

VOLUME XLIII

NUMBER TWO

THE NATIONAL GEOGRAPHIC MAGAZINE

FEBRUARY, 1923

CONTENTS

SPECIAL SUPPLEMENT:
PANORAMA OF THE GREAT WALL OF CHINA
(Size, 45½ x 9½ inches)

A Thousand Miles Along the Great Wall
of China

With 30 Illustrations

ADAM WARWICK

The Battle-Line of Languages in Western
Europe

With 36 Illustrations

A. L. GUERARD

Daily Life in Calabria

16 Illustrations in Duotone

Encircling Navajo Mountain with a
Pack-Train

With 34 Illustrations

CHARLES L. BERNHEIMER

PUBLISHED BY THE
NATIONAL GEOGRAPHIC SOCIETY
HUBBARD MEMORIAL HALL
WASHINGTON, D.C.

\$3.50 A YEAR

50c. THE COPY



A THOUSAND MILES ALONG THE GREAT WALL OF CHINA

The Mightiest Barrier Ever Built by Man Has Stood Guard Over the Land of Chin for Twenty Centuries

BY ADAM WARWICK

AUTHOR OF "THE MONGOLS, PEOPLE OF THE WILDERNESS," IN THE NATIONAL GEOGRAPHIC MAGAZINE

ACCORDING to astronomers, the only work of man's hands which would be visible to the human eye from the moon is the Great Wall of China.

Some idea of the size of this stupendous construction may be gained from the calculation that if the materials of which it was built were used to encircle the globe at the Equator, they would be sufficient to form a barrier eight feet high and three feet thick. A member of Lord Macartney's Embassy in 1790 estimated that there were more brick and stone in the Great Wall than in all the buildings in the United Kingdom.

Historians class this mighty rampart as the "Eighth Wonder of the World"; and not the least wonderful part about it is that it has survived all the others save one, the Great Pyramid of Kufu at Gizeh.

The Hanging Gardens of Babylon are only a memory. The Tomb of Mausolus, conception of a devoted wife, has left but a name. A few columns embodied in the central aisle of St. Sophia are all that remain of the magnificent Temple of Diana at Ephesus. The Jupiter Olympus of Phidias has disappeared. The watch-tower lighthouse of Pharos was defeated in its battle with Time after a struggle of 1,500 years, and the brass Colossus of Rhodes, overturned by an earthquake, was

ignominiously carried away piece by piece into the desert by pilfering Arabs.

The Great Wall of China differed from the other famous works of antiquity in that it served a utilitarian purpose, whereas they (except the Pharos) were all "preposterous edifices of exaggerated hugeness, of dazzling and ruinous luxury." It had a mighty purpose, serving as a barrier to keep the barbarians of the north from overrunning China, whose fertile plains invited them.

The idea was not ridiculous, in an era when bows and arrows and twisted pikes were the weapons of invaders. Then earth and stone were real deterrents (for artillery was unknown) against armies that were simply cavalry hordes.

COMPLETED IN 15 YEARS

Walls dividing rival feudal kingdoms or protecting them from foreign enemies are mentioned in the Chinese Chronicles as early as the fifth century before Christ, and it is probable that portions of these previously built walls, of which vague vestiges are still traceable in some parts of Chihli and Shantung provinces, were utilized by Chin Shih Huang Ti (contemporary of Hannibal), who extended and linked them together when he built his "Long Rampart," stretching from Shan-haikwan, on the seacoast, to Minchow, in



THE EASTERN EXTREMITY OF THE GREAT WALL DIPS DOWN INTO THE SEA
AT SHANHAIKWAN



Photographs from Adam Warwick

CITY GATE OF SHANHAIKWAN AND FIRST GATE OF THE GREAT WALL.

Beginning with many bastions and towers, the Great Wall here starts across the plain and up the mountains. In early times this gate and castle defended north China for 30 years from the inroads of the Manchus.

distant Kansu (see map, page 116), in order to protect himself and his empire from the Huns, whom he so long unsuccessfully tried to overcome in the field. (See Panorama of the Great Wall with this number of THE GEOGRAPHIC.)

Began in 219 B. C., the Barrier was completed in 204 B. C. Thus it was 15 years in building, seven of which were after the mighty emperor's death. To him alone, however, is due the conception of a work probably unequalled in any land or by any people for the amount of human labor bestowed upon it.

Three hundred thousand troops, besides prisoners of war and all the criminals in the land, including many dishonest officials, were impressed for the work.

