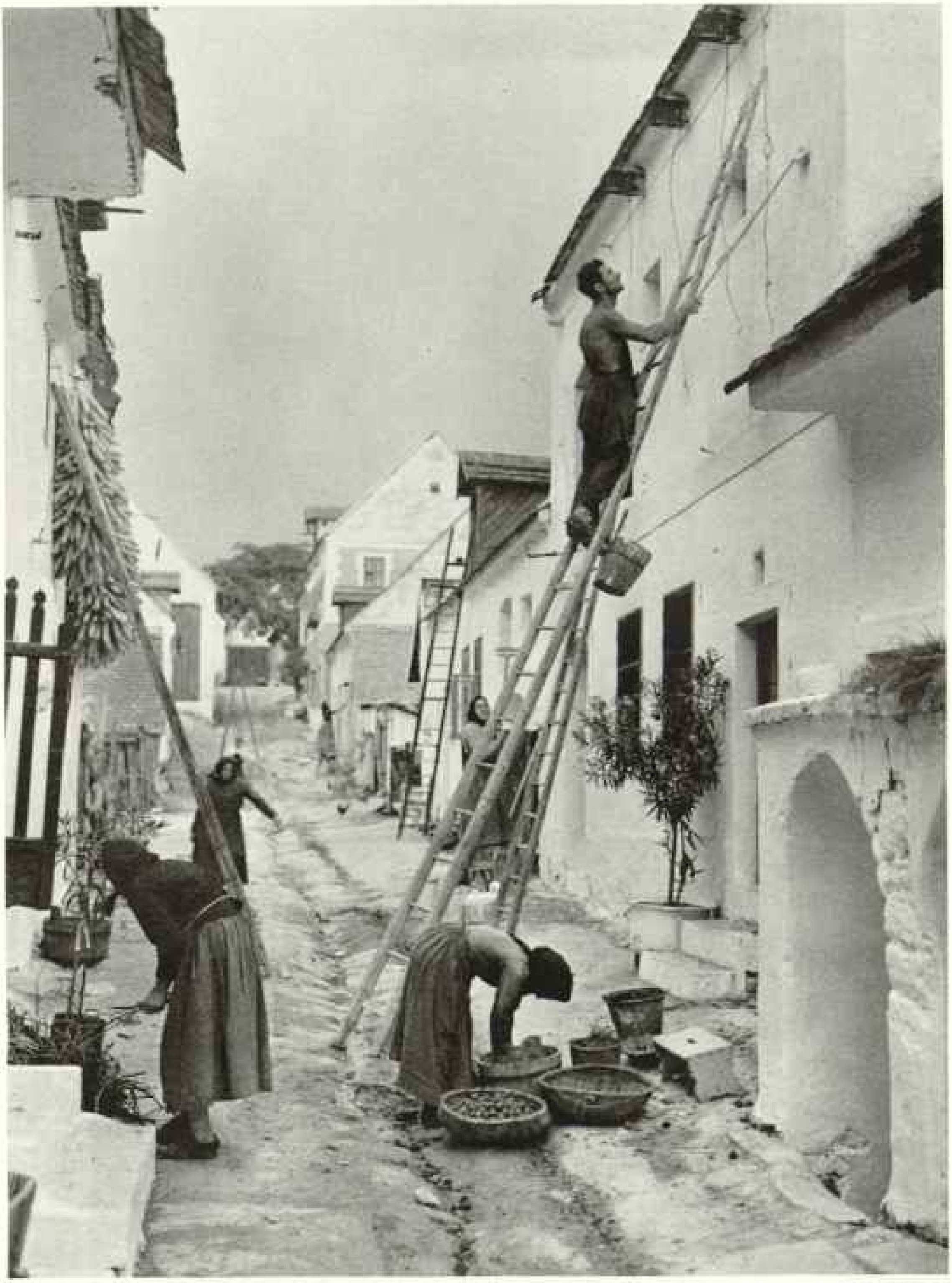
To celebrate the yearly return, joyful herdboys wear festival dress. In Styria's mountain valleys they spent the summer in solitude. Now autumn's threat of snow drives them to cozy homes. With them go milk and cheese. Horns of the lead goats are colored as a sign of gratitude that no harm has befallen the herd. When cattle leave the mountains, they are garlanded with streamers and pine twigs.



John Gaither Roberts from European

Red Ears Form a Cross Blessing the Corn Harvest Hung from Tyrolese Eaves

Having no corncrib, the Austrian farmer decorates his home with the granary's gold. Ears are tied tip down to shed water. They are safe from rats, but a hen perching on the transom is tempted. Her law-abiding friends wait by the door for a handout. It is early winter; by spring the corn will be consumed.



Staff Photographer W. Robert Moore

In Gleaming Mörbisch, Husbands Whitewash Walls, Wives Prepare Potatoes and Firewood

Corn hangs from an eave (left); empty wires await ears (right). Street, sidewalk, and drain are a unit. Fall house cleaning precedes the grape harvest; just around a corner the NATIONAL GEOGRAPHIC photographer saw wine barrels being washed. Mörbisch is a Germanic village amid Burgenland's Hungarian settlements.

Heinz Glassner

As a Village Band Crosses St. Wolfgang See on a Sunday Afternoon, the Alps Reverberate with the Blare of Brass

On their way to serenade a neighboring hamlet, they will be entertained with a song fest and dance. St. Wolfgang See is one of a score of small lakes in the Salzkammergut (literally: Salt Crown Land), where ancient Romans had salt mines. Though the elevation is 1,768 feet, the water is warm enough for summer bathing.

Hans Dietrich and Co.

Peacetime Viennese Dance at Carnival. When the Red Army Drove out the Nazis, They Waltzed for Joy in the Streets

These girls in slacks and skirts perform at the Rathaus (town hall). Liberating Russians replaced swastikas with Austrian flags and announced that fighting Viennese had "saved the honor of their nation." Prewar winter festival (note overcoats) lured thousands of visitors annually. Costume balls included "Fools' Evening."

Staff Photographer W. Robert Moore

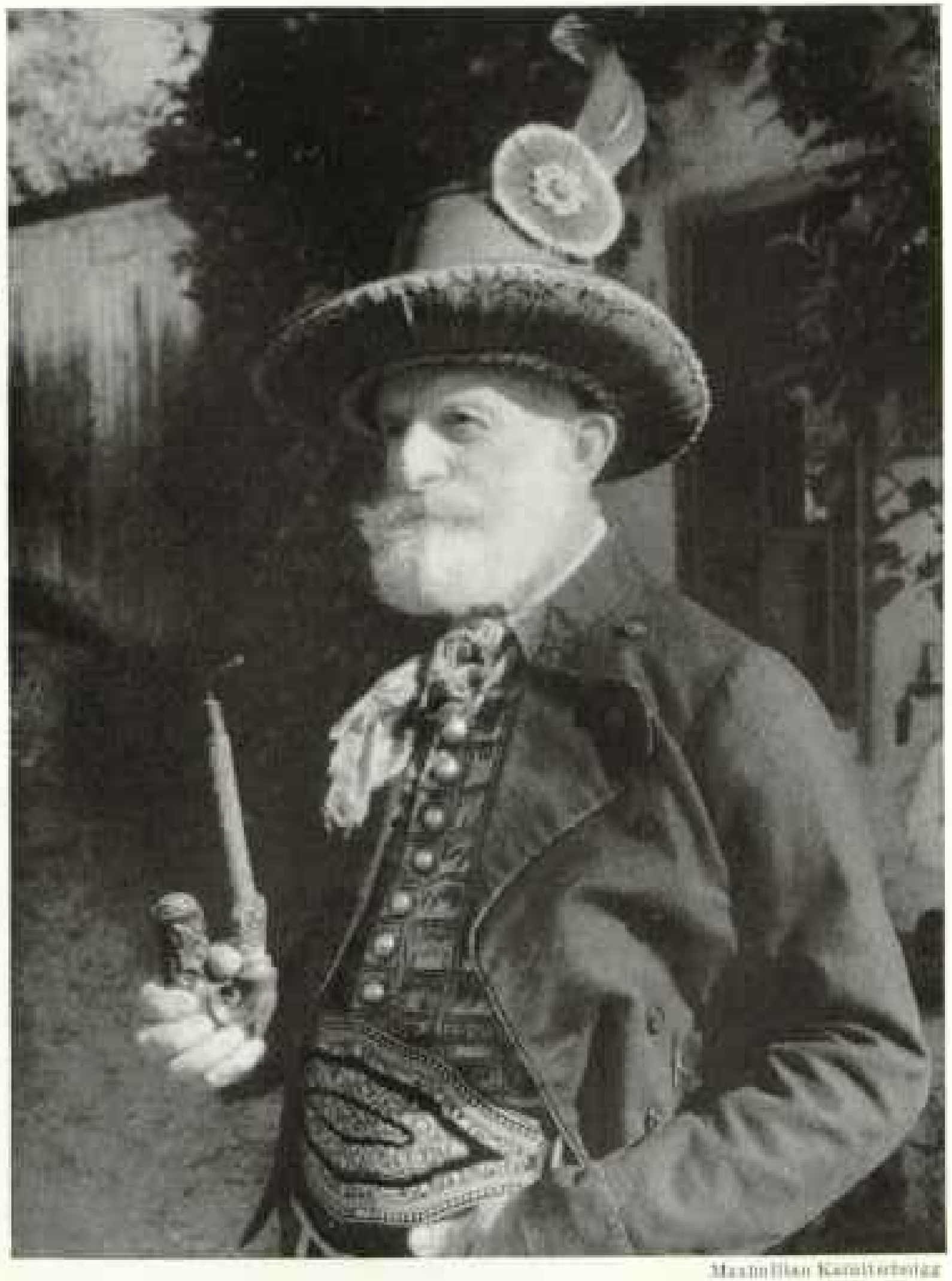
Battalions of Shaggy Scarecrows Are Austrian-style Haystacks—Stakes Driven into the Ground Form Their Skeletons

"This is the way we air our hay and keep it off the damp ground," say farmers in Styria. At harvest, the Austrian farm wife's place is in the fields. Her children help. For work, no one would think of wearing gaudy festival garments. These precipices look down on a valley near Admont.

Kurt and Margot Lubinski

Church Is Over; Brocaded Wives Exchange Salzburg Gossip

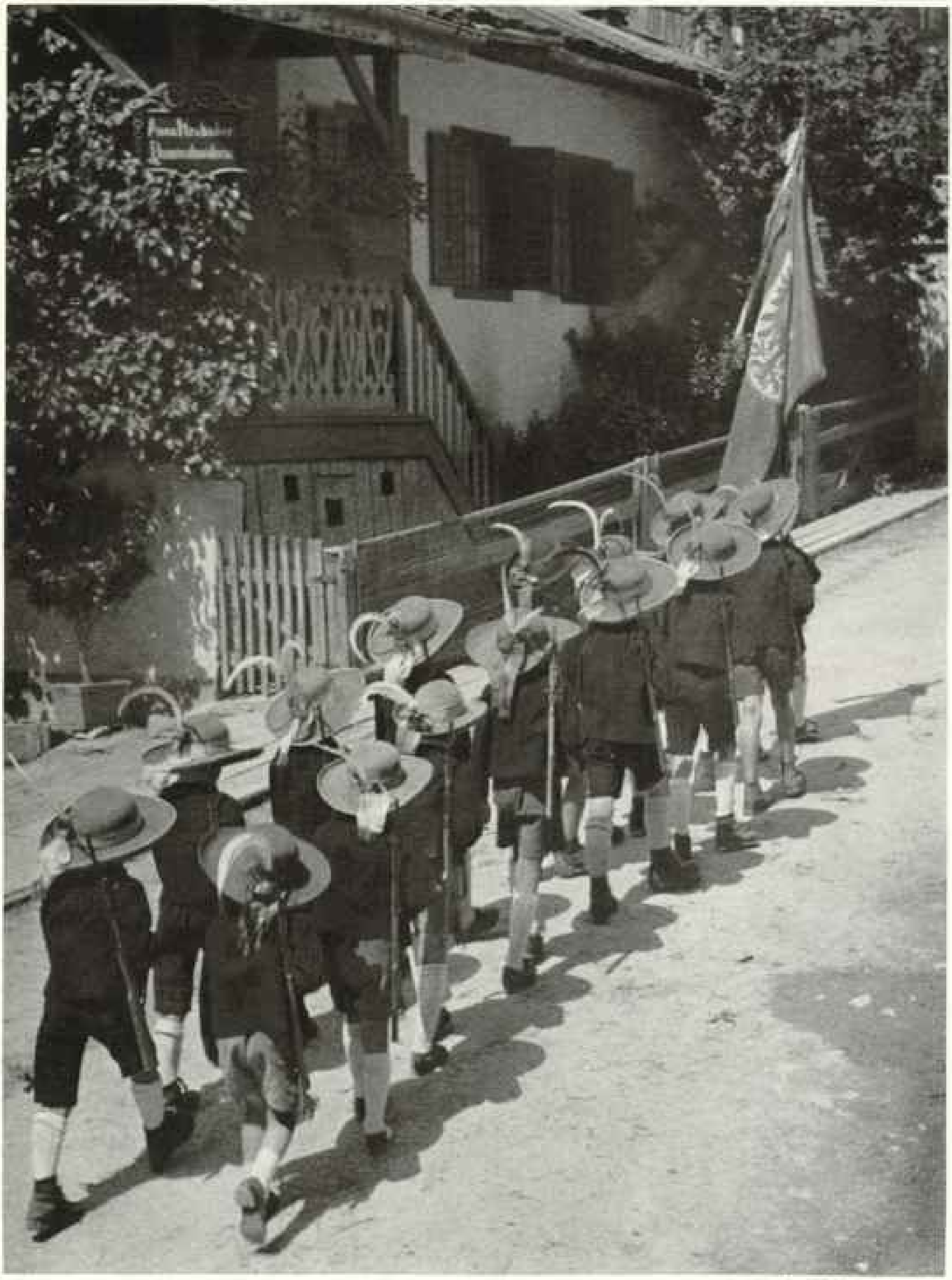
Austria's religious devotion is proverbial. Under Hitler, outspoken churchmen were slain or put in concentration camps.



Maximilian Kamilverbrigg

The Fuller the Beard, the Prouder the Patriarch

Once his Sunday costume was everyday dress in Bad Aussee. Silk vest, silver buttons, leather belt, feathered cap, and carved pipe vie for attention.



Kurt and Margot Tallricks

In 1935 Austrian Boys Drilled for Festival; In '45 Teen-age Hitler Youths Fought Yanks

These lads at Oetz wear hats like their sisters' (page 76). Even in the '30's their big brothers played soldier in political-party armies. By announcing that it will not seek to change Austria's social system, Moscow inspires hope that village costumes and customs will survive.

To Market in Guatemala

By Luis Marden

GUATEMALA is predominantly Indian. Nowhere else in the Americas have the original Americans maintained so well their pre-Columbian culture, dress, and customs. Side by side with *ladinos* (mixed Spanish and Indian), peoples of Maya descent live harmoniously in the blue-misted highlands and humid rain forests.*

The ancestors of today's Guatemalan Indian, the Mayas, were a people of great attainments and strange lacks; they devised a calendar more nearly accurate than the one in daily use today, but had not discovered the principle of the wheel. Independently of the Arabs, they invented the zero symbol in mathematics, but were ignorant of the true arch. They left their descendants a mass of religious-astronomical rites, many of which are still practiced.

When Pedro de Alvarado, red-bearded and impulsive, marched down from Mexico to conquer Guatemala for the Spanish crown, he found three principal tribes in the land: the Quiché, the Cakchiquel, and the Tzutuhil. Of these the Quiché, then as now, were the most powerful, and the country came under Spanish domination when Alvarado defeated Tecún Umán, chief of the Quiché, in 1524.

A Land of Volcanoes and Lakes

A vast jungle area, the district of Petén, stretches to the north, and lowland strips lie along both coasts. But Guatemala is essentially a mountainous land of quiescent volcanoes and lofty lakes (Plate II). Indian villages perch on the edge of ravines or nestle in the hollows of valleys (Plate XI).

Old dress remains much the same. Spaniards introduced the use of wool; before the conquest, Indians had worked only cotton.

Adept at making pottery, wood carving, and other handicrafts, Guatemala's Indians excel also in the weaving of textiles. Each area, sometimes each village, has its own colors and costumes, and old-timers in the Republic can tell where an Indian comes from by the way he dresses.

Women hand-weave most of the cotton and wool material for the wrap-around skirts, sashes, head coverings, and *huipils* (the loose blouses of the women), as well as coats, belts, and trousers of the men (Plates V, VIII, IX). In the interior, most dyes for the disappearing old costumes are animal, vegetable, and mineral: indigo for blue, cochineal for red, brazilwood for dark red, iron and copper sulphate for green and blue.

Weavers seldom use a pattern; they work symbolic designs into the fabric from memory. Experts sometimes weave in signatures, as artists sign a picture. An unworked spot may be left in the design, to indicate man's imperfections and so avoid envy of the gods.

Prominent in the textiles of many villages is the double-headed Hapsburg eagle of Charles V of Spain. Horsemen are represented as centaurlike beings with the man's torso sprouting directly from the horse's back. This practice stems from the early Indian belief that horse and rider were one strange animal.

Because "hip" looms produce strips little wider than the body, wide articles such as blankets must be made of two strips sewed together. Some towns produce blankets and other articles in one piece on foot looms.

Most villages of the highlands have a specialty: Momostenango for blankets, Totonicapán for skirt lengths, belts, and ceremonial bands, Chinautla for pottery, Sololá for garlic and onions, Nebaj for apples. Men from these and other villages trudge for days to bring their local product to the market of another town or to the great mart in the capital.

Usually the articles are packed in and on the *cacaxte*, a four-legged wooden frame covered with netting and carried on the back, with the aid of a tumpline around the forehead. When the bearer squats on his heels, the four feet of the cacaxte rest on the ground, taking the weight of the load. A staff helps the bearer to rise again.

With a gourd of drinking water, a coffeepot, kindling, a leaf raincoat, and a sleeping mat, in addition to a load sometimes totaling a hundred pounds, these men walk tirelessly up and down the highlands, often traveling more than double the linear distance in an up-and-down direction.

So overdeveloped have their calf muscles become, from constant climbing with heavy loads, that their short lower legs bulge like inverted brown tenpins. Some are bald from the rubbing of their carrying headgear.

When Guatemalan Indians, men or women, come to a level place, they seldom walk.

* The accompanying color plates depict the Indians of Guatemala just as the National Geographic Magazine has described and portrayed the Indians of the United States in the articles by Matthew W. Stirling and their accompanying paintings by W. Langdon Kihn: November, 1937, November, 1940, July, 1944. Mr. Marden, of the National Geographic Magazine staff, now is making a comprehensive survey of Guatemala for an article on the country as a whole which will describe and picture the progress and modern aspects of the Republic.

Leaning forward to shift the center of gravity, they dogtrot at a distance-eating pace.

Often you will see an Indian bowed under the load of a big marimba, ancestor of the xylophone, heard everywhere in Guatemala (Plate VI). Old-time marimba makers fasten dry gourds under the resonant hardwood keys to amplify the sound, the biggest and longest under the bass keys, and so in diminishing size to the smallest under the treble.

Of a man with a series of regularly spaced offspring Guatemalans will say: "Pascual has a regular marimba of a family."

When several men, each with two to four mallets, pound on a marimba, they make a rattling din. The monotonous rhythm of a *son*, played on a marimba, usually marks the close of a market day in larger villages. While stony-faced, separated couples shift their weight from side to side in the ungraceful dance, a woman with a plate collects coppers from the dancers, "taxi dance" style.

Besides the marimba, the thin-voiced *chirimía*—a sort of snake charmer's musette—and large and small drums furnish music for religious processions.

Liquid names of many Guatemalan communities mark the passing of the Aztecs: Totonicapán, Huehuetenango, Olintepeque. In contrast are the harsher, staccato Quiché names: Joyabaj, Patzité, Sajcabajá.

Nominally all Guatemalan Indians are Christians. But their worship is at times such a mixture of Roman Catholic and pagan rites and witch-doctor superstitions that it takes an ethnologist and a theologian to unravel it. Copal incense is still burned, as in pre-Columbian times, to the gods of rain, fertility, and corn. There is even a god, Tzijolaj, to look after the man who fires the rockets at religious ceremonies (Plates I, III, XII).

At the other end of the scale is the pantheism practiced in the Momostenango area.

Market day is the principal event of the Indian week. This may fall on any day, according to the village, and marks the occasion for social exchange, church visiting, and perhaps dancing, in addition to the buying and selling. Some market towns are so-called empty towns; that is, most of the Indians live out in the surrounding countryside and come into town in mass only on market days or for celebrations.

A Guatemalan market furnishes everything for the Indians' material and spiritual welfare: pigs and incense, chickens and ceremonial masks, flute and skirts, drums and chili peppers, and the inevitable triumvirate of tortillas, corn, and beans (Plates IV, V, IX).

Surprisingly, despite the multitudes that concentrate in a market square, marketers make little noise. Bargaining goes on in low tones, and no one shouts his wares.

In the early days of the Spanish colony, Guatemala was the seat of the captaincy general of Guatemala, which had jurisdiction over all Central America to Panama.

The original capital was moved twice before it was established at the place now called Antigua, 15 miles from Guatemala City (Plate XIII). Many earthquakes shook Antigua until, in 1773, one demolished virtually the entire city. Two years later the Spanish king authorized the removal of the capital to its present site.

Antigua's Colonial Culture

In the latter half of the sixteenth century, Antigua became a miniature Florence of the New World. To Antigua came the first printing press in Central America, in 1660. Here flourished artisan guilds of silver- and goldsmiths, wood carvers, painters, and leatherworkers. Wood carvings by Antigua artists adorn many Central American churches and museums. The famous Black Christ of Esquipulas was carved by Quirio Cataño of Antigua.

In Antigua, too, Bernal Díaz del Castillo, soldier with Hernán Cortés during the conquest of Mexico, in his old age wrote the *True History of the Conquest of New Spain*, an account which for simplicity, vividness, and epic quality is matched by few other historical documents. The original manuscript, completed when the scarred veteran was over eighty, is still preserved in Guatemala City.

In Guatemala City, most metropolitan of Central American capitals, brightly dressed Indians trot unconcernedly past plate-glass windows displaying the machines and finery of another age; in the highlands, amid the wailing of flutes and thumping of drums, kneeling Indians intone Maya chants.

Guatemala today * furnishes living proof that white settling of the New World did not inevitably mean extermination of the native Indian and that the two races and cultures can exist side by side in peace.

* For comprehensive articles and many color and monochrome illustrations on Guatemala, see, in the National Geographic Magazine, "Guatemala Interlude," by E. John Long, October, 1936; "Preserving Ancient America's Finest Sculptures," by J. Alden Mason, November, 1933; "Guatemala: Land of Volcanoes and Progress," by Thomas F. Lee, November 1926; "Unearthing America's Ancient History," July, 1931, "Excavations at Quirigua, Guatemala," March, 1913, and "Foremost Intellectual Achievement of Ancient America," February, 1922, all by Sylvanus Griswold Morley; "Shattered Capitals of Central America," by Herbert J. Spinden, September, 1919.

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Kodachrome by Charles S. Pipe

In Guatemala, Land of Dead Maya Cities, Living Mayas Combine Sunday Trade and Church

Citizens of Spanish stock figure in government and industry in this progressive Central American Republic. Most of its 3,280,000 souls are Indians. Each village has its own costume. Santo Tomás, this fine colonial church, is owned by the Indians at Chichicastenango. Incense comes from burning copal, a tropical resin.

© National Geographic Society

Kodachrome by Gilbert Grosvenor Bradley

Sky-blue and Nearly a Mile High, Lake Atitlán Is Hemmed in by Three Volcanic Giants

Two of its mighty mountain neighbors are Tolimán and Atitlán. Both are more than 10,000 feet; neither has erupted since 1852. Swimming and fishing are excellent, but sailing in the afternoon's strong wind is hazardous. Many villages lie along the shore; several are named for Apostles.

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Kodachrome by Gilcs Greville Healey

On Crumbling 400-year-old Steps, Indians Kneel and Burn Incense Before Santo Tomás Church in Chichicastenango

© National Geographic Society

Kodachrome by Gilbert Grosvenor Hosley

Neither Time Nor Conquest Has Changed the Indians' Simple Wants. Most of All, They Love Their Weekly Markets

A story relates that a priest asked an Indian woman whether she preferred to go to Heaven or market. Without hesitation she chose the market! Here at Nebaj the people have their fun. Each is in his finest. Lines on the court mark off venders' stalls. To these they return each week. Some stalls have sunshades.

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Kodachrome by Giles Greville Healey

Shoppers in Lofty Momostenango Wear Wool to Shut Out Cold and Buy Straw Hats to Ward Off Tropic Sun

A wool center, the town weaves waterproof blankets (right). They are colored with vegetable dyes. Medieval Mayas waded into the sea to get their sacred purple from large snails. At this cold altitude (7,280 feet) sheep were a welcome introduction from Spain. Big hampers hold the loose wool.

© National Geographic Society

Kodachrome by Charles S. Pluss

Fiesta Celebrants at Santiago Atitlán Carry an Effigy Mimicking Spanish Horsemen Who Conquered Their Forefathers 400 Years Ago

Musicians (left) bear a marimba, a kind of xylophone on which they play doleful tunes. Elsewhere drums and flutes are sounding. The din of an Indian holy day matches the color. Slowly this procession proceeds to a boat for a trip to another village. San Pedro Volcano (9,921 feet) rises across Lake Atitlán.

© National Geographic Society

Kodachrome by Charles S. Pratt

Women in Red Halos Honor the Image of a Saint Borne Beneath a Canopy

At Santiago Atitlán they achieve the halolike effect by wrapping a long band of cloth around the hair. Tradition says the style derives from a Maya princess. Each village has its patron saint. Members of a religious brotherhood carry the image.

Heavy Headcloths Shade the Eyes of Venders Exposed to Glaring Sun at Nebaj

One woman sells limestone which, added to water, removes the hard shell of corn. The other offers a turkey. On pagan altars deep in the hills sorcerers still sacrifice turkeys to the Maya gods.

© National Geographic Society Kodachromes by Gilles Gerville Hoxley

Daughter Dresses Like Mother, Not in Masquerade but Because She Knows No Other Style

A full view would show both in red skirts, as at the left. While such skirts are common, each village has its telltale set of stripes. Both sexes follow centuries-old costumes. Boys are clothed like their fathers.

Kodachrome by Gilson Greville Wesley

Colorful, Hand-woven Blouses Show Why Guatemala Indians Are Noted for Their Textiles

By her huipil, or slipover blouse, the woman second from right is a visitor to the market at Nebaj. Those flanking her wear the local style. For 20 cents, produce-laden Indians will climb 7,000 feet into the highlands.

© National Geographic Society

Kodachrome by Charles S. Pitts

Checkered Apron and Candy-stripe Pants Identify a Sololá Merchant in Guatemala City

At Sololá the air is heavy with the odor of garlic and onions. These vegetables lie on the vender's counter. Here he weighs apples. A woman carries a heavy load of coconuts on her head.

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Kodachrome by Giles Greville Healey

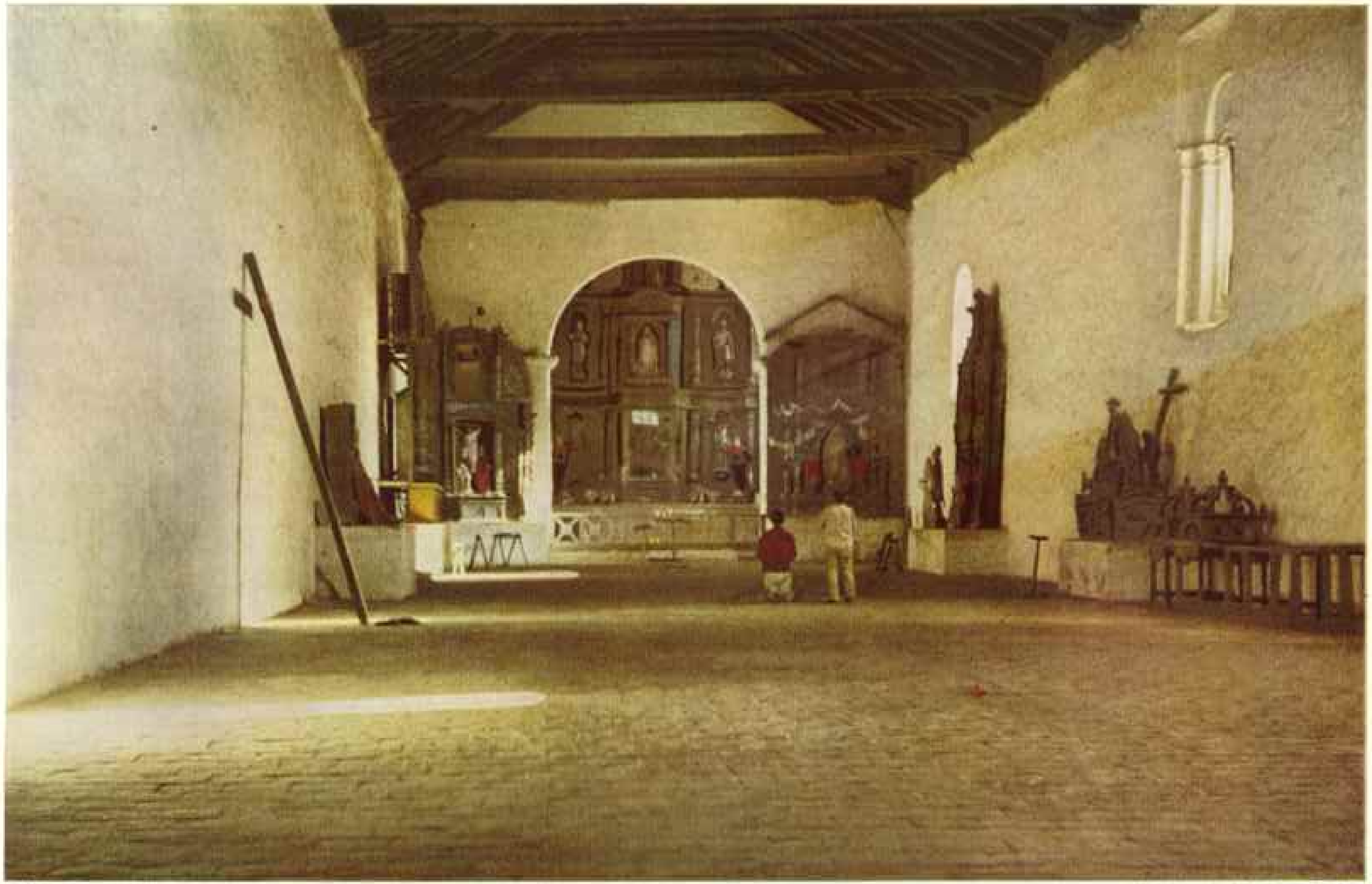
Graceful Wives Balancing Water Jars Pay No Heed to Atitlán Volcano, Their Mist-shrouded Neighbor (Plate II)

Long red skirts and purple-stripe blouses are Santiago Atitlán styles, as are the red-halo hair bands (Plate VII). Thatched roofs suggest an African village, but walls are of lava, as are the fences. As it crumbles, this volcanic rock becomes extremely fertile. Soil and altitude here combine to make good coffee land.

© National Geographic Society

Kodachrome by Giles Greville Healey

In This Thatched, Forest-bound Village, Indians Live Much as the Medieval Mayas Did, Save for Spain's Gift, the Pigs (lower center)



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Kodachrome by Gilbert Grosvenor Bailey

In Chajul, the Shrine of the Christ of Golgotha Seems Neglected, but During Lent 30,000 Pilgrims Will be Here

Indians endow the figure with miraculous curative powers. Pilgrims journey even from Mexico. On the left stands the cross used for the enactment of the Crucifixion on Good Friday. Then religious fervor rises and spectacular rituals are held.

© National Geographic Society

Kodachrome by Charles E. Pinex

A New Antigua of Pastel Walls and Tiled Roofs Has Risen from the Ruins of Guatemala's Ancient Capital

Spain founded the city in 1542. Artists, architects, and artisans vied in beautifying it. For magnificence, its churches had few equals in the New World. In 1773 earthquake struck; the Government moved away. These homes present blank walls to passers-by; life and beauty abide in the walled-in patios.

© National Geographic Society

Kodachrome by Gilles Greville Hecker

Market Is More than Barter; It Is Indian Society, an Excuse for Woman's Leaving Her Household Chores

For opening day these people have trudged all night under loads of their specialties. Some have carried food, others pottery; even coffins are sold in open market. There is no angry bickering; instead, a low hum of conversation. Nebaj apples are traded all over the Republic.

© National Geographic Society

Kodachrome by Giles Greville Healey

Monday Is Wash Day Even in Faraway Chajul—There Rocks Are Washboards and Green Leaves Are Drying Lines

From the hill gushes a cool spring, refreshing tired feet. Water is scooped up in gourds. One woman washes her hair (left). Her neighbors dress alike except for those wives adopted from other villages; they follow the costumes of their mothers.

Kodachrome by Gilles Greenfield Hester

Mother and Father Rest After a 100-mile Walk, She with Baby, He with 100-pound Pack

For market and Mass at Santa María Chiquimula they have come from Totonicapán, known for its beautiful women and skirt-weaving industry. Father (center), in short pants and sandals, carries the family's money bag.

© National Geographic Society

Kodachrome by Charles S. Pline

A Cool Voyage on Atitlán Rewards a Weary Merchant on the Last Lap of a Long Haul

Hand on chin, he rests on his wares. To his left a fellow itinerant has left his mesh-bag pack. On it he has tied his head strap for carrying; above it, his blanket. These merchants sleep wherever night finds them.

Yank Meets Native

By Wanda Burnett

"It'LL take more than bullets and battles to win this war. I figure it'll need a lot of knowing and real understanding of the 'how come' of the customs of the people we're going to deal with."

This sage comment came from a Yank who had served all the way from North Africa to Burma and on some of the remote island dots in the Southwest Pacific.

I talked with scores of returned Yanks whose naive narrations have a fresh vigor and a homeland humor akin to Mark Twain's *Innocents Abroad*. Amazingly often their first-hand accounts, if not their rhetoric and terminology, check with the observations of geographers and ethnologists who kindly interpreted them for me.

Observing Taboos and "To Do's"

"Believe me," one returned Yank exclaimed, "we sure had to keep our taboos and 'to do's' straight!

"We had to remember, if we were in Africa, or even in India, that we weren't supposed to stare at people, especially kids," my war-zone trotter continued. "It had something to do with the 'evil eye,' so we were told (pages 118, 121). But if we were in Burma, well, that was another story. Parents there liked to have us notice their kids. They were like us that way. They thanked us when we commented on their good looks (page 109).

"In Africa," he went on, "we had to curb our whistles and turn our heads the other way every time one of their local veiled belles came into sight. We had to remember never to spit in front of a mosque and always to take off our shoes when we went inside one.

"There were hundreds of such things we were supposed to remember."

"Did you know anything about the customs of the different countries before you landed?" I asked.

He handed me a couple of well-worn small pocket guides.

"We all get these to study and carry with us," he explained. "The Army furnishes them."

In later talks with returned Yanks I learned that men of the first divisions who went into some Pacific areas didn't have these handy little books.

"We didn't know what we were letting ourselves in for," one returnee told me. "And believe me, when I saw some of those dark-skinned knife wielders of New Caledonia lined up to greet us, I wanted to crawl right back into my bunk and wait till the war was over!"

But the boys found out that these so-called knife wielders weren't nearly so bad as they looked. They were more than willing to be friendly.

Nicknames for Knife Wielders

"We gave 'em fancy names like 'Capitan'—that's French for Captain," he misinformed me. "And one of 'em we called 'Roosevelt.' That was after we got to know them better."

"Most of them couldn't even speak pidgin English at first, and every time we'd ask them if they understood us, they'd just shake their heads," a staff sergeant told me.

"But wait till you hear what happened to me down there!" one veteran exclaimed. "You know, when we landed on that island we had to go ashore in small native boats or wade. If we were lucky, we were carried. I was lucky.

"I was viewing the scenery from the back of one of these husky carriers and I kept firing at him all sorts of questions and getting no answers. So I asked him if he could speak English. He shook his head. I gave up.

"We were almost ashore when he began to warble. And what do you think he sang? 'The Sidewalks of New York.' And in English!

"Well, I just about toppled off his back," he continued, "but I guess he didn't even know what the words meant. And I never did find out where he picked up that song."

His story reminded me of a letter from a Virginia boy stationed in New Guinea. He was an extremely observant lad, a sketcher of some merit, and a letter writer of much regularity. I thumbed my way through at least fifty of his enlightening letters, which were filled with local weather reports, laundry problems, beer rations, and jungle cutting.

In one he told of going to the edge of an "off limits" native village somewhere in the southeastern section of Papua.

"We saw an old native man sitting cross-legged on the ground eating some sort of white goo from a bowl and using the wrong end of an old toothbrush as a spoon. We all wanted to know what the stuff was. Or maybe we just wanted to see if we could make ourselves understood.

"We picked our words carefully and with a lot of gesturing and pointing we managed to get out: 'What you eat, boy?' Well, that

H. L. Downing

New Britain Fancy Work

American soldiers were amazed by the infant headbinding and extraordinary tattooing which the natives of New Britain practice. This young girl, or "Mary," as island women are called in pidgin English, proudly displays her "embroidery" of raised welts, or keloids. Her flesh was cut with a pig's tusk, sharpened to a chisel edge, to form the cicatrices.

old fellow gave us the darndest look of disgust I ever hope to see, and answered: 'I don't see why that should make a hell of a lot of difference to you, brother!' "

A soldier just returned from New Britain said that the kids there picked up American slang and cuss words quick as lightning. Whatever you said to them, they always came back with a snappy "Okeydoke."

Forcible Shaping of Children's Heads

This New Britain veteran recalled one strange custom.

"They wrap all the kids' heads up when they're just babies, and believe me, they wrap 'em tight! I got a picture of one of 'em. I'll let you see it," he added eagerly, as if he were afraid his story was too tall to pass without some proof.

Headbinding does exist in New Britain. On the southern side of the island "high-brows" are definitely preferred, and this man-made mark of beauty is achieved in agony and celebrated with feasting and dancing.

When an infant is scarcely a week old, its head is bound with strips of tapa cloth. Each day for approximately six months these strips are tightened until the child can no longer close its eyes even in sleep.

Coming out of the binding calls for more village feasting and celebrating. This is a prolonged affair, inasmuch as the bindings, which tend to add beauty and height to the child's forehead, must be unwrapped gradually and over a period of time to avoid excruciating head pains.

The boys back from New Caledonia began to unfold exotic stories.