How these unskilled laborers accomplished their task with the primitive means at their disposal, how they overcame the physical difficulties imposed on them by the steep slopes of the high mountain ranges, remains a marvel to this day. Moreover, the problem of getting food to them can be judged from the statement that, "of 182 loads of grain dispatched, only one would reach its destination, the rest being eaten or sold along the road."

As for the cost of the Wall, no figures have been preserved.

A weaker man might well have hesitated to plan an undertaking which, though popular in the main as a defensive measure, entailed great suffering on the people. But Chin Shih Huang Ti was one of the strongest and most remarkable characters in Chinese history or, indeed,



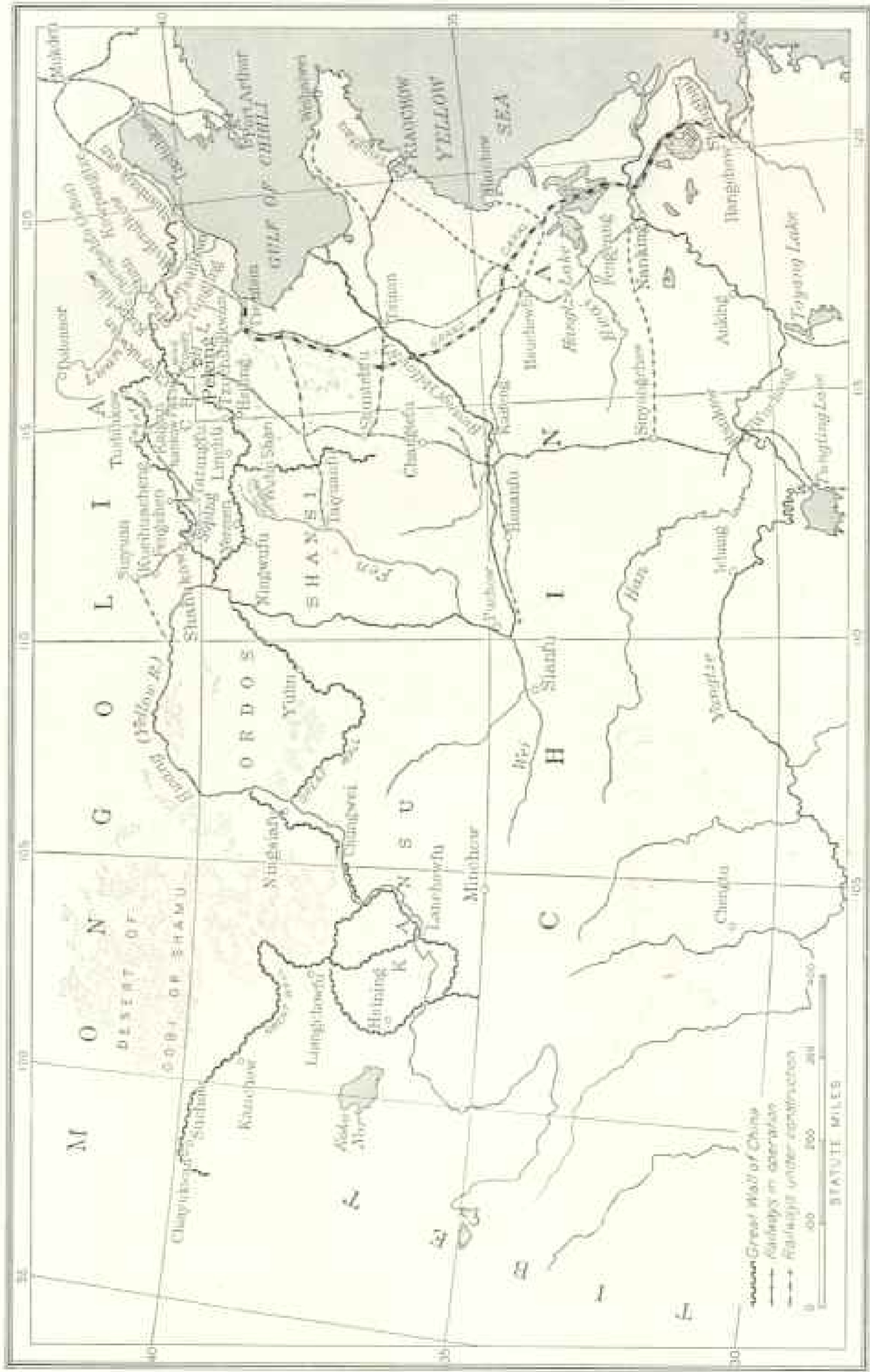
Photograph from Adam Warwick

AN IDOL WHOSE GILDED COUNTENANCE IS FULL OF MYSTERY
It is to be found in a temple near Hsifengkow, west of Shanhaikwan.

in any history—a powerful and romantic figure, who left behind him an example of personal activity unequalled among Oriental sovereigns.