"I tried to Americanize a bunch of chickens down there," one of them said. "But most of them were like the natives. You couldn't fence them in. They

Dean Dickson from Ewing Galloway

"Don't Push the Can or You'll Cut Her Lips"

Dressed in their best shell necklaces and grass skirts, Port Moresby dancers turn an old oil can into a drinking fountain. Papuan brides are bought with pigs and paid for in "cash." Girls usually receive their first tattooing between the ages of five and ten. Their bodies may be entirely covered with elaborate designs by the time they reach maturity (opposite).

preferred to wander around in the jungle and lay their eggs anywhere they chose, and at night they'd roost in the topmost branches of the trees."

I talked with Red Cross girls who had been stationed in India, Egypt, Guadalcanal, New Guinea, and New Caledonia.* One enthusiastic clubworker, anxious to be back in the field, said that she and some of the other girls frequently made the short water jump from their New Caledonia base over to neighboring islands in the New Hebrides group.

Souvenirs of World War I

Nearly every native she saw carried an old worn-out army pouch filled to the bulging point with his worldly possessions. And the army pouches were all of World War I vintage. Apparently these had been bought up in quantities right after the last war and brought into the islands as articles of trade.

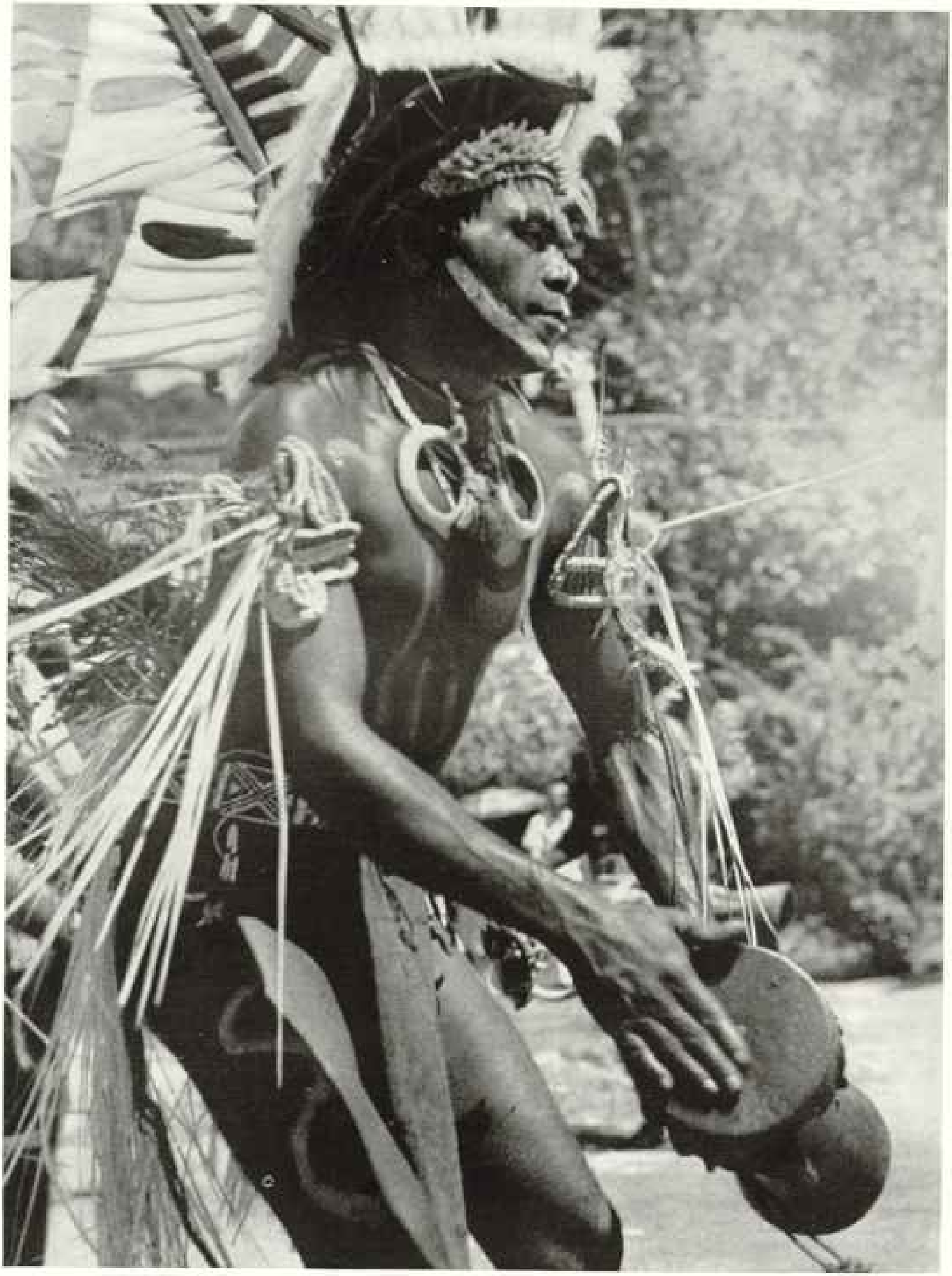
I asked this girl if she had heard any tales of head-hunters while she was in the New Hebrides, and she answered:

"We didn't get that close to the 'real' natives. Most of them lived back in the hills. The ones we saw around the coast were mild, I suppose, compared to the hill tribes. But I do remember on Bastille Day the French had a bazaar, and among the things on sale were several skulls. I don't think I ever shall forget that neat little row of heads all lined up on the 'bargain counter.'"

"There was one odd custom there. When a person gets old—when he passes the age of usefulness to himself or to the community—his relatives dig a hole, stand him up in it, fill the hole in with dirt right up to his chin, and then go away and leave him to starve to death."

I asked her if this treatment didn't meet with strenuous objections from the one being buried. She said: "No. They accept it. It's

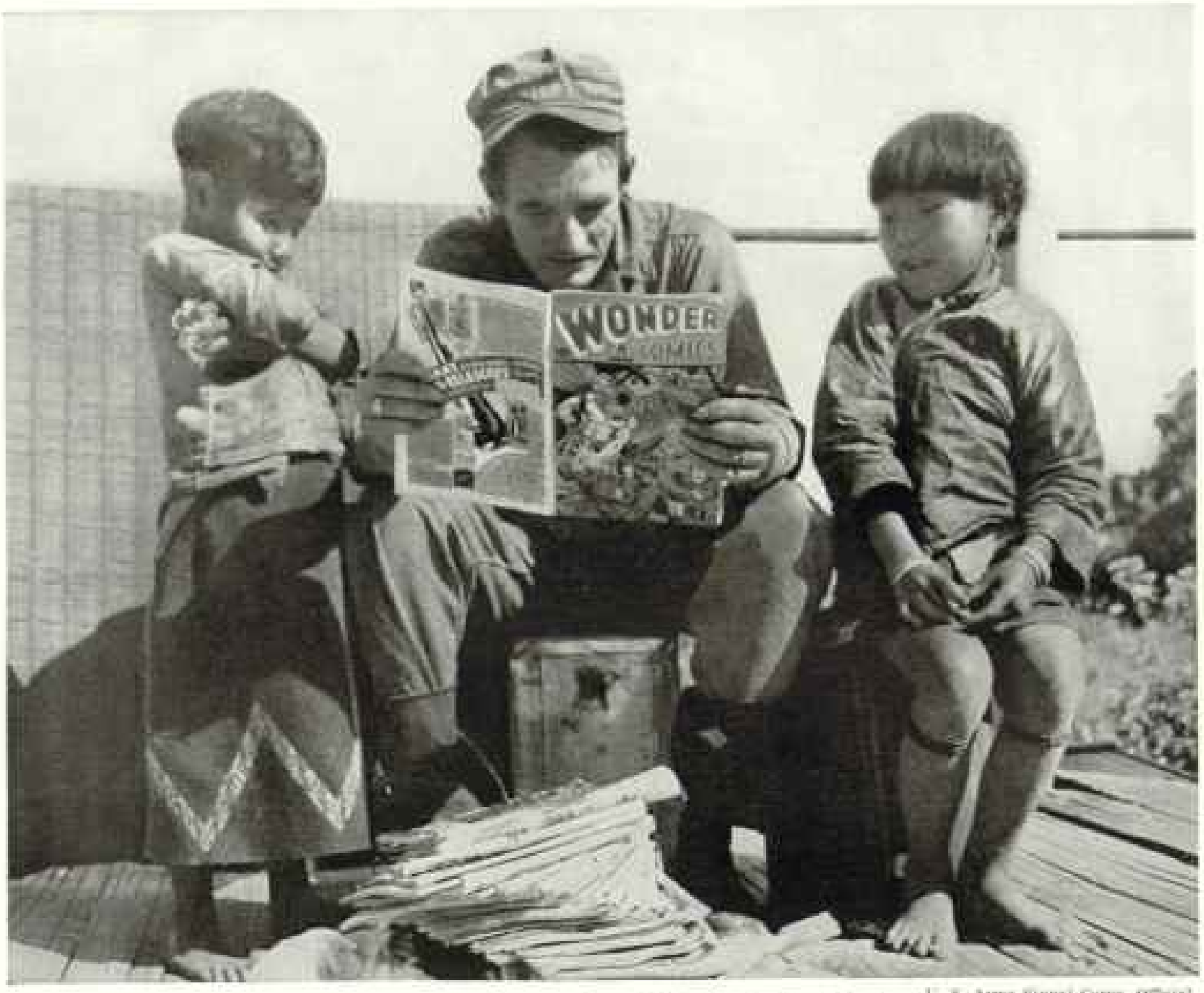
* See, in the National Geographic Magazine, "Red Cross Girl Overseas," by Margaret Cotter, December, 1944; "War Awakened New Caledonia," by Enzo de Chetelat, July, 1942; "Treasure Islands of Australasia," by Douglas L. Oliver, June, 1942; "War Meets Peace in Egypt," by Grant Parr and G. E. Janssen, April, 1942; and "Palms and Planes in the New Hebrides," by Robert D. Heinl, Jr., August, 1944. For locations of places mentioned, see the National Geographic Society's Map of Southeast Asia and Pacific Islands, from the Indies and the Philippines to the Solomons, October, 1944, and Map of the Indian Ocean, March, 1941.



R. Alexis Pratt from Black Star

Beating His Hand Drum, a Gaily Decked New Guinea Dancer Performs

For the ceremony his body is painted with red, white, and black designs, and he wears shell trinkets on his arms. His headdress is decorated with bird feathers. In some sections of New Guinea headdresses are 16 feet high. The drum is a hollowed-out tree trunk covered at one end with reptile skin.



U. S. Army Signal Corps, Official

"Comics or Caramels—All Kids Like 'Em"

Kachin youngsters from the hills of Burma were shy until our men produced the brightly colored books. Now the youngsters are regular "funny fans." Kachin guides and patrols helped build the Stilwell Road. "They made swell scouts," Yanks said. "They could smell a Jap a block away" (page 110).

a custom. They all seem to know what's in store for them when they get that old."

As a matter of fact, such burials in the past have often been performed at the request of the victim, who, when he felt his strength waning, called his relatives together and requested them to bury him.

Digging up a Buried Husband

But customs do change; so I asked the girl if she was sure this one still existed.

"When we arrived," she said, "the whole place was buzzing with talk about the woman who had been 'persuaded' to dig up her husband, who had just been 'planted,' and let him die naturally. She dug him up all right, but what she did was merely to put him in an old hut, away from everyone else, where he eventually starved to death, anyway."

New Caledonia Yanks remembered a custom about waking sleeping natives.

"And can they sleep!" one boy piped up. "It seemed like every time you turned around down there it was siesta time," he exclaimed.

"Anyway, they got a custom down there that says you can't wake 'em up. They gotta wake up by themselves. Something to do with their souls, somebody told us."

The Yank wasn't wrong. Such a belief does exist in New Caledonia. It is common among more primitive peoples to believe that while a man sleeps his soul wanders from his body and if the man is wakened suddenly, before his soul has had time to return, he will die.

In certain places the belief is carried even further. Some think that the position of a sleeping person should not be altered lest the soul, upon returning, fail to recognize the body from which it departed. And in Bombay, India, there are still those who hold that to move, or to change the expression or position of a sleeper, is equivalent to intentional murder.

U. S. Coast Guard, Official

Indian Music Has Charms—for the Deadly Cobra!

A Coast Guard officer and an Army nurse watch a Bombay snake charmer pipe his snake into action. "For one rupee (27 cents) we got a single performance," they remarked. "It cost more to see the double feature, a fight between a mongoose and a cobra. And the mongoose always won." Cobras are deadly, but charmers keep them "harmless" by constant motion and staying out of striking range.

So the Yanks found a hands-off policy always the safest.

One of them said that he didn't think this "don't wake the sleeping man" was a bad idea at all, and he wished somebody would start a move in the same direction right here in this man's army!

But the thing that caught the feminine eye in both New Caledonia and New Guinea was the way the native swains signified their romantic intentions.

"A flower worn over the right ear meant he was engaged or married. Over the left, well, he was still available," one Red Cross worker told me and added that she thought it was "right honest of them"—at least the native girls knew who was still on the market.

Several returned soldiers broke in.

"The men don't have a monopoly on that custom! The women do it, too."

From another Red Cross worker, who had spent several months in the Oro Bay region along New Guinea's eastern coast, came this observation:

"The 'wolves' down there wore red. It was generally a bright-red hibiscus blossom placed jauntily over either or both ears. With him one ear was as good as the other, and both ears carried twice the weight," she chuckled.

Trusting a Native's Nose

But whether the men were "wolves" or not, whether they wore red flowers or white, it was generally agreed that without their untiring help, success on the various islands would have been almost impossible.

International News

"We Are Not Supposed to Touch Sacred Cows, but You Know How It Is!"

Leaning from their ricksha two sight-seeing Yanks give "bossy" a friendly pat. Hindus consider the cow sacred. The animals wander at will through the streets of Indian cities. "We can't see much difference between the cows here and the ones back home," one Yank commented. "They're hungrier-looking, that's about all" (page 118).

"One thing I learned and learned quick," said a Guadalcanal veteran, "and that was to trust a native's nose wherever he was."

I asked him just what he meant by this.

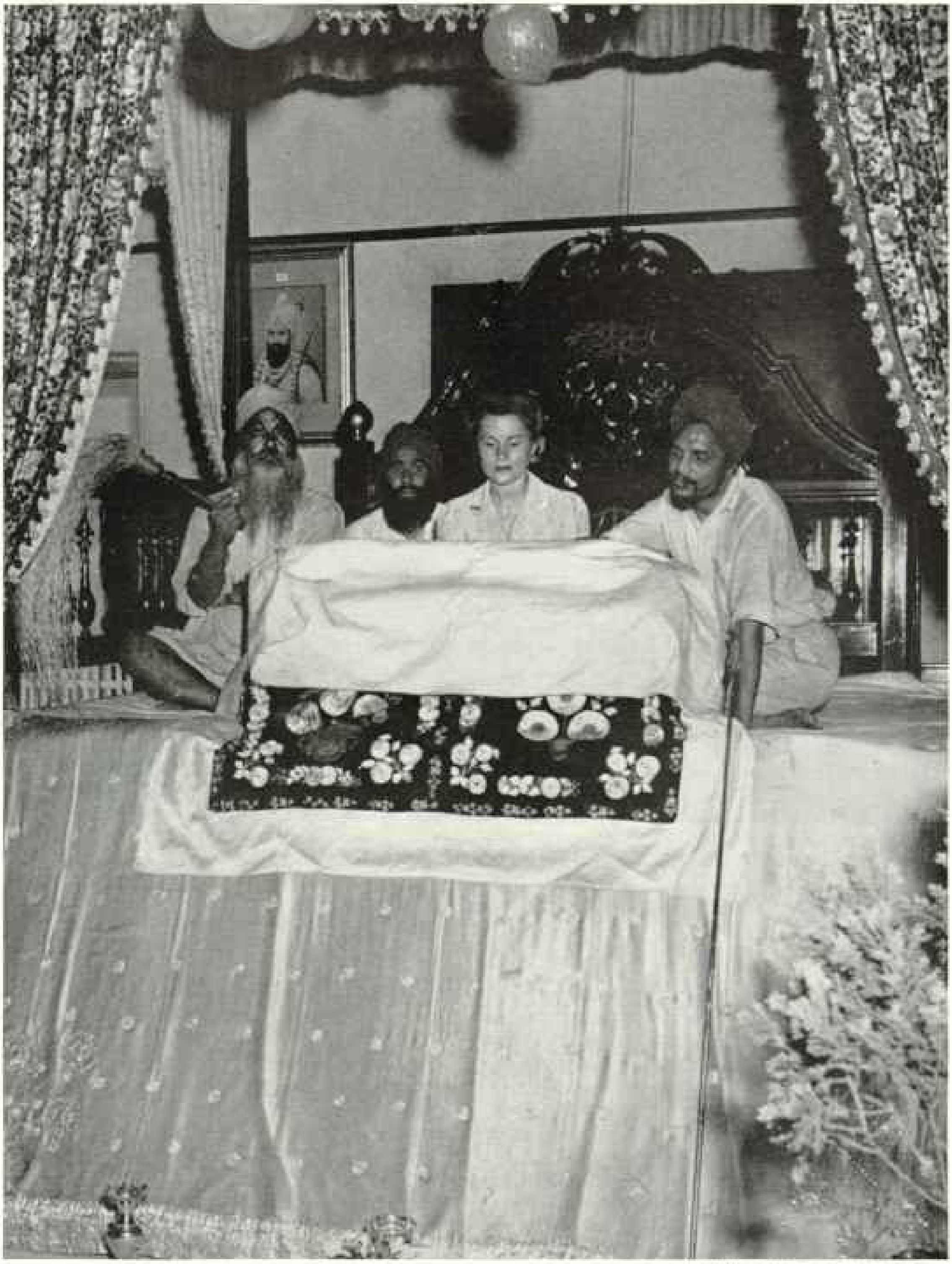
"At first we didn't believe 'em when they told us they could smell Japs. We just laughed. But we soon learned that their noses were a darn sight better than ours. And after one of 'em on Guadalcanal told us not to go over a certain hill because there were Japs on the other side, and we went anyway and a lot of us got shot up, well, we sure followed *their* noses after that. We let 'em sniff every trail before we used it, too."

A sergeant who had been with the Engineers in New Guinea around the Milne Bay area was all praise for the natives there. He thought some of their customs were a little crazy. He couldn't figure out why they worshiped trees and wouldn't let anyone go near them. And he couldn't understand why they always walked single file, never side by side.

The mention of tree worship brought another veteran into the discussion. He had been in the same area and had his own version of native tree worship.

"I don't think it's because they actually think of the tree as being something sacred," he said, thoughtfully. "But every time a baby is born they plant a tree for it, and as long as that baby lives that tree is his."

This may have been a strictly one-village custom, or it may have been a little misinformation picked up by this soldier.



Kmill Reynolds from American Red Cross

In Calcutta a Red Cross Girl Views the Holy Words of the Sikhs' Sacred Granth

Before she climbed to the dais in this temple, she and accompanying GI's washed their hands and feet at a fount and checked their cigarette cases at the door. Yanks found the Sikhs "the wildest-looking birds, but the swellest guys" (page 126). Taking pride in their hair and silky beards, which they rarely cut or shave, Sikhs are rated among India's finest fighters and have played an important role in this war.

Emil Reynolds from American Red Cross

An American Red Cross Guide Washes Her Feet in a Sikh Temple

Before being permitted to view the Granth, or Sikhs' sacred book, Miss Mary Jane Young was obliged to go through this purification ceremony (page 112), while stocking-footed Yanks awaited their turn. She was conducting a Red Cross tour for GI's in Calcutta.