Chin Shih Huang Ti was, furthermore, the autocrat who united China by subjugating a group of warring states from 246 to 210 B. C.

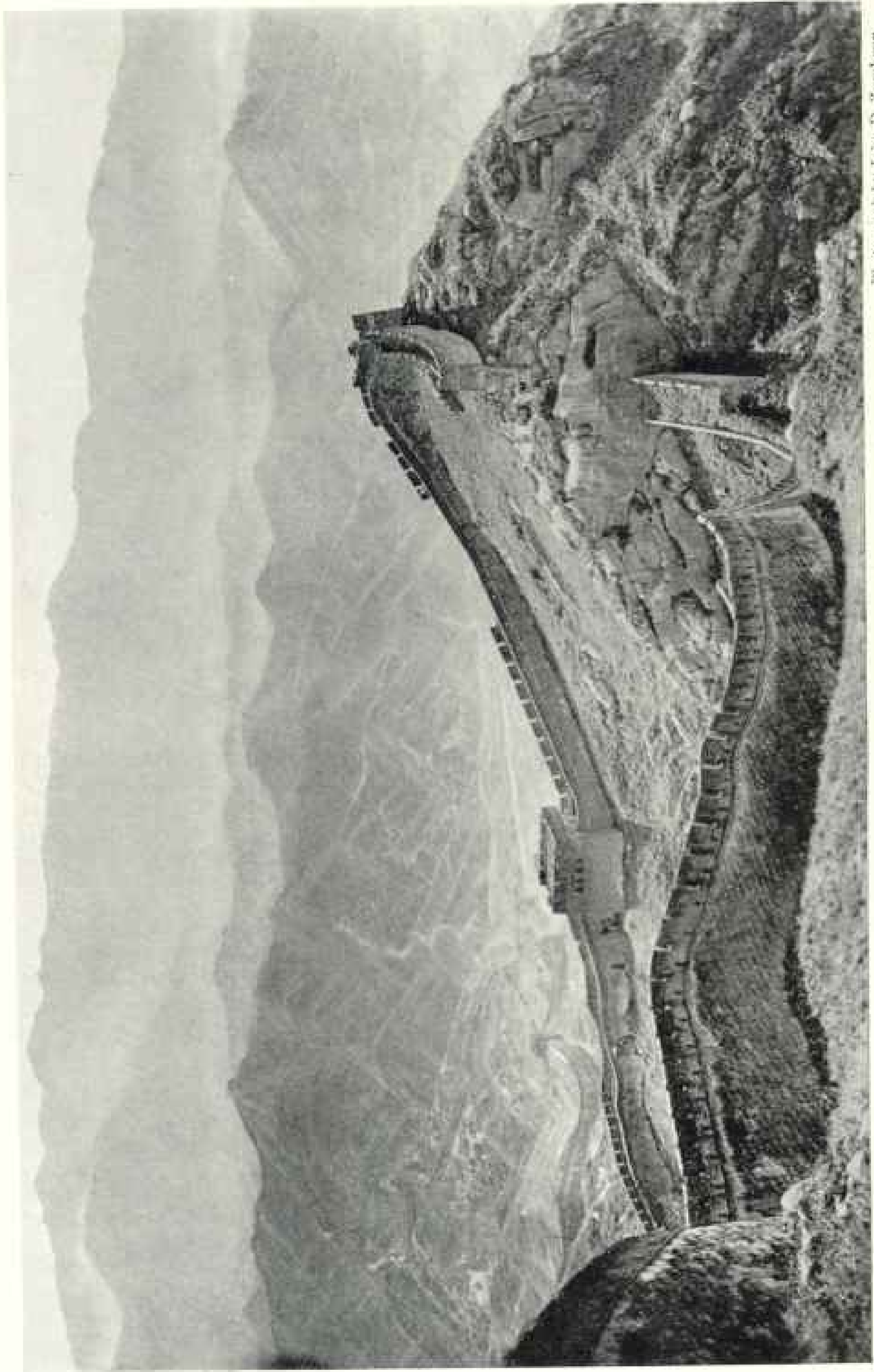
Unfortunately, Chinese classical historians, "prone to describe the deeds and characters of their great men with uncompromising finality as good or bad, with strange indifference to motives," have declared anathema the name of this great molder of an empire because he burned the Classics and buried 500 scholars alive when the latter dared criticize him for



Drawn by A. H. Burnstead

A SKETCH MAP OF NORTHERN CHINA SHOWING THE MEANDERINGS OF THE GREAT WALL

Three hundred thousand troops, besides prisoners of war and all the criminals of the land, were employed for fifteen years in the construction of the original Long Rampart, which was strengthened and embellished in succeeding centuries.