However, tree worship does exist in New Guinea. In some parts of the island natives believe their ancestors live on the branches of trees and they hang red and white strips of cotton on the boughs. Often they place baskets of food and other offerings on the tree to tempt the hungry spirits.

When he clears his land for planting, a gardener frequently leaves one big tree standing as a shelter for the garden spirit. The belief is that some trees harbor friendly garden spirits which favor the owners of the gardens by giving them good crops, but are resentful of strangers and intruders.

Boys back from Burma told me they had to curb their romantic inclinations to carve their initials in trees there.*

"That was definitely on the 'don't' side," said one. "Those babies think their ancestors live in the trees, too."

This brought a loud guffaw from a burly Yank who said that was nothing new. A lot of people right here believe their ancestors lived in trees and swung by their tails. And when he was told to pipe down, he couldn't resist tossing in his explanation for those who might not have been able to grasp his subtle meaning.

"Monkeys, brother! Just plain monkeys!"

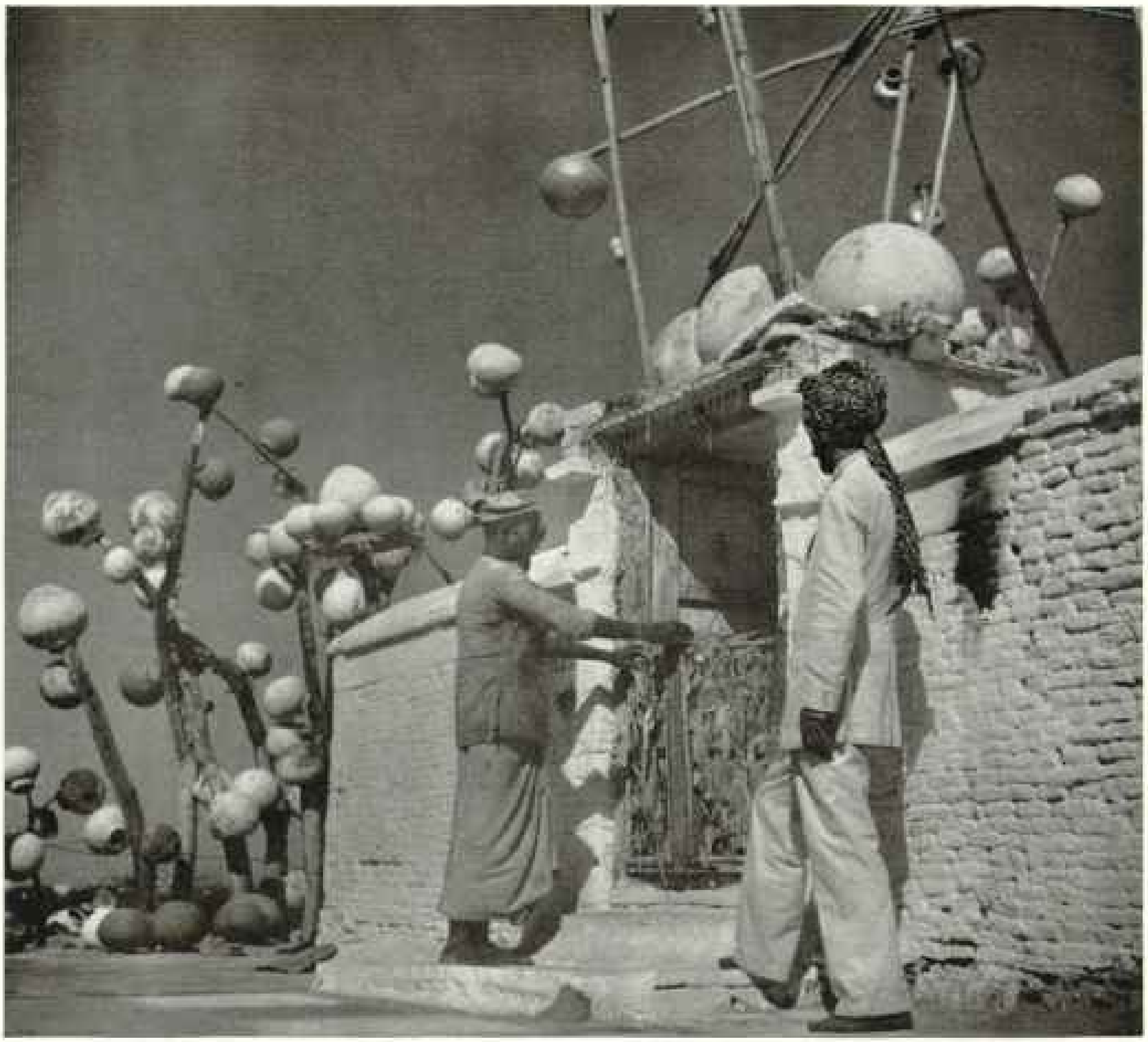
A Painful Kind of Mourning

A Yank who reported "there are headhunters and sorcerers and hocus-pocus makers all over New Guinea" also related some native reactions to deaths in the villages.

"I saw a woman take her fingernails and scratch long bloody gashes in her face because her husband had been killed."

When I asked him whether he had seen any of them "dressed in their widow's weeds" or with joints of their fingers missing or

* See "Burma: Where India and China Meet," by John LeRoy Christian, NATIONAL GEOGRAPHIC MAGAZINE, October, 1943.



Staff Photographer Maynard Owen Williams

Women Who Want Children Tie Rags to the Gate of the Shrine of Pots at Delhi

Stuck on poles are the pots in which the faithful bring gifts of rice.

smeared in layers of clay, he said he didn't think he had and asked me why they would do such things.

Mourning customs, like many other customs in New Guinea, vary from village to village. In some, the loss of a relative is signified by the mourner's lopping off the joint of a finger. In others, widows mourn their loss by coating their bodies with layers of clay, which harden, fall off, but are never voluntarily washed off until the self-imposed period of mourning expires. Such periods may extend from a single month to as long as a year or even more and are largely determined by the deceased's importance.*

In some sections the widow really wears her weeds, a raffialike substance which gives her the charming look of an unraveled shredded wheat biscuit or a tied-in-the-middle stack of hay. In still others, the bones of the dead are saved and passed out to friends as mementos to be worn on cords around their necks. And in some of the neighboring islands just off the eastern shores of New Guinea proper, mothers have been known to save the jawbones of their dead infants and wear them as pendants on their necklaces.

There was a lot of chattering among the group at this point about the native woman being a packhorse. She carried everything from a full load of firewood, huge bunches of bananas, vegetables from her carefully tended gardens, to her infant carried in a string bag and slung over the entire load on her back.

The advantage of the string bag is that it can be fastened across the mother's forehead by a band of the same material, thus leaving

* See, in the National Geographic Magazine, October, 1944, "What the Fighting Yanks See," by Wanda Burnett.

G. Nanja Nath

Across Red-hot Coals Men Run in Bare Feet at an Indian Temple Festival

Fire walking is common in nearly every Indian village which has a temple. On the day of the festival three or four cartloads of firewood are burned and the embers shoveled into a 40-foot-long trench. Men armed with fans swish the fiery coals. Then in the dim-lighted evening the chief priest and 20 picked stalwarts in loincloths and garlands run slowly the length of the ditch. Before the festival the image of the village goddess, in whose honor it is held, is carried through the streets in a long procession.

her arms and hands free to pick up other objects to add to the load.

"I don't think I ever did see a native man carry anything, except those who worked for us," one Yank remarked. "Mostly they just swaggered along behind the women, swinging a stick or not carrying anything at all."

Another veteran was amazed at the toughness of the natives' feet.

"I've seen those babies bang down on a shovel with their bare feet like nobody's business. It hurt me just to watch them."

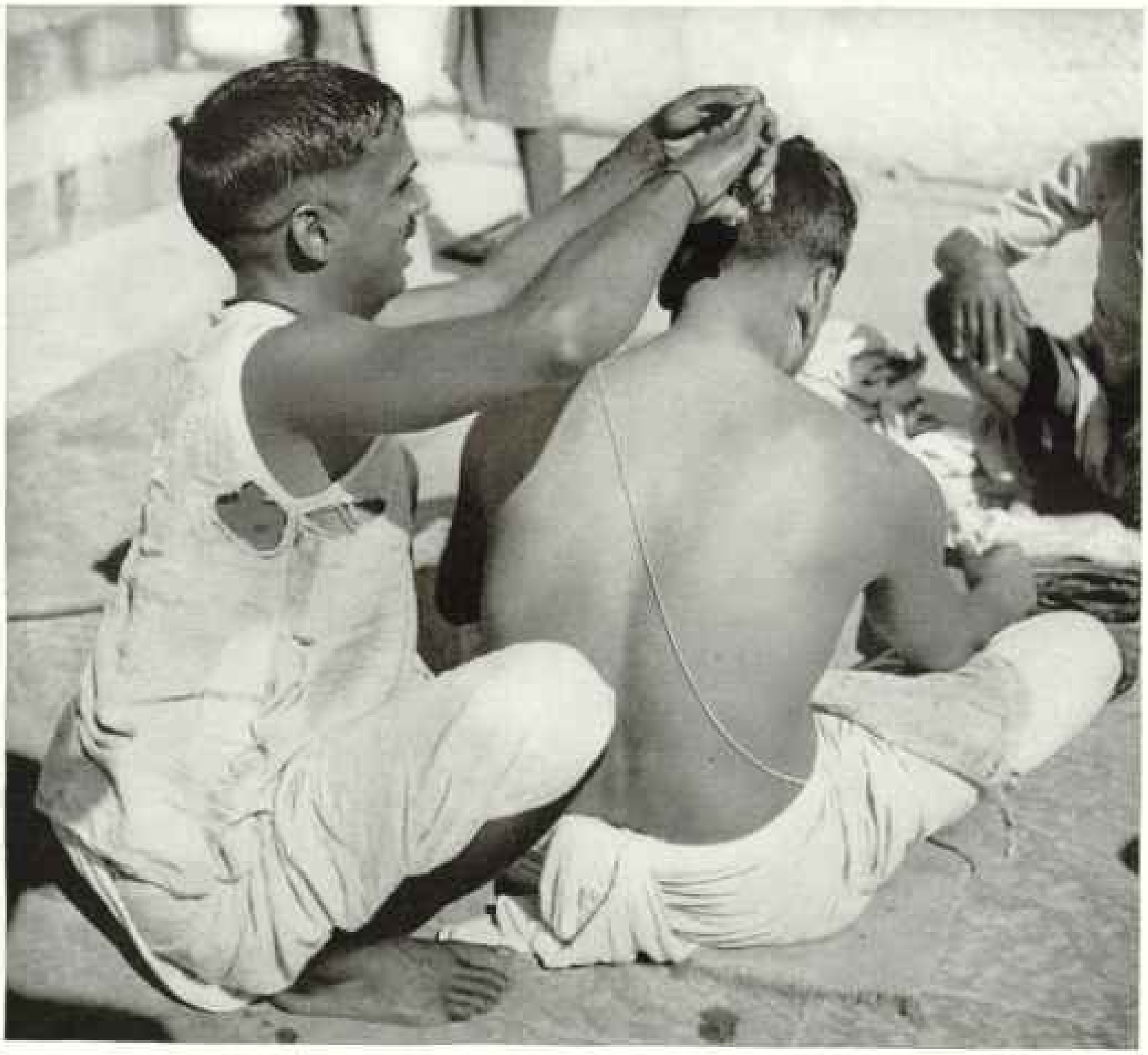
Here the teller shifted his weight from foot to foot as if even the memory of this episode were painful.

"They've actually got a layer of hide on the soles of their feet more than a quarter of an inch thick, from going barefooted, I guess," he concluded.

"Most of 'em believe in witches and magic and all that sort of hokum." This came from a returnee who had suffered a lot of kidding from his buddies because of his "witch talk." After this first eager mention of his pet subject he hurriedly withdrew from the conversation. It took considerable encouragement before he would resume the discussion.

Firm Faith in Sorcery

"Well," he said hesitantly, "I heard that if a native found a certain flower in his hut, or anything else he knew he hadn't put there himself, he knew his number was up. He'd just lay down and die without a struggle."



Staff Photographer Maynard Owen Williams

A Brahman Gets a "Must" Haircut Before Bathing in the Holy Ganges at Benares

Street barbers are numerous and willing. Some Hindus remove all the hair except the eyebrows. The cord over the man's shoulder denotes he is a Brahman who has performed the necessary rituals of the highest caste. Made of strands of cotton, the sacred cord is never removed. Its position depends upon whether an ancestor or a god is being worshiped.

The belief in sorcery has a powerful hold over the native mind in New Guinea. Expeditions penetrating into the interior have frequently reported strange actions among their native carriers and guides. When questioned, the natives invariably attributed their actions to the dark deeds of some local sorcerer.

One reason why sorcery has had such a firm grip on the native is that he does not understand sickness or the cause of any death except that which results directly from violence.

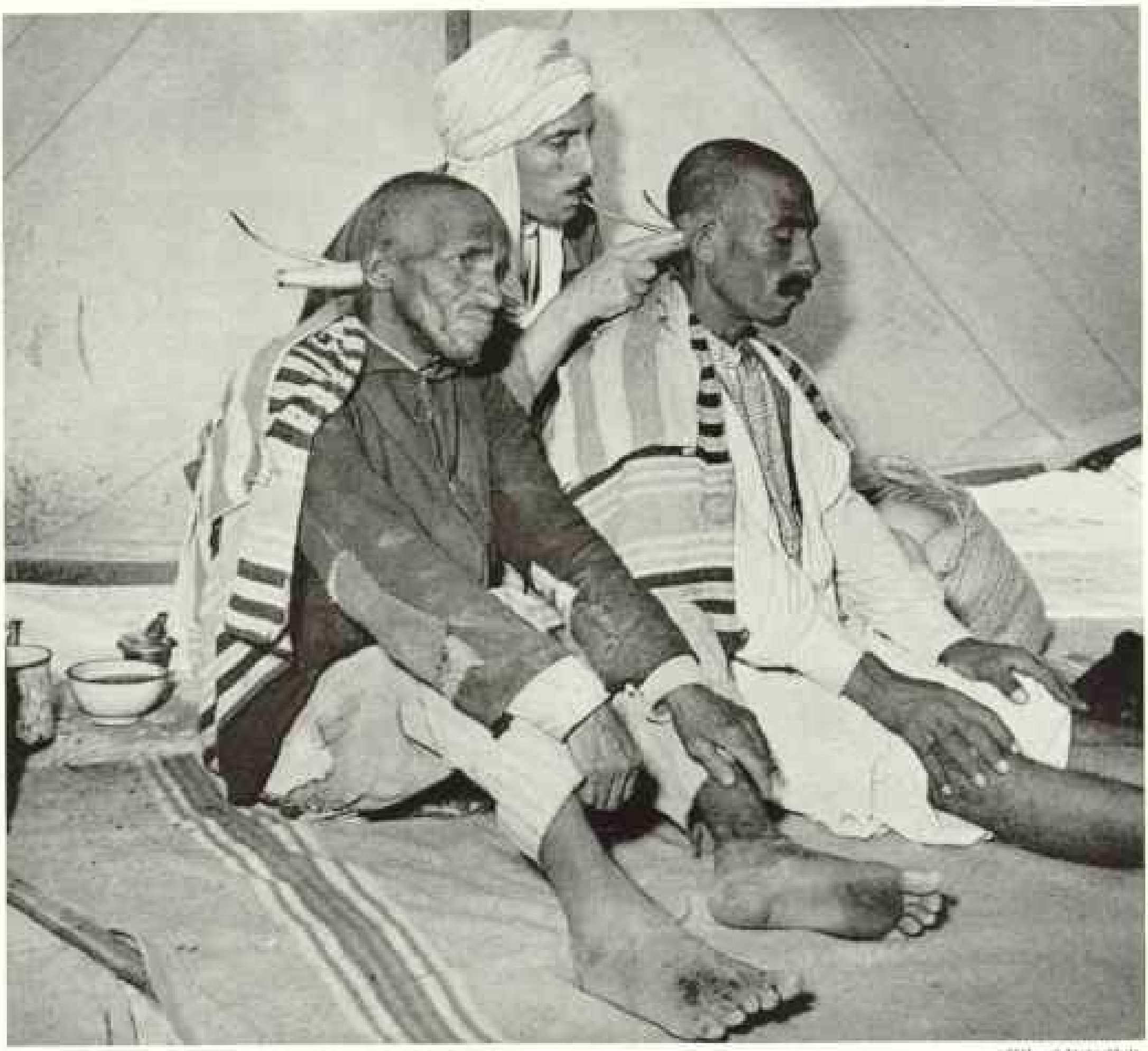
Sorcerers in New Guinea are generally men, but in some of the neighboring small islands to the east women are also thought to possess magical powers and to be capable not only of flying but also of making themselves invisible.

These flying witches are greatly feared and, according to natives, they break the bones and drink the blood of their victims.

Natives believe that the sorcerer bent on doing away with a certain person need only obtain a lock of hair from his frizzle-headed victim, a few fingernail parings carelessly left lying around, or some prized possession. With these things set before him as a concentration point, he begins his death-dealing magic.

The Yank recalled at this point that you could easily talk a native out of the belief that he was doomed. "All you had to do was to say that you had stopped the sorcerer's power, and he'd believe you, too."

It might well be that the native would recover under this suggestion, for almost every



Hiland Batcheller Holt

Bloodletting Is the Barber's Business in Africa

In a desert tent an Algerian barber relieves his patients of "evil spirits," or mild headaches. Placing a horn above a newly made incision, he sucks out the air and then waits for the cup to fill. Tuesday is traditionally the best day for bloodletting, for on that day "bad blood is in the body and should be removed."

village has a "good" sorcerer who, for a consideration, will attempt to counteract the powers of the "bad" sorcerer.

Among Yanks from the Indian area was a corporal who had spent more than a year in Assam, the northeastern province of India.* He told me that it was next to impossible to get any work out of the Indians there and that it *was* impossible to get any information about anything.

"If you offer them food," he said, "they'll unwind their turbans, dirt and all, wrap the food up in it, and go away by themselves to eat it."

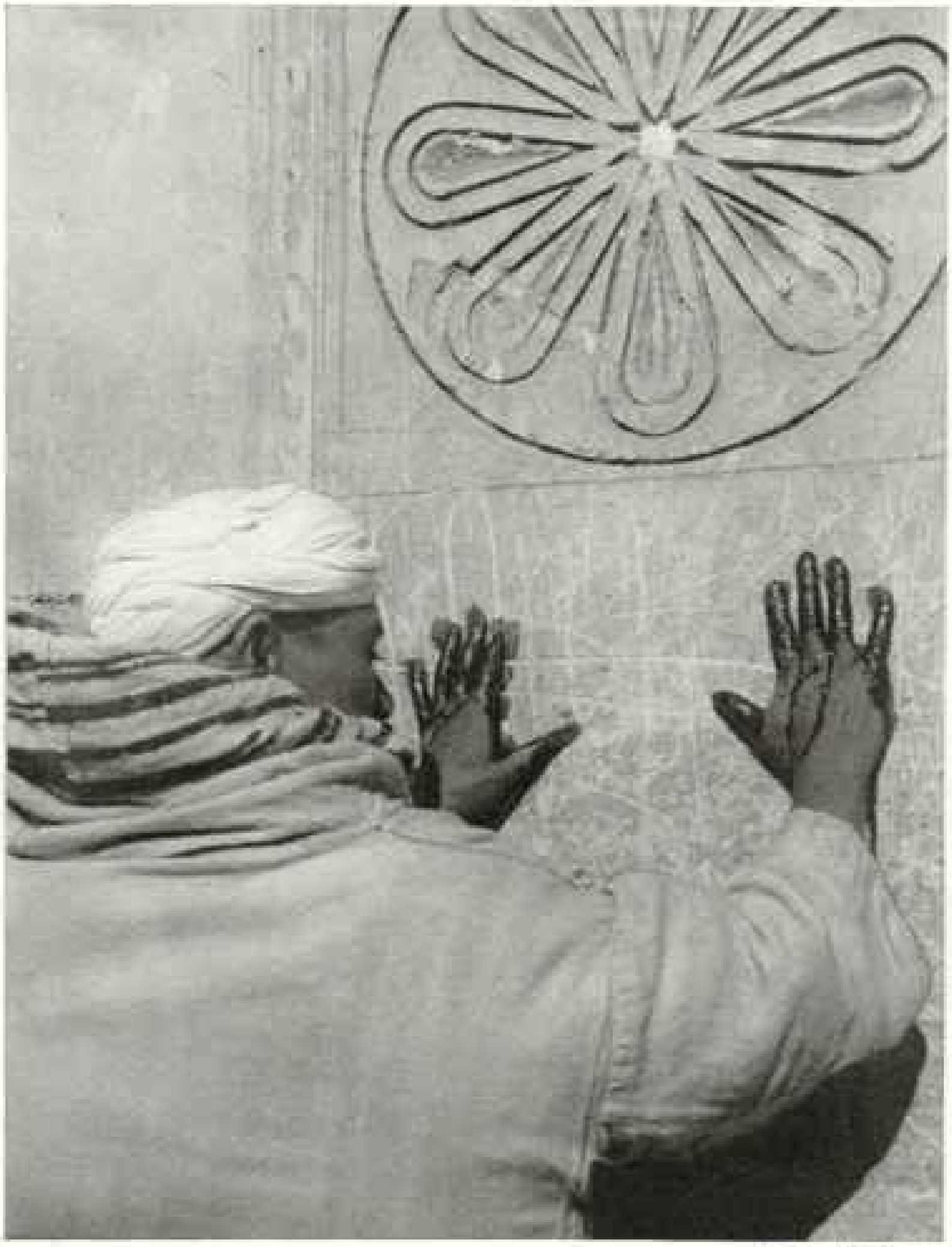
When I pointed out to him that one of the "don'ts" in the official Army pocket guidebook for soldiers going into India concerned the watching of Indians while they were eating or the touching of their food, he smiled broadly and said: "That's a custom that only works one way. They stand and stare at us while we eat, but we're not supposed to even look at them!"

Caste Hindus, in some sections of India, believe that if the shadow of an unbeliever falls on their food, the food is polluted and must be thrown away.

I had even heard of Brahmans, the highest of the Caste Hindus, breaking the dishes from which an unbeliever had eaten.

It was this same corporal who pointed out

*See, in the NATIONAL GEOGRAPHIC MAGAZINE, "India—Yesterday, Today, and Tomorrow," by Lord Halifax, October, 1943; "Life with an Indian Prince," by John and Frank Craighead, February, 1942; and "Through the Heart of Hindustan," by Maynard Owen Williams, November, 1921.



Charles W. Bowers

A Moroccan Impresses Black Hands on a Wall to Ward Off the Evil Eye

Yanks in North Africa frequently were startled by Arabs thrusting out their hands and saying a quick "five on your eye." Arabs believe this greeting turns away bad influences. Blue-eyed GI's, especially, were considered "evil-eyed" by the natives.

that everyone and everything he saw in India seemed to be in a state of constant hunger.

"You probably won't believe this," he said, "but I saw it happen. We were all coming out of the mess hall one day and a buddy of mine—he was always hungry, too—had a sandwich in his hand. Just as he was about to take a bite out of it, a huge hawklike bird swooped down out of the sky and whisked that sandwich right out of his hand!

"You never saw a more scared kid," he went on. "Why, he didn't eat enough to keep a flea alive for a whole week after that.

"Another time we were laying a pipeline across a river. It wasn't very deep as rivers go, but there was a whole string of Indians wanting to cross. It was raining a little that day. The first Indian went in, tested the water, and began wading across. The rest followed. As they went farther and farther out, the water got deeper and deeper; it was actually up to their chins at one point. But the pay-off came when each one of those water-soaked boys hoisted a black umbrella high over his head to keep off the rain!"

India's Sacred Cows

I asked the corporal whether he had encountered any of India's sacred cows, and he plunged into the subject with high enthusiasm.

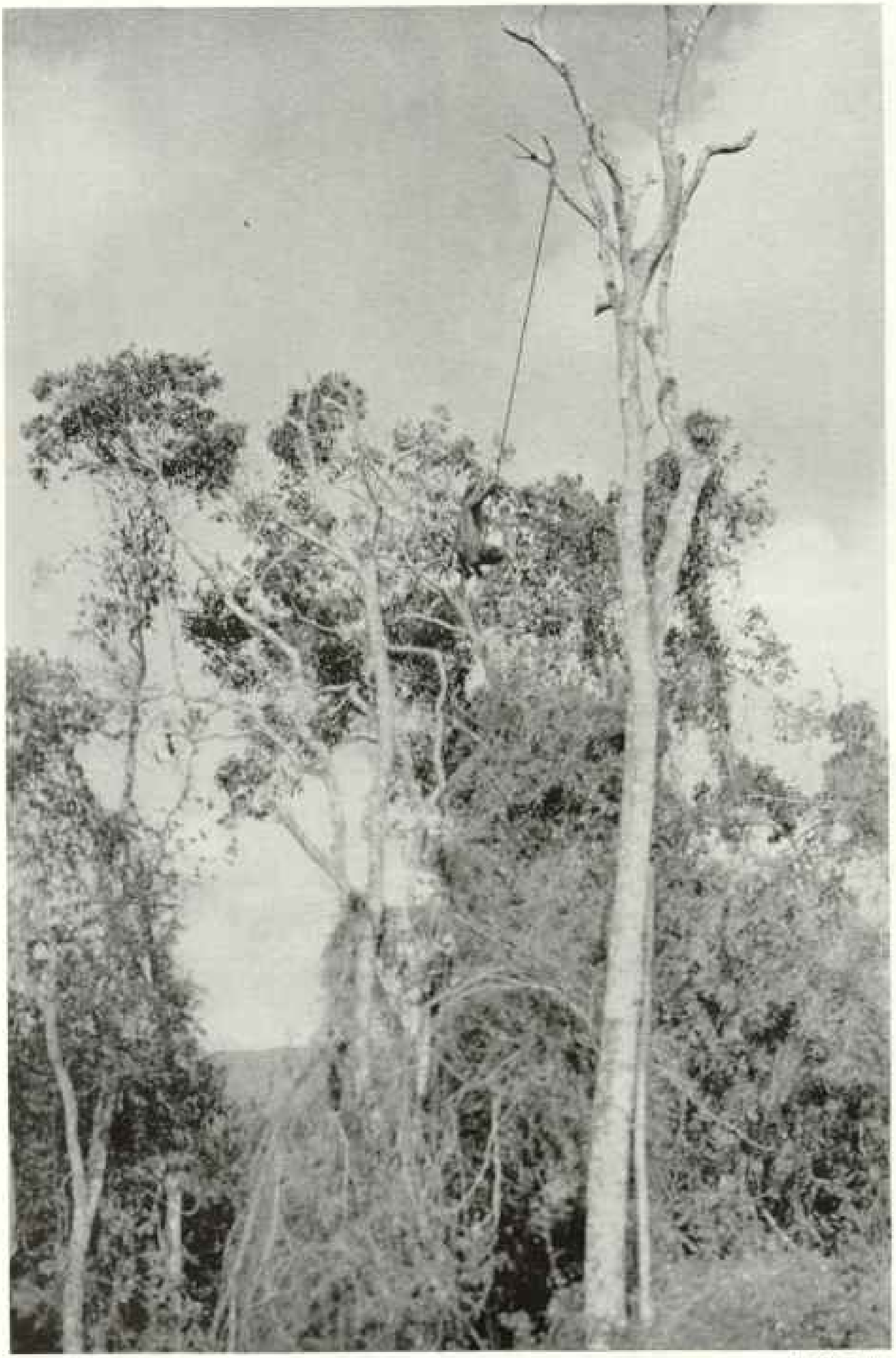
"In Bombay—and let me tell you right here, that's a place! When we came within sight of that burg, I took one look and wondered what I was being punished for. And in the streets, right in the downtown section, those old mangy-looking cows wander around like they owned the place (page 111).

"We weren't supposed to touch 'em, but, well, you know how it is with a bunch of guys."

His explanation of why the cow was considered sacred was this:

"People say that the cow is sort of a second mother. If a child's real mother dies, the cow just automatically takes over."

This seemed to me to be a rather unusual angle on sacred cows. I had always believed that it was because of the Hindu belief in reincarnation, one which kept them from harming or killing any form of animal life for fear it might house the spirit of a dead ancestor who had departed this life in a recognizable form, but who might now appear as a monkey, a bird, or a cow.



Carl N. Taylor

This Philippine Tarzan Travels by Swinging Through Treetops on a Pole

Because the undergrowth is too thick and thorny for ground travel, the tribesman takes to the air for swift and comfortable progress. Swinging like a pendulum from his hooked rattan pole, he leaps trapezelike from tree to tree. Little is known of the few thousand Ibilaos, inhabiting the unexplored jungles of eastern Luzon.

Emil Reynolds from American Red Cross

Red Cross Girls Visit the Burning Ghats of Calcutta, the First Sight Most Americans Wish to View in India

Our boys, seeing Hindus scurrying through the streets carrying their dead, follow them to the banks of the Hooghly. There they watch the bodies being cremated over open fires and the ashes thrown into the river. Relatives, with little apparent grief, stand by and then plunge into the sacred river (page 124). A returned Red Cross girl said, "The very poor can never afford enough wood and so their bodies may be tossed into the river before they are completely burned."

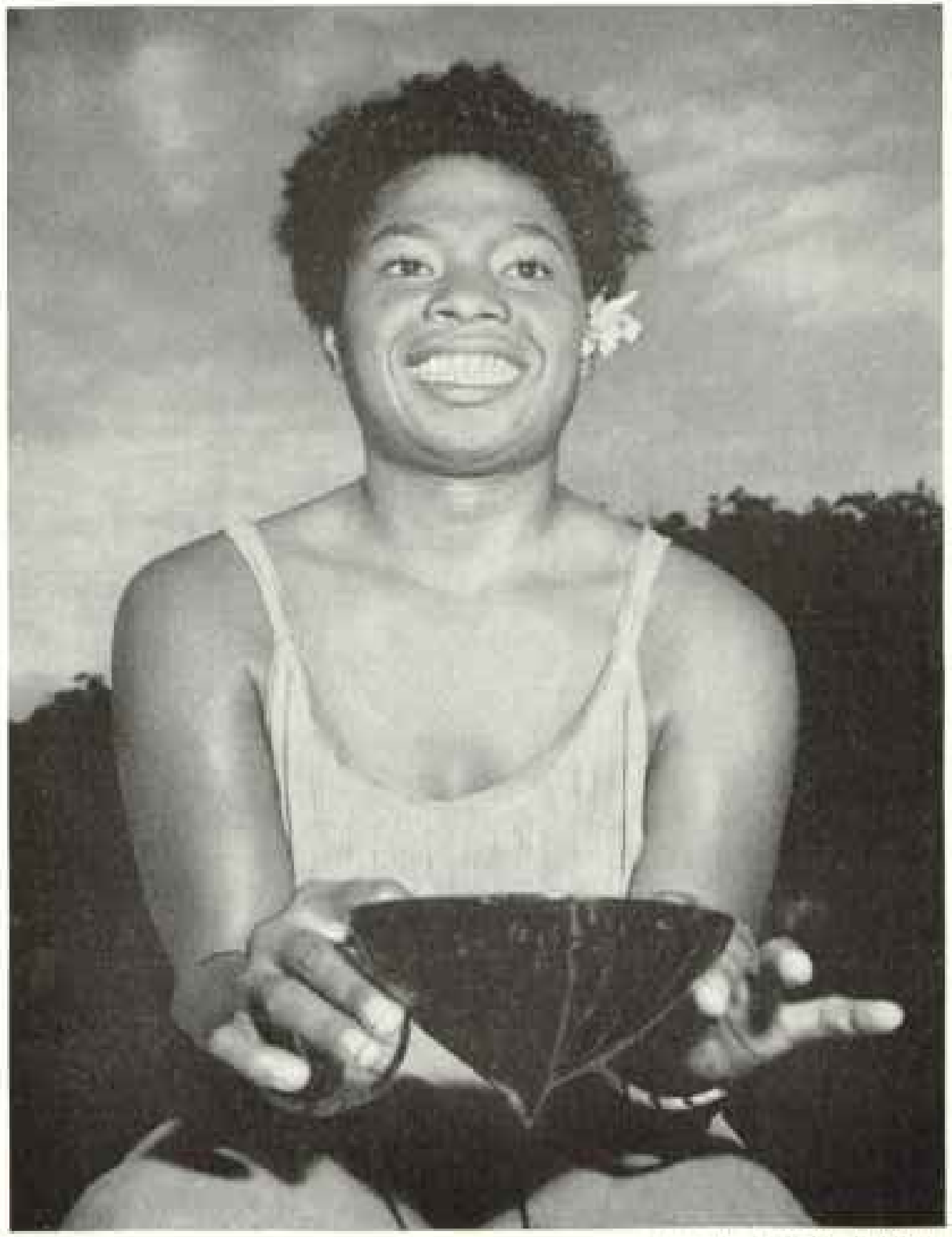
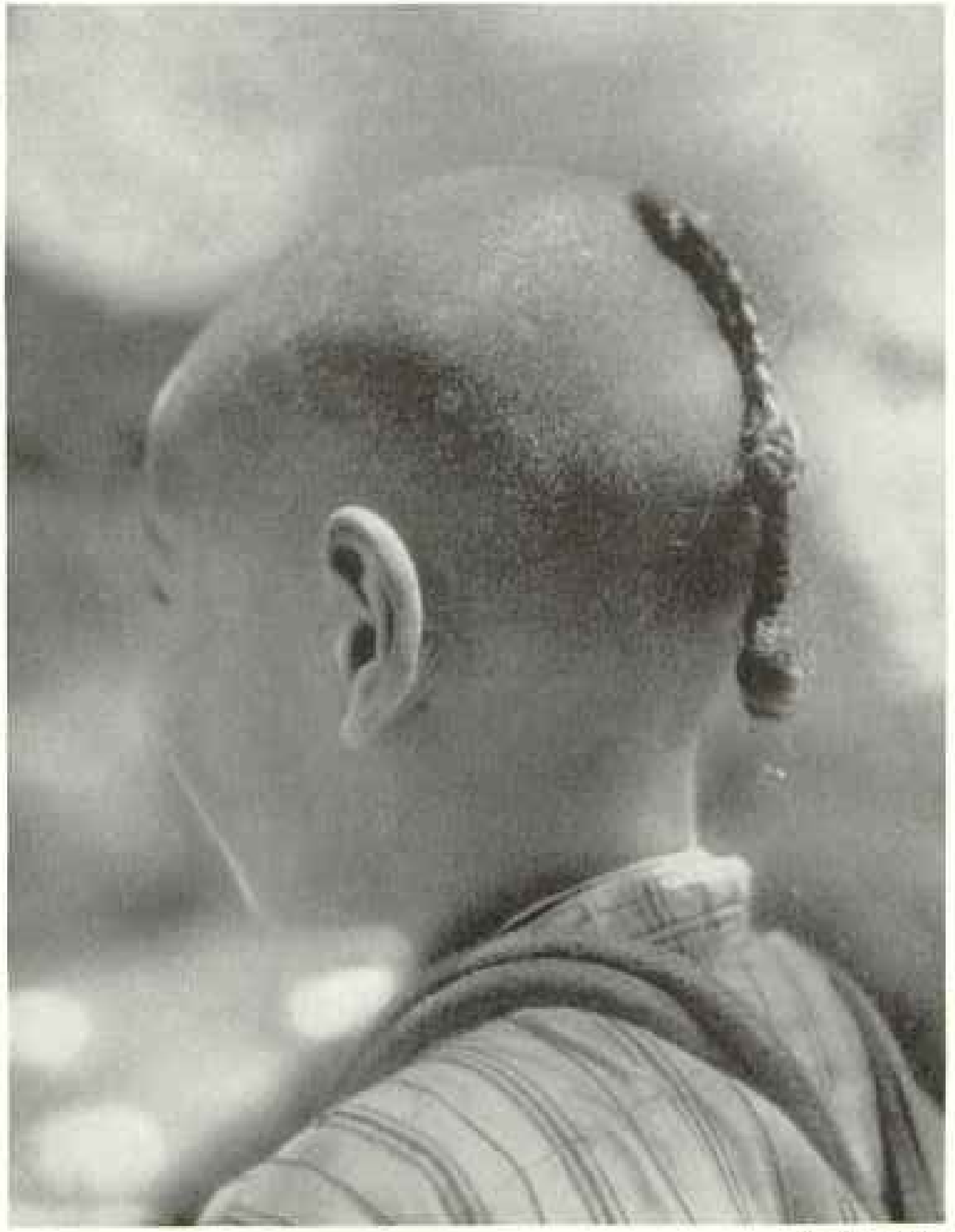


Photo from American Red Cross

A Fijian Girl Offers a Coconut Cup of Kava

When Brig. Gens. Edmund B. Sebree and William R. Woodward were made honorary chieftains in a big ceremony, this island drink was passed to them with rhythmical handclapping. Mildly intoxicating, the peppery beverage is made by crushing kava roots with stones, mixing with water, and straining.



Brandon De Cou

His Hank of Hair Is His Handle to Heaven

In Morocco a youngster gets his first shave and haircut when he is less than a year old. Many superstitions surround the boy's single lock. Some parents leave it to protect him from sickness, death, or the evil eye. Early Moors believed they would be pulled into paradise by this handle.

G. Nanda Nath

To Torture Themselves These India Women Stuck Silver Wires Through Their Cheeks

The little rectangular frame of silver, piercing both jaws between the teeth, is worn as a penance during the temple fire-walking festival (page 115). Undoubtedly "mouth locks" keep village tongues from wagging, for it is acutely painful to open the mouth. For the several days their jaws are bridled, victims live on liquids poured between the lips.

When I later delved into the subject, I found that the belief dated back centuries and really had its roots in economics. The cow was first protected, not worshiped, because of its value as an item of sustenance in times of famine. In order to impress this value on the minds of the people, and to keep them from slaughtering cattle too freely, it was necessary to inject a little religious significance, to make "killing" a sin.

Here They Don't "Swat the Fly"

"And about that ancestor and killing business," one Yank proffered, "I've even heard that they wouldn't swat a fly, and often set out dishes of honey or sweet stuff of some kind for the ants to feed on.

"A man who lived in India for over 30 years told me that he knew of cases where people had been invited to spend the night in a bug-infested house so that the bugs would have something to feed on!"

Some Hindus object to eating their meals by artificial light because of the danger of accidentally swallowing one of the bugs which would be attracted by the light. The Jains, Hindu dissenters, carry the preservation of all animal life to extremes. When out walking, the ascetics wear white cloths over their mouths to keep from inadvertently swallowing insects which might be flitting around in the air.

Another thing that seemed to puzzle the corporal was the tiny red dot which appears on the foreheads of many of India's daughters.

"I'll bet I asked a hundred different people and got almost as many answers," he said with genuine annoyance.