Photograph by John D. Zumburn

AT KUPFERKOW THE WALL IS IN ALMOST PERFECT REPAIR (SEE PAGE 131)

It was at this point that a Tatar chief broke through the Great Wall and invaded the Province of Chihli during the reign of Wan Li (1573 to 1620 A. D.).



Drawn by A. H. Benstead

WHERE THE GREAT WALL WOULD RUN IF TRANSFERRED TO THE UNITED STATES

The sketch map shows the length and direction which the Barrier would take if placed in the same latitude in the Western Hemisphere. Beginning at Philadelphia, it would extend far beyond Topeka, Kansas.

proclaiming himself the "Only First" (or First Emperor), thus sweeping away the past.

Doubtless he would have done better to have patiently ignored the opposition of these conservative literati, instead of suppressing them so savagely, on the principle that "men of letters, as a rule, are very ill acquainted with what concerns the government of a country—not that government of pure speculation, which is nothing more than a phantom, vanishing the nearer we approach it, but the practical government, which consists in keeping men within the sphere of their proper duties," as he said.

Still, no unworthy ruler could have established two principles of government destined to endure in his native land for thousands of years—the supremacy of an emperor and the non-employment of officials in their native provinces. The impression he made on following ages was great and lasting.

With his "high-pointed nose, slit eyes, pigeon breast, wolf voice, tiger heart, and stingy, graceless, cringing character," as

native historians portray him, Chin Shih Huang Ti was the classical type of a Chinese military leader.

Yet he was not a great soldier himself, but simply a great fisher of men, to whose genius in choosing able lieutenants was due the first standing army in China, an army of several hundred thousand men, which he raised, equipped, and maintained in a peace-loving country to defend his Great Wall.

A MAGIC HORSE TRACED THE COURSE OF THE WALL

Wonderful stories and legends, of course, still find their place in the minds of men about Chin Shih Huang Ti and his Long Rampart. The prettiest is, perhaps, the story of how his magic white horse was supposed to have marked out the line of the Barrier.

The animal was allowed to wander freely, and wherever it went the builders followed, up hill and down dale, where no horse but a "magic horse" could find a foothold.

"At one point," so runs the legend, "the



Photograph by John D. Zumbun

VIEW FROM AN EMBRASURE OF ONE OF THE TOWERS NEAR KUPENKOW

workmen could not keep up with the creature, so they called a halt to drink their tea.

"Meanwhile a dry fog [probably one of the blinding dust-storms common in those latitudes] blew up, until they could neither see the horse nor its footprints; but after tea they continued in the same line for ten miles.

"Not seeing the horse yet, they became suspicious and sent one of their number up a hill to look out. He spied the animal far away to the southwest, heading in quite a different direction. So the work-

men abandoned the last stretch, returned to their camp, and built a new wall of forty li [the Chinese li is roughly a third of an English mile], which still remains to prove this story."

Another legend describes how "a compassionate God in Heaven looking down and moved to pity by the sufferings of the builders, many of whom had been killed and entombed in the Wall because they could not get their work done fast enough, presented each toiler with a magic thread, bidding him tie it around his wrist.

"This gave the workmen abnormal



Photograph by J. T. McGarvey

A CHINESE BOY OF CHIHLI WITH HIS KITE

strength and they were able to satisfy the king.

"When, to his amazement, the king saw how fast and how well his people worked, he inquired the cause and found out about the magic threads. Then he seized them all and made a lash for his magic whip, which thereafter was able to work miracles, removing mountains at the pleasure of the sovereign and causing the Yellow River to stand still for the passage of his Wall."

Despite the time and labor expended upon it, Chin Shih Huang Ti's mud barrier, with the watchtowers where he quartered his garrison, soon crumbled

away. There was apparently so little left of it by the sixth century A. D. that the Tungusic Wei and Tsi dynasties, who ruled over North China from 386 to 577 A. D., spoke of building, not of rebuilding, the Great Wall.

They also added a new loop, which still exists, between Peking and Kalgan, and the link running due south through Shansi, the latter again an earthen barrier intended as a protection against rivals from the steppes.

It is significant that when the Yuan or Mongol dynasty (1260 to 1368 A. D.) occupied the Chinese throne not a word about the Great Wall is mentioned in

their annals. It was useless during that period, because the conquerors needed no defense against their own kinsmen; it seems to have been neglected and forgotten, so much so that foreign travelers like Marco Polo never even mentioned it.