"Some said it was because the woman was married. Others said it was because she wasn't. Anyway, I never did find out."

The mark, I discovered later, was originally worn only by the women of the two highest castes, the Brahmans and the Kshatriyas, and then only by the unmarried, or married woman whose husband was still living. Even today high-caste widows are not allowed to wear it.

Now it is a fairly prevalent decoration among Hindu women of all castes. And to the more sophisticated, the dot has come to

British official

Gen. Montgomery Inspects the Kukri, Which Terrorized Nazis and Italians

Ordinarily these short swords of the Gurkhas are not resheathed unless they have drawn blood (page 127).

mean nothing more than a form of ornamentation, although it may still hold religious import in some regions of India's vast and varied land.

The dot, which is sometimes changed in color to match the wearer's gown, is said to be a sign of happiness and prosperity and also one of good luck.

The subject of caste threw the whole discussion into turmoil.

The Assam corporal thought that caste might have been part of the explanation of why, when he asked an Indian to do a certain job, the Indian shook his head and pointed to the next in line, who in turn pointed to the next, until the last man had no one to point to; so they all walked away leaving the job untouched.

"Maybe it wasn't just laziness, after all," he said rather thoughtfully.

Caste System Baffles Red Cross Workers

Red Cross workers who had bumped their heads all too frequently on the system threw up their hands hopelessly and shrugged their shoulders. One exclaimed:

"We had caste thrown at us from all directions! We had *babus* who would supervise. We had bearers who would dust and place magazines, but who, because of caste, could neither sweep nor touch anything on the floor. We had sweepers who kept the floors clean, but who couldn't dust or touch anything that was above the floor level.

"Then we had cooks who couldn't wash dishes, dishwashers who couldn't peel vegetables, peelers who couldn't stoop to pick up peelings they had dropped.

"And this last was the worst yet, because these fellows were the droppingest lot I ever ran into. But to keep caste we had to hire an additional crew of 'catchers' or 'floormen' to squat on their haunches directly under the peelers to pick up eggshells and potato peelings!

"This caste system had us so completely stumped at first," she said, "that we were always expecting to run into someone who was so highly specialized or so completely bound up by caste that his duties might have to be limited to 'one vegetable only!' "

This club worker also told me that they had to hire 65 Indians to do the work that could easily have been handled by 10 GI's.

There are four main divisions of India's caste system and more than 2,500 subcastes,

"Montiale" from Black Star

Burma Beauties Emulate the Giraffe

Around her neck this Padaung woman wears a coil of brass rod one-third of an inch in diameter. Five rings were put around her neck as a little girl; other coils were added as she grew and her neck stretched. She speaks with a strangled voice as if from the bottom of a well. Older Padaung women may have 20 to 25 coils. The rings are never removed, even when eating or sleeping.

most of which are said to fall within the fourth caste, that of the artisan or laboring class.

The Brahman, or holy man, is the highest of the Caste Hindus, and is followed by the warrior, the merchant, and finally the artisan.

Each group has its special limitations, taboos, and beliefs. And on the fringe of the caste society are approximately 50 million Outcastes, the "Untouchables, or Depressed Classes," those who have no part in the fourfold scheme. These are the "unbelievers" who, in some sections of India, are forbidden in the villages, schools, and even the streets used by the Caste Hindus.

If an Untouchable so much as brushes accidentally against a Caste Hindu, the Hindu considers himself defiled and must undergo great scrubbings and bathings to remove the taint.

Caste exists even among these outcasts. They have their own special pockets into which certain people and groups fit, and below their own lowest caste are their own untouchables.

Gruesome Spectacles at the Burning Ghats

When I asked the Red Cross "guides" what was on their request list—what the Yanks asked to see most frequently when they were taken on tours—they all agreed that the burning ghats held the greatest fascination (page 120).

"We couldn't keep them away," one girl said.

And the comment of a war-toughened and slightly bragging Yank who had been drawn toward these funeral fires said the sight didn't faze him at all. He just thought they'd make a swell place to roast a hot dog or toast a marshmallow.

Another more sensitive lad said he couldn't keep away from the ghats, but the smell and the sight really made his stomach turn upside down.

Burning of the dead among the Hindus of India is the usual practice. And because undertakers don't exist, the dead have to be disposed of within 24 hours.

"It was quite a sight," one of the girls told me, "to see a corpse being rushed through the streets toward the ghats on a makeshift stretcher.

"The face was almost always uncovered and the feet protruded from the cloth which was thrown haphazardly over the rest of the body.

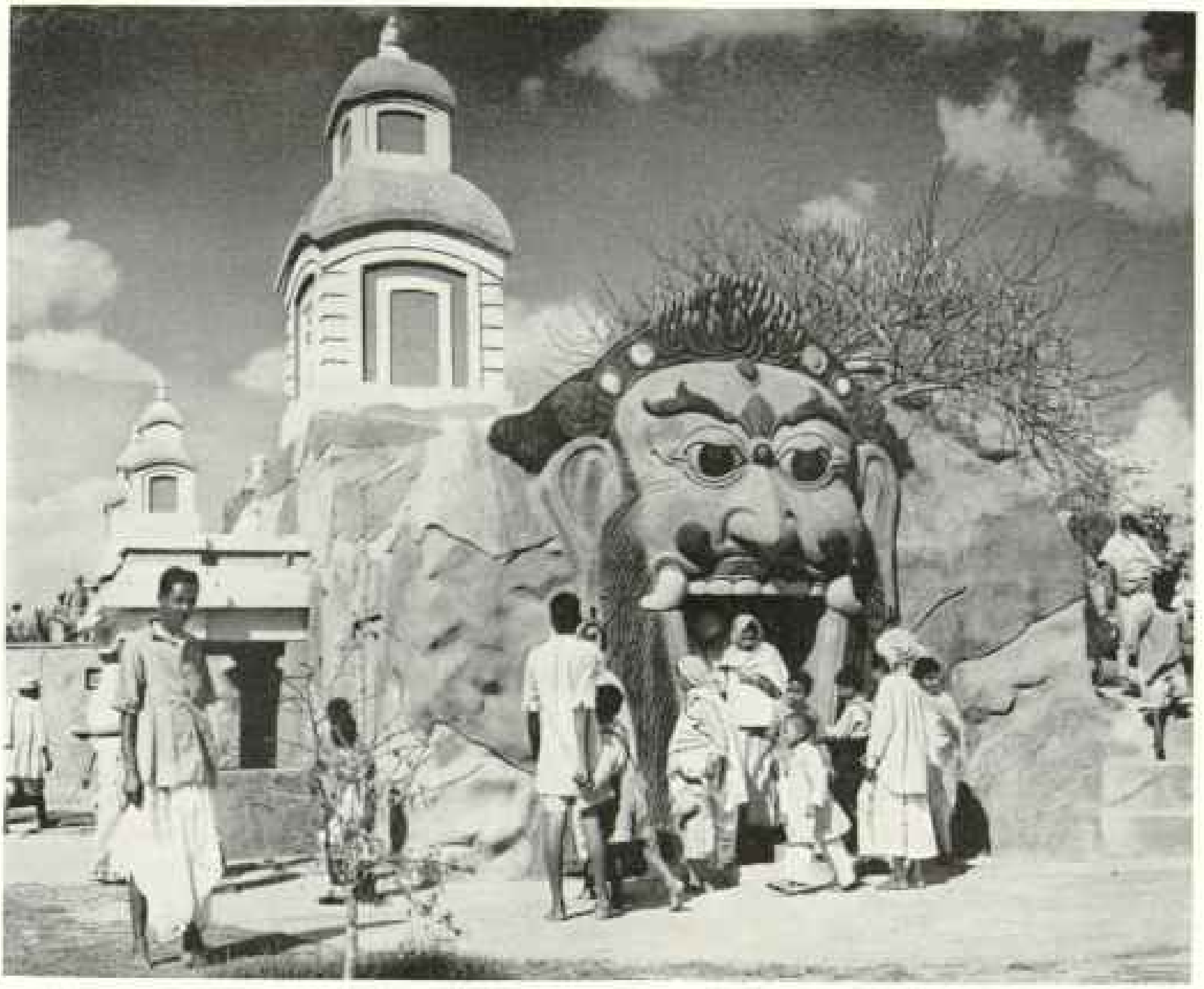
A Naga Head-hunter Puts the Finishing Touches on His Latest Trophy

Skulls of ordinary enemies are strung up like beads, but important catches receive special treatment. This Naga, from the hills between Assam and Burma, fondly attaches a pair of wooden horns to distinguish a prized skull. Heads of either sex are valued. A tribesman's prestige rises with the number he collects.

Bahnendorf from Pix

Crosswise Part and Bowl Haircut, but These Nagas Are from the Same Tribe

Here a tribesman weaves a cane legging on a warrior friend before the head-hunting feast. Americans building the Stilwell Road said, "The Nagas liked our medicine. I guess they thought the stuff was magic."



Dan Miller

Hindus Walk into the Mouth of a Grotesque Monster to Enter This New Delhi Temple

Honoring the goddess of wealth and wisdom, Lakshminarayan Temple was built by one of India's wealthiest industrialists. Officially opened in 1939, it is sometimes called the Elephant or Birla Temple, the latter in honor of the man who furnished the funds.

"The relatives seemed very casual about the whole thing," she went on. "They generally helped to put the final touches on the body, the special caste marks on the forehead and the soles of the feet. And while the body burned, they sat around and chatted."

Pallbearers on the Run

I was amused at her description of the corpse being "rushed" through the streets and asked whether she really meant that the "pallbearers" ran.

"Oh, yes!" she exclaimed. "They run like the very devil is after them! As a matter of fact, that is why they run, to keep the devil from catching up with them."

I wasn't able to verify this devil-chase-the-corpse story. It may be a belief among certain groups.

But one custom I did unearth, one probably not observed by our war tourists, was that which required the eldest son to apply the torch to the funeral pyre and to crack the skull of his dead father so that his soul might go free.

Both Yanks and Red Cross workers showed a definitely warm feeling for the Sikhs and Gurkhas in India (page 112).

"The Sikhs drove taxicabs and wore their beards in braids stuffed up under their colored turbans," one of the girls said.

"They were the wildest-looking birds I ever saw, but they were swell," was a returned soldier's remark.

"They never cut their hair or their beards," another Yank volunteered, stroking his own imaginary beard. "It's part of their religion."

A Red Cross girl who seemed well informed on the religious requirements of the Sikhs said that their religion also required them to carry a knife.

"Sometimes it is only about the size of a small pocketknife, but you never catch one without some sort of knife."

Frank Cancellare from Acme

Nagas May Hunt Each Other's Heads but They Are Friends to Our Downed Flyers

Here the hill tribesmen tenderly carry a wounded radio operator on a homemade bamboo stretcher. When his plane crashed in the Naga Hills, he bailed out and landed among tribesmen. Not knowing whether they were friend or foe, he crawled a hundred yards with a broken leg before they aided him. Rescue planes flew in salt, safety pins, junk jewelry, and some GI clothing which he and other survivors used for exchange money. A month later the fliers reached their post in India.

Then she quickly remembered that they not only carried a knife but refused to open it unless it was to "draw blood," as she mildly put it.

"One time," she continued, "we had a crowd of soldiers out for a tour and we ran into a Sikh. One of the boys asked him to open his knife. He was pretty cagey, this Sikh, and said he would be glad to if one of the boys would 'give a finger.' But the fellows lost interest in the knife when they thought they might have to have a slice cut off for custom's sake."

Gurkhas' Knives Mean Business

This knife story ran almost parallel to one told me by a soldier who had been in Italy in rather close contact with the Gurkha division there.

He said the Gurkhas carried knives and would not remove them from their sheaths unless it was to "draw blood." If they did, they would not return the knife to its holder without first nicking their own fingers with the sharp blade and letting a drop or two of blood drip to the ground (page 123).

The third knife story came from still another Yank who had taken part in the Africa Campaign. His story concerned the *goums*, or "goons," as most of the boys called them.

These were the well-built 6-foot and over chocolate-brown tribesmen of Morocco who served under French officers and frequently fought side by side with American infantrymen.

"Those babies weren't much good in the daylight," the Yank said. "But at night! Boy, could they do business!

"All day you'd see 'em just standing with their backs against a tree or the side of a

building, sharpening away on those wicked-lookin' knives. And at night, when it was good and dark, they'd slip quietly into an enemy tent and if they found five men sleeping, they'd whip out that knife and zip, zip, zip, zip.

"And four heads were off. The fifth one they left on.

"In the morning when the man with the head awoke and found all those other heads, boy, what confusion! *What confusion!*"

"All I can say," put in a sergeant who verified this story, "is that I'm glad they were on our side!"

Trading Tea for Chickens

A Red Cross worker, a man who had followed right on the heels of the British Eighth Army in the African Campaign, brought up a rather typical and interesting story.

"I don't think you'd class it along with customs," he said apologetically, "but we got an awful wallop out of it.

"We were in Tunisia," he went on, "around Médenine. I was publishing a little newspaper in the back of one of the trucks. We generally stayed only about three days in one location.

"Well, on the second day an old Arab came up to the back of the truck asking for 'bonbons.' We kept telling him we didn't have any and offered him sugar and cigarettes, but he was persistent. He kept shaking his head, and with a pleading that was almost unbearable he extended his upturned hand and repeated his request for bonbons.

"As a last resort, I held up a quarter pound of tea which I had been saving for an emergency. Well, you'd have thought I'd handed that old duffer the world by the tail. His face lit up like a new dollar.

"Right then I decided that if he wanted that tea, I wanted a chicken. I knew they had chickens somewhere out in that hot, sandy desert, because every Arab we had seen for months carried eggs; but we never got closer to a chicken than an occasional feather.

"So after a lot of palaver, very little of which either of us seemed to understand, and after I'd flapped my wings and crowed in a last attempt to put across my point, he finally understood that the trade was to be chicken for tea.

"He pointed to the sun and made a complete circle with his hand, indicating that he would be back tomorrow at exactly the same time with the chicken.

"When he left, he kept glancing back at that package of tea as if he thought it might be a desert mirage that would surely disappear before he could get back.

"Well, anyway, we forgot all about him. Next day we were packing up to leave, when that Arab, excited, but slightly exhausted from his 10-mile trek through the desert, came shrieking into camp and pointing to the sun to remind us that he had kept his word.

"But there was no chicken. He put out his hand tremblingly for the tea, but we were firm. No chicken, no tea. After about half an hour of his pleading, we finally weakened and handed him the tea. He touched the package, turned it around and around, smiled, and then set it tenderly on the sand.

That, apparently, was all he wanted. We thought he would just grab it and bolt. But he didn't.

"Then miracles began to happen. His next move completely floored us. Before we had time to turn around, he had pulled out of the folds of his baggy trousers not one, but 27 squawking full-feathered pullets and 44 eggs!"

Will War Change Age-old Customs?

The boys had a good laugh over this. Perhaps the war would change customs all over the world, they speculated. Maybe, in a few years, this honest old Arab would be in the poultry business on a large scale. All the little islands in the Pacific might be covered with jive joints, and the native women might give up their grass skirts and native songs and wear trailing satin evening gowns and become regular female crooners.

The lad who had given such a graphic report on the activities of the "goons" (page 127) felt that he knew a little about how this war had already changed certain customs. While the group was breaking up, he added this bit:

"In Africa," he said, "the man never walks with his wives, but generally goes jogging along ahead of them on a little burro, and they tag along behind him. Am I right?"

He needed no answer.

"Well, this war soon changed that custom! The old Arabs got smart and careful after some of those places were mined. Now the women walk ahead. They test the ground to see whether it's safe for the old man. Then he comes riding along behind them!"*

* For additional articles on areas mentioned in the story, see the *Cumulative Index to the National Geographic Magazine, 1899-1940.*

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Associate Editor of the National Geographic Magazine

ORGANIZED FOR "THE INCREASE AND DIFFUSION OF GEOGRAPHIC KNOWLEDGE"

To carry out the purposes for which it was founded fifty-seven years ago, the National Geographic Society publishes this Magazine monthly. All receipts are invested in The Magazine itself or expended directly to promote geographic knowledge.

Articles and photographs are desired. For material The Magazine uses, generous remuneration is made.

In addition to the editorial and photographic surveys constantly being made, The Society has sponsored more than 186 scientific expeditions, some of which required years of field work to achieve their objectives.

The Society's notable expeditions have pushed back the historic horizons of the southwestern United States to a period nearly eight centuries before Columbus crossed the Atlantic. By dating the ruins of the vast communal dwellings in that region, The Society's researches solved secrets that had puzzled historians for three hundred years.

In Mexico, The Society and the Smithsonian Institution, January 16, 1939, discovered the oldest work of man in the Americas for which we have a date. This slab of stone is engraved in Mayan characters with a date which means November 4, 291 B. C. (Spinden Correlation). It antedates by 200 years anything heretofore dated in America, and reveals a great center of early American culture, previously unknown.

On November 11, 1935, in a flight sponsored jointly by the National Geographic Society and the U. S. Army Air Corps, the world's largest balloon, *Explorer II*, ascended to the world altitude record of 72,395 feet. Capt. Albert W. Stevens and Capt. Orvil A. Anderson took aloft in the gondola nearly a ton of scientific instruments, and obtained results of extraordinary value.

The National Geographic Society–U. S. Navy Expedition camped on desert Canton Island in mid-Pacific and successfully photographed and observed the solar eclipse of 1937. The Society has taken part in many projects to increase knowledge of the sun.

The Society cooperated with Dr. William Beebe in deep-sea explorations off Bermuda, during which a world record depth of 3,028 feet was attained.

The Society granted $25,000, and in addition $93,000 was given by individual members, to the Government when the congressional appropriation for the purpose was insufficient, and the finest of the giant sequoia trees in the Giant Forest of Sequoia National Park of California were thereby saved for the American people.

One of the world's largest icefields and glacial systems outside the polar regions was discovered in Alaska and Yukon by Bradford Washburn while exploring for The Society and the Harvard Institute of Exploration, 1938.

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This newest kind of radio is only one of the amazing models General Electric will offer at popular prices after the war. There also will be standard radios, radio-phonographs with a startling new system of tone reproduction, and the new revolutionary self-charging portable.

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FREE: A fascinating booklet, "YOUR COMING RADIO," 28 pages profusely illustrated in full color. Previews the revolutionary, new General Electric Radio and Television sets. For your free copy mail a postcard request to Electronics Department, General Electric, Schenectady, N. Y.

Hear the G-E radio programs: *"The World Today" news, Monday through Friday, 6:45 p. m., EWT, CBS. "The G-E All-Girl Orchestra," Sunday 10 p. m., EWT, NBC. "The G-E House Party," Monday through Friday, 4 p. m., EWT, CBS.*

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For long life and better reception ask for electronic radio tubes by General Electric.

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As Well As We Do Our Servicemen?

A timely message from J. H. McNabb, President, Bell & Howell Company

THE speed and thoroughness with which our armed forces have trained millions of young men for war are amazing.

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Why haven't our schools made as widespread use of this proved, superior method of instruction as have our armed forces? Most educators lacked neither appreciation nor readiness. But they did lack, and *still* lack, the necessary funds.

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Now, as for 30 years, you can put your trust in General . . . the tire that lives up to its reputation for *Top-Quality*.

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—FOR KEEPS

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WILHELM RICHARD WAGNER, 1813—1883

The Opera, as we know and love it today, first found its full expression under the guidance of this noted composer, for it was he who revolutionized long-accepted operatic theories and insisted that music interpret the drama it accompanied.

All that the composer wrote

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comes to you undimmed and undistorted on a SCOTT

Golden note upon golden note, the great composers—like triumphant architects—built their towering symphonies of sound. And they expected that you, rapt and listening, would hear *each* note and *each* instrument in its own voice . . . as indeed you will upon a Scott.

For the miracle of the Scott is that it interposes no barrier and no space between you and the artist. By record or radio, as a symphony soars into reality in your home, you hear a "living performance," unmarred by reproduction.

During more than twenty years, Scott technicians have devised uncanny ways for recreating music so that no single golden note is dimmed. Their success has sent Scotts into more than 154 countries, the honored companion in a multitude of homes. Happily for you, a leading music or department store near you will be ready, when war restrictions are ended, to let you HEAR the Scott's own testimony of its amazing performance. Then you will know, if music has a place in your life, that there is only *one* instrument for your listening pleasure.

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What is it? A new Chris-Craft 22-ft. 8-passenger Custom Sportsman with options of 95, 130, or 145 h.p. engines with speeds up to 30, 35 or 37 m.p.h.

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Tomorrow command your own

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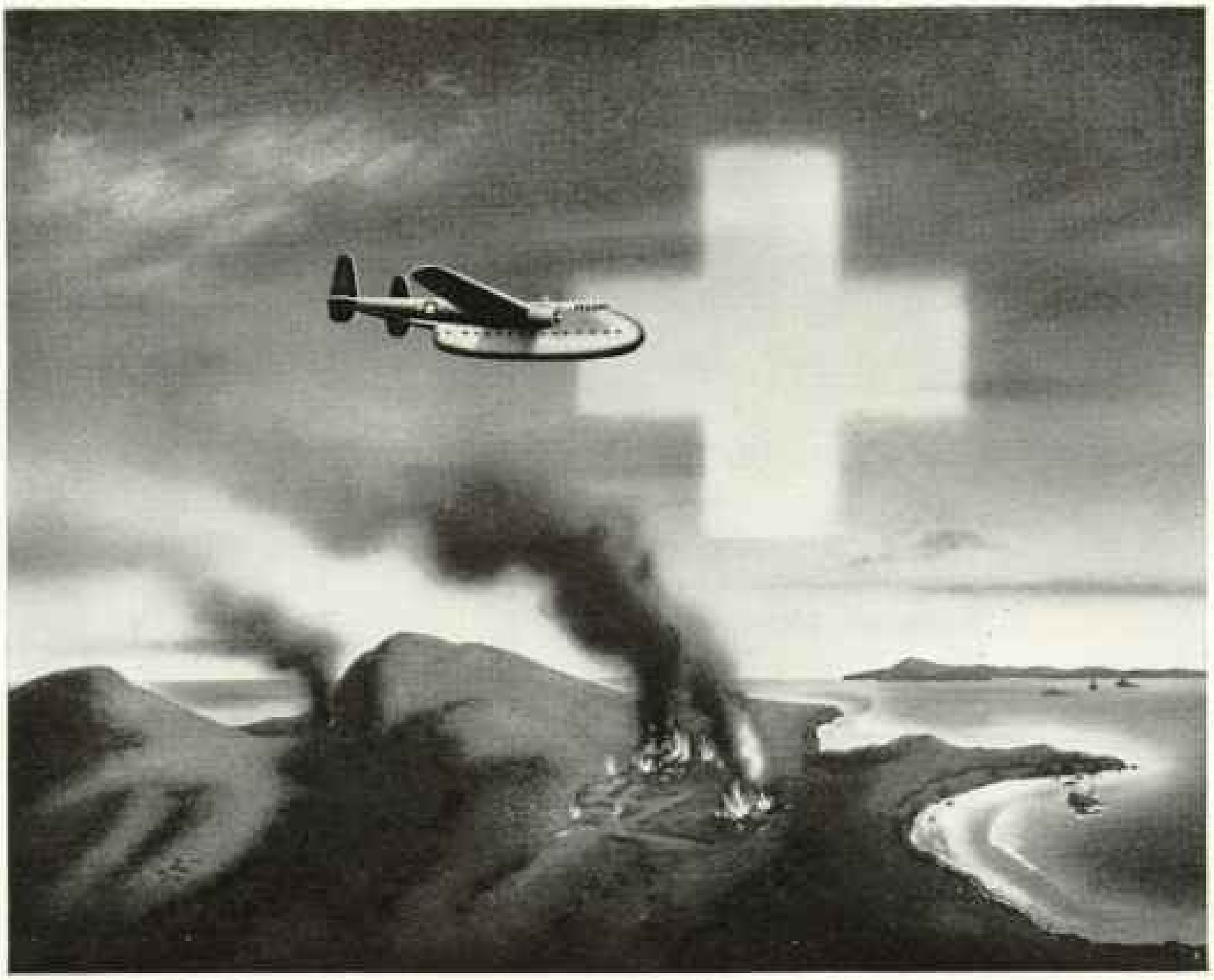
CHRIS-CRAFT CORP., ALGONAC, MICH. ★ WORLD'S LARGEST BUILDERS OF MOTOR BOATS



"You're an Angel . . . *with wings!*"

Ambulances fly in this war, and their flight brings swift evacuation of the wounded from the areas of front line danger. And because ambulances fly, the wounded are minutes, not days, from clean, sterile base hospitals.

Flying ambulances lend wings to the skills of doctors and nurses. For doctors, nurses and medical equipment go with the wounded in these hospitals of the air. The skill of aeronautical engineers and medical science have thus combined to save lives —bring swift mercy.

Fairchild ingenuity, for example, gave the Army Air Forces the "Packet"—a plane in which men and machines can be carried into battle. But the "Packet" is a ship of mercy, too, convertible *in a few minutes* to a plane ready to receive the victims of enemy action.

Known to the Army as the C-82, the long-range "Packet" can carry 34 litter cases, four attendants, and medical supplies. Cramped quarters do not hamper nurses ministering to the wounded. An ingenious litter suspension affords ample room for movement. So successful is this strap-suspension device, developed by Fairchild engineers, that it has become standard equipment on all types of planes used as flying hospitals.

Versatile in its applications, the "Packet" can do double duty as a mercy ship. It can carry the wounded from front line evacuation fields over long distances to base hospitals. Returning to the forward areas, it can carry up to *nine tons* of needed supplies.

FAIRCHILD ENGINE AND AIRPLANE CORPORATION

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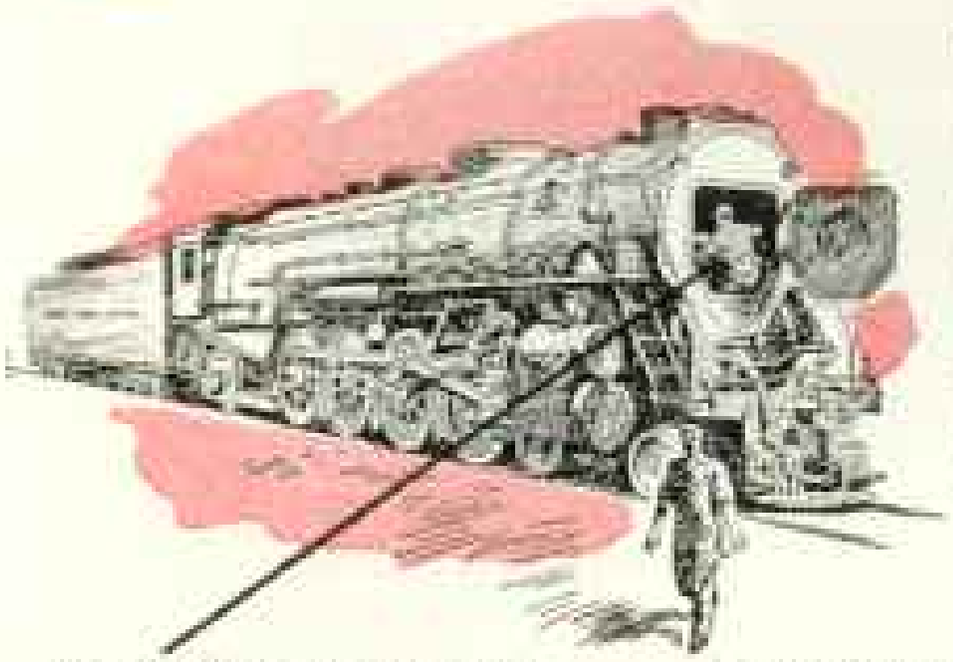
THE ARMY NEEDS NURSES

—JOIN NOW!

They keep a SUPER SERVICE STATION for New York Central Locomotives



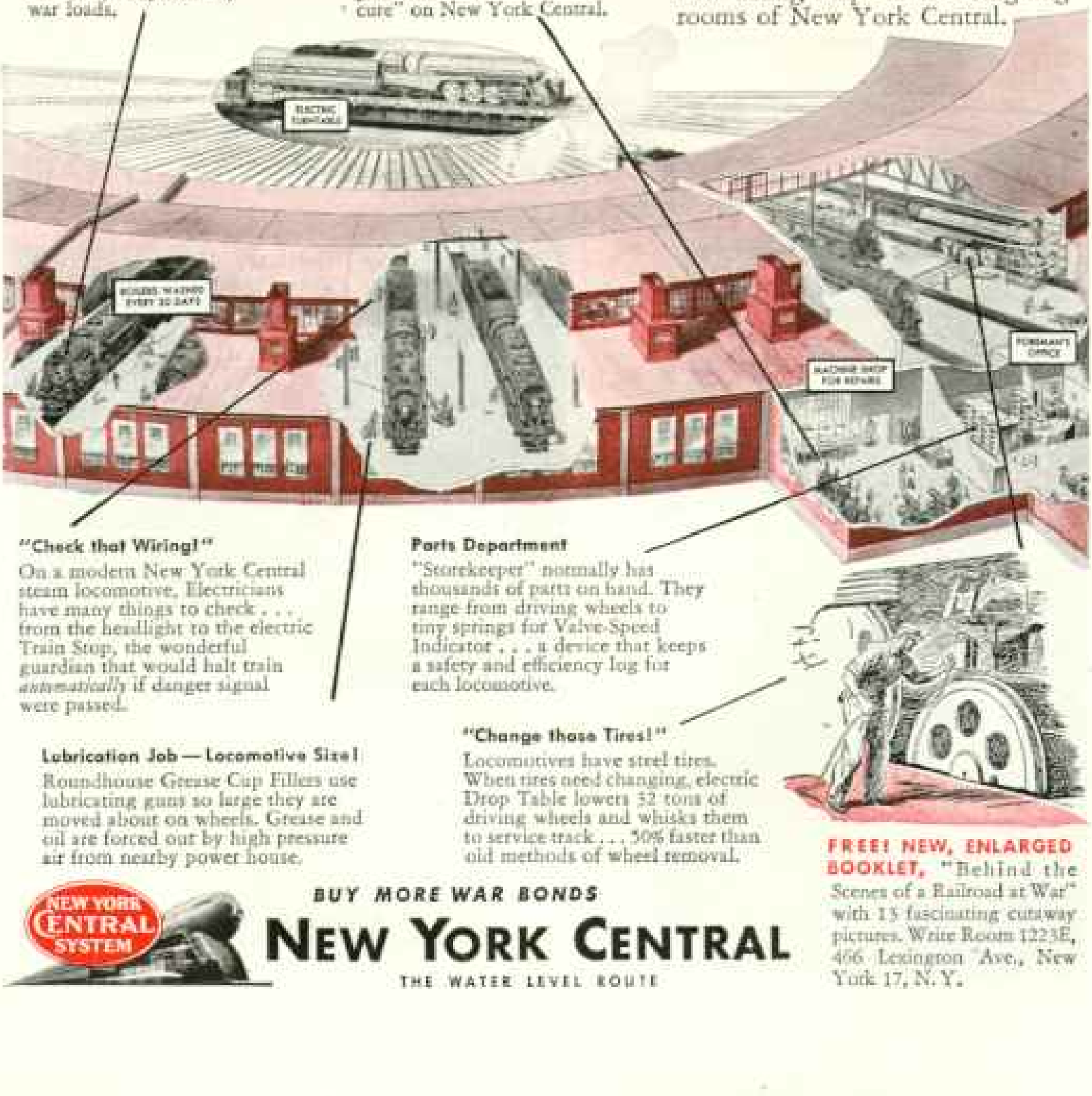
Looking "Under the Hood"
Inspector opens locomotive front, and steps inside to examine smokebox. Rigid check-up keeps New York Central engines working efficiently despite heavy war loads.

THE run ends. Engineer and fireman climb down from the cab, and a "hostler" takes over. Under his expert hand, 350 tons of pulsing steel move obediently off to the roundhouse . . . that super service station for locomotives.

Here, mechanics, electricians, pipe-fitters, specialists in many crafts work day and night . . . inspecting, repairing, lubricating and adjusting the engines of New York Central's motive power fleet.

Today, with modern machines and electrical aids, they're cutting hours from maintenance time...keeping engines longer on the job to move war traffic. And tomorrow these roundhouse teams will apply their war-born efficiency to servicing still finer locomotives now taking shape in the designing rooms of New York Central.

Electric "Detective"
Before invisible cracks in steel can grow and cause a breakdown, Machinists locate them with an electric detector called the Magnaflux. "An ounce of prevention is worth tons of cure" on New York Central.



"Check that Wiring!"
On a modern New York Central steam locomotive, Electricians have many things to check . . . from the headlight to the electric Train Stop, the wonderful guardian that would halt train *automatically* if danger signal were passed.

Parts Department
"Storekeeper" normally has thousands of parts on hand. They range from driving wheels to tiny springs for Valve-Speed Indicator . . . a device that keeps a safety and efficiency log for each locomotive.

Lubrication Job — Locomotive Size!
Roundhouse Grease Cup Fillers use lubricating guns so large they are moved about on wheels. Grease and oil are forced out by high pressure air from nearby power house.

"Change those Tires!"
Locomotives have steel tires. When tires need changing, electric Drop Table lowers 32 tons of driving wheels and whisks them to service track . . . 50% faster than old methods of wheel removal.

FREE! NEW, ENLARGED BOOKLET, "Behind the Scenes of a Railroad at War" with 13 fascinating cutaway pictures. Write Room 1223E, 466 Lexington Ave., New York 17, N. Y.

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NEW YORK CENTRAL

THE WATER LEVEL ROUTE

Even above the special pleasure of sharing music with others are the things that music does for you alone as it reaches deep inside, into your private world of memories, ambitions, hopes.

Sometimes it's loneliness made into a song by a cowboy under the stars . . . or primitive sadness that's worked its way into a dance tune . . . a love song centuries old, or one published yesterday . . . Whatever kind of music means most to you will mean even more when you hear it at its best — on a Stromberg-Carlson.

For as Stromberg-Carlson brings you FM and standard broadcast, you will hear all radio programs as you would expect to hear them in the broadcasting studio . . . music with tones you couldn't hear before! Richer. More beautiful, more meaningful.

When you listen to Stromberg-Carlson clarity and tone, you won't settle for less.

HE PLANNED A GREAT BRIDGE...

FOR HER IT WAS TWILIGHT BY A LITTLE LAKE

EVEN GREATER TREATS ARE IN STORE for those who choose Stromberg-Carlson as their *next* radio-phonograph — after the war. For in planning our new instruments we have put even stronger emphasis on traditional Stromberg-Carlson features —handsomely designed cabinets—glorious tone in radio reception and record reproduction. The coming Stromberg-Carlsons, priced in a broad range, will satisfy your highest expectations.

For the main radio in your home . . . there is nothing finer than a

STROMBERG-CARLSON

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The Army-Navy "E" flies above ten Fisher Body plants for excellence in aircraft, tank and naval ordnance production.

"ON TARGET" by Fisher

HOW do American bomber crews get on their targets so accurately?

They're trained flyers. Born fighters, too. But they also have a number of amazing instruments that work from take-off to landing to help make every mission a success.

Two of them are the Gyro Horizon Indicator and the Directional Gyro Indicator, designed by Sperry and built by Sperry and Fisher Body. These help to keep "on target" in precision bombing, and on a true course in blind or night flying.

Another is the Air Position Indicator designed by Bendix and built by Bendix and Fisher Body. This gives the navigator, virtually at a glance, the latitude and longitude of his plane.

Fisher Body has built more than 400,000 of these instruments with the skills and techniques inherent in the Fisher Body organization.

Tanks, big guns, bomber assemblies or flight instruments — the "Body by Fisher" emblem stands for the same fine craftsmanship in war as it does in peace.

Every Sunday Afternoon
GENERAL MOTORS SYMPHONY OF THE AIR
NBC Network

BODY BY Fisher

DIVISION OF GENERAL MOTORS

She's got four "B's" in her bonnets!

She comes of a long line of battle-tested veterans with a gallant record over Europe, Africa and the lands and waters of the Far Pacific.

Thousands have gone before her—to strike their mighty blows for freedom, and to make that name "Liberator" famed and feared the world around.

As you may have guessed from the headline—Buick powers the Liberator.

As of June first, Buick factories and Buick people have sent forth approximately 75,000 Pratt & Whitney aircraft engines, destined with few exceptions to find their places in the four nacelles of these far-ranging B-24 bombers.

It has been a proud assignment, and a solemn one.

For our pride has been tempered by the constant knowledge that men's lives sometimes would depend on the way we here at home did our share of the job.

So our pride isn't in the numbers—important though volume may be to victory. It's in the way letters have been coming back from men who fly these B-24 bombers—men who take time off from the grim chore of fighting to tell us that those "B's" in the Liberators' bonnets are making good.

There's something pretty wonderful about having such a great gang for friends.

The Army-Navy "E" proudly flies over all Buick plants

Other Jobs on BUICK'S Work-Sheet

In addition to supplying all the engines for the Liberator, Buick is now producing the Pratt & Whitney engines shown at left. At the top is a heavy-duty power plant developed for use in the cargo-carrying twin-engine Douglas C-47. The engine at the bottom goes into the big 4-engine Douglas Skymaster—the C-54 military transport that doubles as troop carrier and ambulance plane.

BUICK POWERS THE LIBERATOR

WHEN BETTER AUTOMOBILES ARE BUILT BUICK WILL BUILD THEM

Every Sunday Afternoon—GENERAL MOTORS SYMPHONY OF THE AIR—NBC Network

BUICK DIVISION OF **GENERAL MOTORS**

BUY WAR BONDS AND STAMPS

Only 180 days to Christmas dinner

The turkey you'll carve next Christmas day is a scraggly, awkward 4-ounce poult about now. In the next 180 days he'll grow to a plump 18-pound beauty—if all goes well.

It's partly our business to see that all *does* go well. There are plenty of risks in turkey raising. Many a young turk doesn't live to reach market. And turkey troubles are often nutritional.

So National Dairy research developed a special protective feed for turkeys. It's a scientifically blended emulsion of buttermilk, cheese whey, and vitamins—which helps end most nutritional worries on turkey farms.

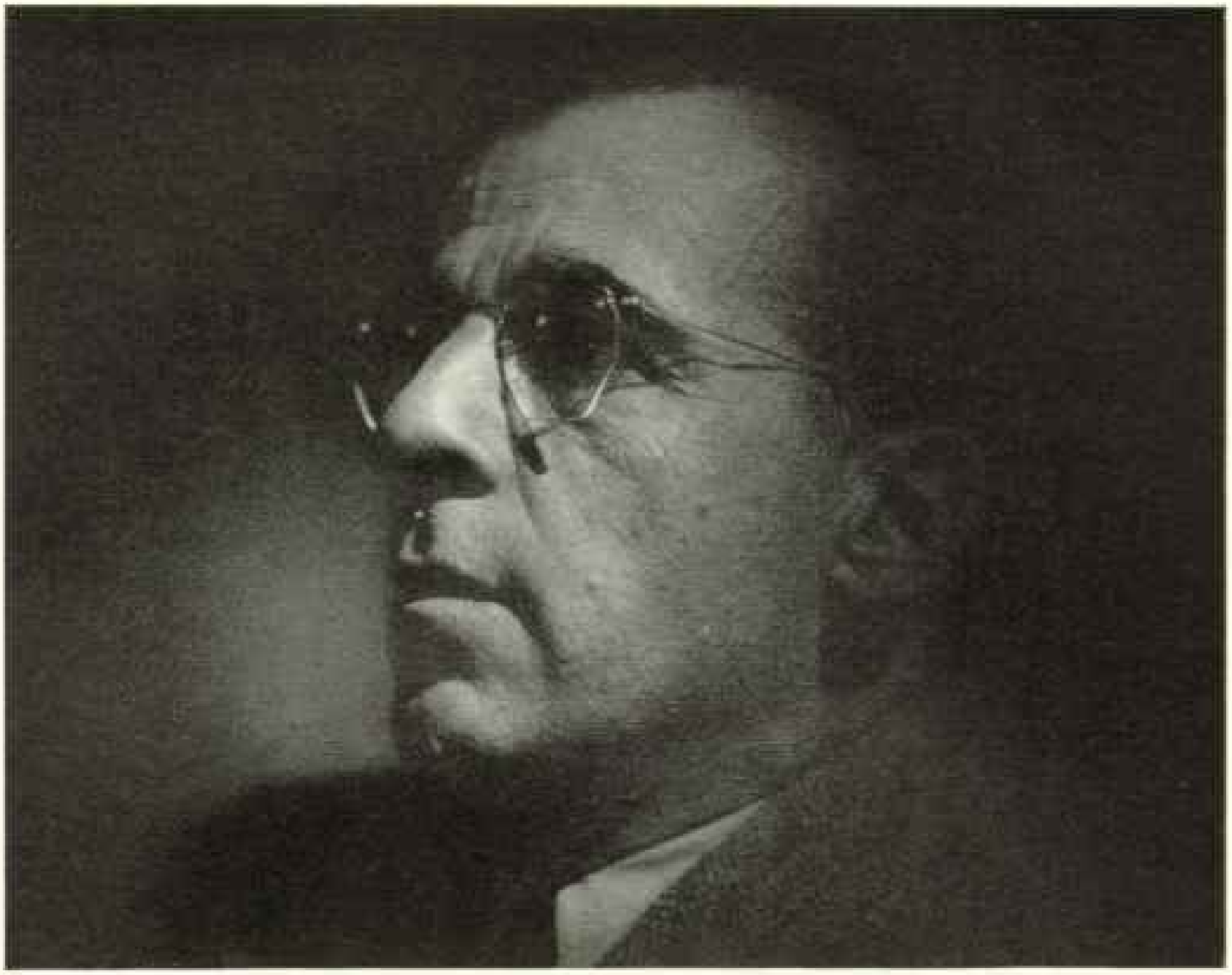
This highly nutritious feed grew out of constant effort to make milk by-products more useful. It was perfected in National Dairy Laboratories and proved on a National Dairy experimental farm. Many million pounds are fed on turkey farms today. Similar feeds for hogs, calves and chickens employ other milk by-products, once wasted, but now contributing tons of food to America's supplies.

National Dairy research is broad. It touches every field of dairy products—and discovers new ones—working always to win from milk, *nature's most nearly perfect food*, the greatest possible benefit for you and your family.

Dedicated to the wider use and better understanding of dairy products as human food . . . as a base for the development of new products and materials . . . as a source of health and enduring progress on the farms and in the towns and cities of America.

Kraft Sealtest Breyers

NATIONAL DAIRY
PRODUCTS CORPORATION
AND AFFILIATED COMPANIES



For the first time

Erno Rapee Forgets an Exacting Schedule . . . When He Hears the Meissner

"In just a few minutes the maestro will be here," said one of the men about the luxurious cabinet.

"He can stay less than an hour," said another, "but remember how Guy Lombardo missed a rehearsal when he first heard the Meissner . . ."

As they spoke, Erno Rapee, director of music, Radio City Music Hall, entered the room . . . prompt to the minute. But before they could greet him, the Meissner took command, filling the room with the first notes of a great overture. Rapee moved to its side. Could this be recorded music? With such fidelity of tone?

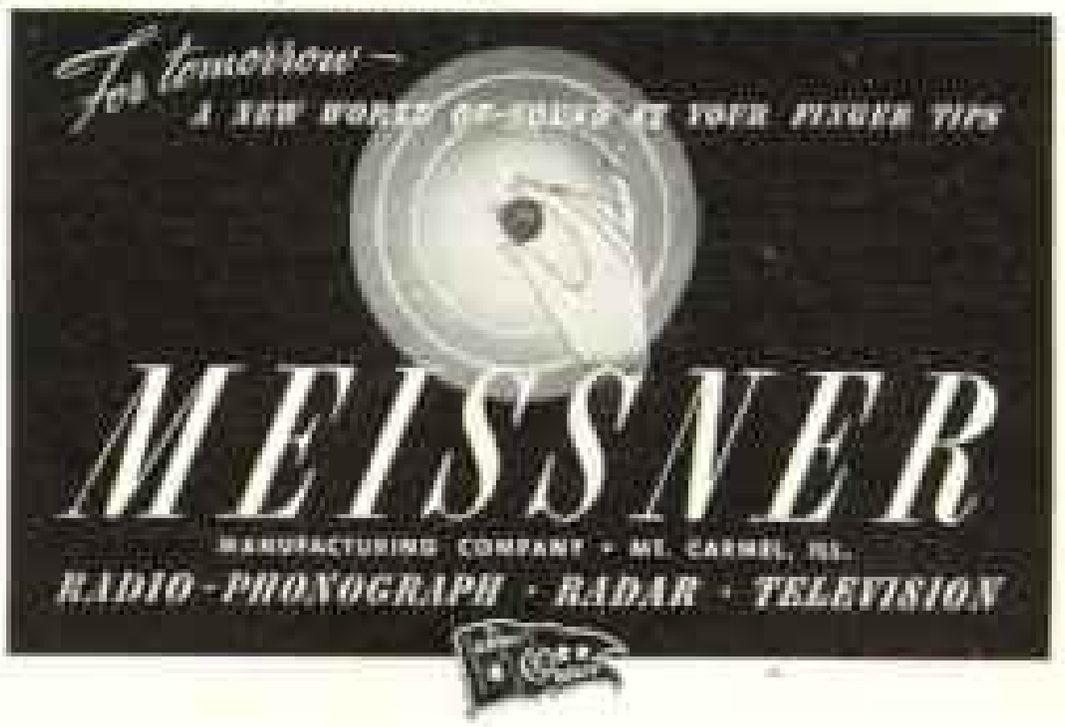
"Listen," he exclaimed. "The range of the flute . . . perfect! And the soft, golden tones of the French horn . . . so alive!"

As the record ended, Rapee was about to speak, but the movement of the Automatic Record Changer caught his eye. He watched it gently lift the record, reverse it, then deftly place the *opposite* side in playing position. "Is there no end to the miracles this instrument performs?" he asked incredulously.

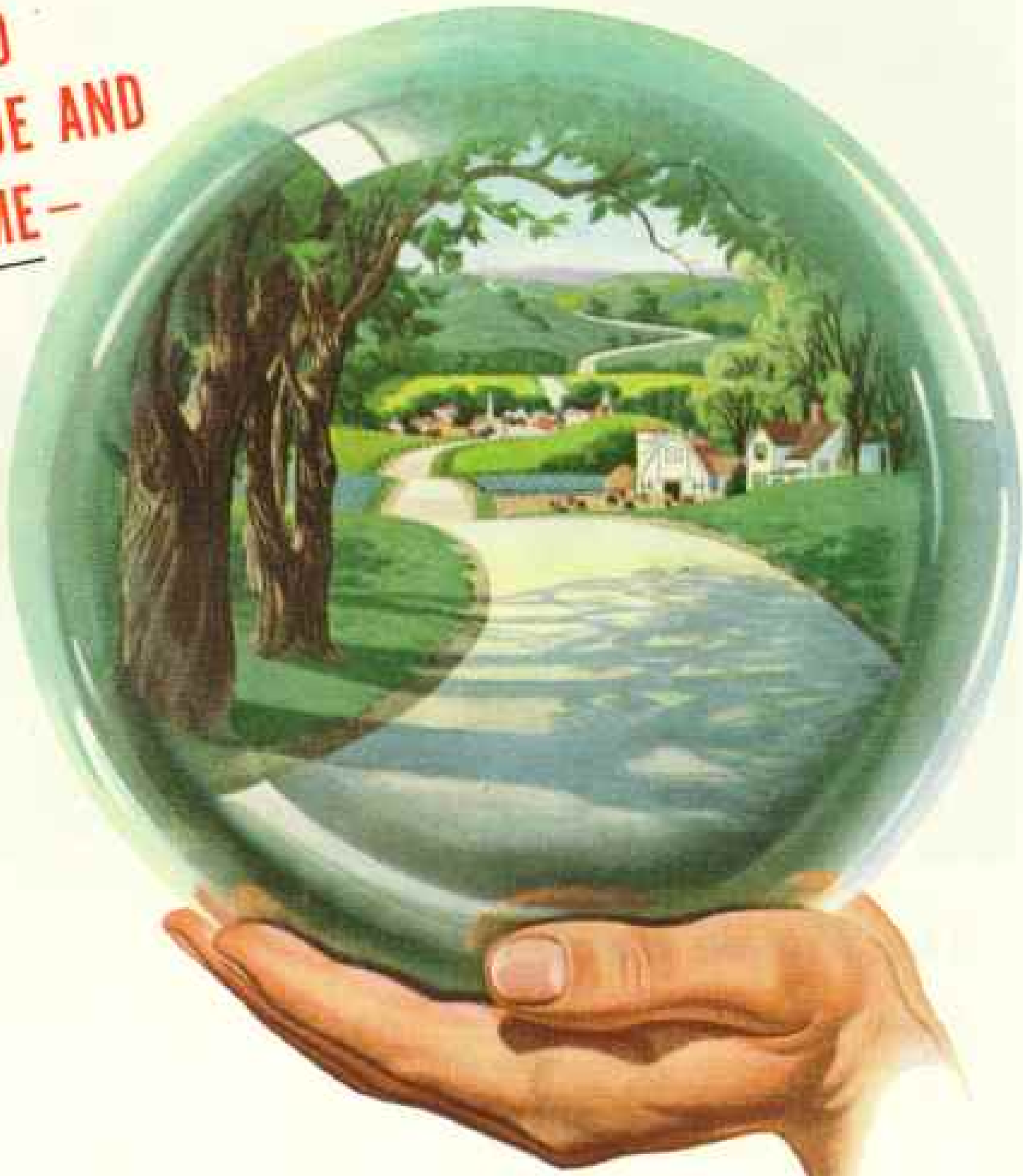
Finally the supply of records was exhausted, and Rapee turned from the Meissner. "I must go," he said. "I am already late for one other appointment, but I have been privileged to hear a miracle . . . and miracles observe no schedule."

☆ ☆ ☆

Like Rapee, you, too, will be able to enjoy more than two hours of continuous recorded music . . . without touching a record . . . when your postwar Meissner is available. You will have the thrills of AM, FM and Super Shortwave Radio reception . . . all in addition to the Meissner's fidelity of tone that has astounded the world's greatest musicians.



YOU'LL GO HIGH, WIDE AND HANDSOME—



There's a Ford in your future!

It will happen in the peacetime to come—when the tasks that now face America have been accomplished. Then a smart, new Ford will be waiting for you to drive it away.

. . . Trip after trip you'll cruise along in ease and style. It will be so smooth and gentle riding—always such a joy to handle.

. . . Here will be a car that's big and sturdy—plenty of room in front and back. It will be smartly styled. And for all its fleet and eager power, you will find this new car thrifty in the time-honored Ford tradition.

. . . That's how it will be. And when the "go ahead" is flashed, we'll be ready to start production plans. Meanwhile, the full Ford resources are helping to speed final Victory.

FORD MOTOR COMPANY

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"THE FORD SHOW". Brilliant singing stars, orchestra and chorus. Every Sunday, NBC network. 2:30 P.M., E.W.T., 1:30 P.M., C.W.T., 12:30 M., M.W.T., 11:30 A.M., P.W.T.

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The "Purple Heart Limited"

Its passengers are wounded veterans.

Some, like the three above, compare their souvenirs as an Army doctor looks on. Others read. Or sleep. Or just look out the Pullman window at *America* again.

They are on their way from debarkation ports to General Hospitals near their homes. And Pullman—by providing sleeping cars to supplement the Army's special hospital trains—is privileged to contribute to the comfort in which they make the trip.

These cars come from the Pullman "pool" of sleeping cars that are in regular passenger service. They may be scattered over several states, serving various railroads, when the Army calls for them. But *centralized control* makes it possible to assemble them to meet almost any demand.

Where they are assembled—when and where they go—cannot be disclosed. But we *can* tell you that "Purple Heart Limiteds" are running constantly as part of the program that makes American wounded *the best cared for wounded in the world.*

So please—if you should be unable to get the Pullman space you want exactly when you want it—remember that it may be occupied by wounded veterans.

They come first with us—just as they do with *you!*

PULLMAN **For more than 80 years the greatest name in passenger transportation**

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PRIORITY AA-1

"Writes dry with wet ink!"

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Sounds easy, doesn't it?

Yet in these days of strain, more and more people must work harder and use more energy. We should all remember that efficiency drops when fatigue begins. To do our patriotic best, we should, and must, know how to "take it easy" in off hours.

There's no secret to recognizing serious fatigue. Irritability . . . that "all-in" feeling . . . nagging headaches . . . sluggish thinking—all may mean it is time to relax.

Of course if such signs of weariness are occasional, instinct tells you to get a good night's sleep, and you're ready to go again. But if you are *chronically* tired and listless you should—

See your doctor, to make sure that some illness like tuberculosis or heart disease isn't the cause. Perhaps he will find some minor and readily corrected cause such as poor eyesight or hearing, bad teeth, foot trouble—even faulty posture. Any of these can place a strain on your system of which you may not even be aware.

Accumulate more energy, by eating adequate meals at *regular* intervals, including a hearty breakfast. After all, your body's source of useful energy is the food you eat.

Get more sleep—make a habit of getting to bed an hour earlier. Rest briefly during the day if you have a chance. Try and get plenty of fresh air.

Conserve your energy, by avoiding worry, tension, too fast a pace in work or recreation. Emotional control is important, for fear and anger burn up precious energy. Be calm—and above all *learn to relax.* Let tense muscles go limp from time to time. Relax your mind with the type of recreation that revives you best.

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THE HAUNTS of the American woodcock (Philohela minor) are the swampy coverts where willows grow, or upland woods not far from water.

Her ways are mysterious, for though she often lives quite close to civilization, she is rarely seen.

During the day, she sits quietly in the shadows, taking flight only after dusk in search of food. Her nest is merely a depression in leaves on the ground. Yet her coloring is so finely blended with her surroundings that enemies can pass close by and never know she is there.

Ordinarily, the woodcock's camouflage serves as an effective protection for her and her family. She seldom finds it necessary to fly up from her nest at the approach of danger.

But if she is discovered, observers report that she sometimes does an extraordinary thing to protect her young.

She rises swiftly into the air with a chick grasped between her feet, and flies with it to safety. Then, if she still has the opportunity, she will return and carry off the remaining chicks one by one till all are safe.

So when the woodcock's usual safeguard fails her, she can depend upon this second emergency method of protection for her family.

Although you may never have stopped to think about it, the average man sometimes finds himself faced with a similar problem.

Ordinarily, he provides security for his family by means of the income he earns. But if, as the result of an accident, he should be deprived of his earning power, either for a time or permanently, this usual safeguard fails him.

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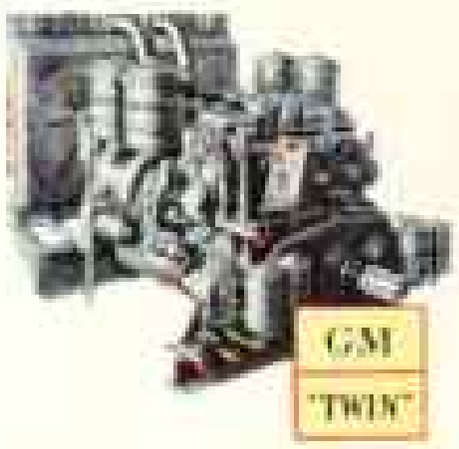

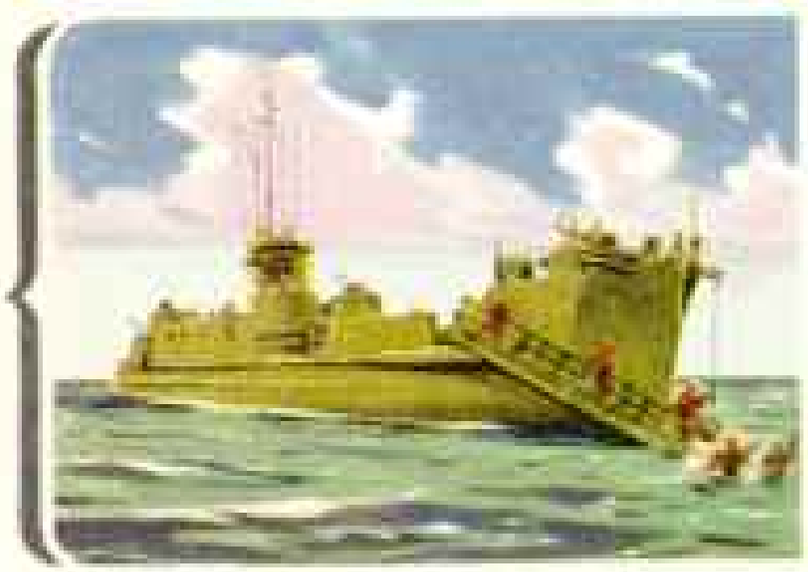

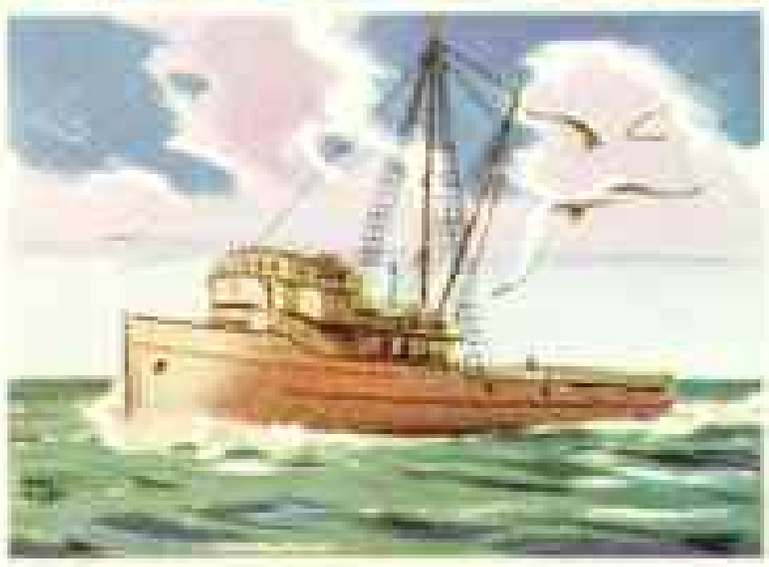

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