MINGS BUILT MORE THAN 20,000 TOWERS

But when the Chinese dynasty of the Mings (1368 to 1644 A. D.) ousted the descendants of Genghis Khan from the Dragon Throne, the Great Wall again assumed much importance. During the 276 years that they ruled the country they had to defend their empire against the Northern Barbarians, whom they had expelled but were never able to conquer in their native haunts.

The Long Rampart was therefore vital to their safety, and contemporary Chinese historians describe in great detail how they repaired it along its entire length, from Shanhaikwan to Chiayukwan fortress, on the frontier between Kansu Province and Sin-Kiang (Eastern Turkestan), adding new loops to strengthen it, from 1470 to 1592 A. D.

The restorations of this period were solid and even elegant, long stretches being encased in brick or strengthened with blocks of stone. "Throughout the eastern section," says Wells Williams in his admirable "Middle Kingdom," "the Wall was made 25 feet thick at the base, 15 at the top, and varied from 15 to 30 feet in height. The top was protected by bricks and defended by a slight parapet."

It was, in fact, under the Mings that the defenses of the Great Wall were most fully developed, with more than 20,000 towers, which were practically a chain of small fortresses, and over 10,000 signal beacons.

Almost every reign saw new defense works erected. Sometimes, as under Cheng Tung (1435 to 1450 A. D.), these were ineffective, since his successor, the unlucky Ching Tai (1450 to 1457 A. D.), suffered an invasion of his provinces.

CLEVER POLICY INSURES GARRISON FOR WALL

Under Cheng Hua (1465 to 1488 A. D.) a general reported that "to guard 300 miles he had 25 camps, but each contained only from 100 to 200 men, and



Photograph by J. T. McGarvey

A CHINESE FARMER'S DAUGHTER OF CHIHLI IN SUMMER ATTIRE

Her forebears tilled the soil in the shadow of the Great Wall when not on guard duty.



Photograph by J. T. McGarvey

THE LAMA DEVIL DANCE AT BLACK DRAGON TEMPLE, FIVE MILES NORTH OF PEKING

The Devil Dance is one of the greatest festivals of the Lama Church. It takes place each spring and represents the chasing out of the Spirit of Evil. Men and boys, attired in rich costumes and hideous animal masks, go through a series of postures accompanied by an impressive chant.

that one man could not guard 200 yards of frontier night and day."

Cheng Hua, realizing the danger, raised a powerful army by offering the soldiers large grants of land. This proved a clever method of keeping the troops permanently garrisoned behind the Wall contented, though at great distances from their homes, often in inaccessible frontier regions, and obliged to drill, according to special regulations, "even if there be wind or rain."

The men, who lived in fortified camps, went up to the Rampart for guard duty for a few weeks at a time, then returned to till the land in which they felt they had a stake, and on which they often remained as settlers after their military service was over.

Furthermore, this "race of warlike farmers, who labored with plow and sickle and took their turns at shouldering the spear or stood ready to light the signal fire," needed little pay, supporting themselves largely by their own labor.

As the Chinese had long known the use of gunpowder, they employed rude cannon to assist the troops in the defense of the Wall. Some of these primitive weapons were actually mounted on tripods and placed on the tops of dominating peaks. Despite them, in the reign of Wan Li (1573 to 1620 A. D.) a Tatar chief broke through at Kupehkow, and invaded Chihli.

Thereafter, on the arrival of the Jesuits, the emperor employed them to cast more efficient cannon, which were so highly esteemed that the missionaries were gazetted as Great Generals and officers were dispatched to pay them divine honors.

MANCHUS ALLOW THE WALL TO FALL INTO DISREPAIR

After the advent of the Manchus, the Great Wall had so far fallen into disrepair that Father Regis, a Jesuit who traveled along its entire length while mapping the empire by Kang Hsi's order, in 1708-1716, said it had only a facing of brick left in Chihli Province, where the Barrier stood 20 to 25 feet high, with five "mouths," or fortified passes — Shanhai-kwan, Hsifengkow, Kupehkow, Tushih-kow, and Changchiakow (Kalgan).

"Along the northern border of Shansi," he says, "the Wall is made of clay, without battlements, and is only about five feet high. West of Shansi it is a narrow mud rampart, sometimes even only a sand ridge. It is in better repair between Suchow and Chiayukwan, in Kansu. Thence to Hsining, on the Tibetan border, the mountains serve as a rampart, with a moat along their crests."

This testimony was corroborated by Father Gerbillon, who, when commenting on its decay, says that the Manchus made little effort to defend the old Barrier on their more distant frontiers, contenting themselves with guarding the portions nearer to the capital, the Imperial Tombs, and the main gates through which traffic passes.

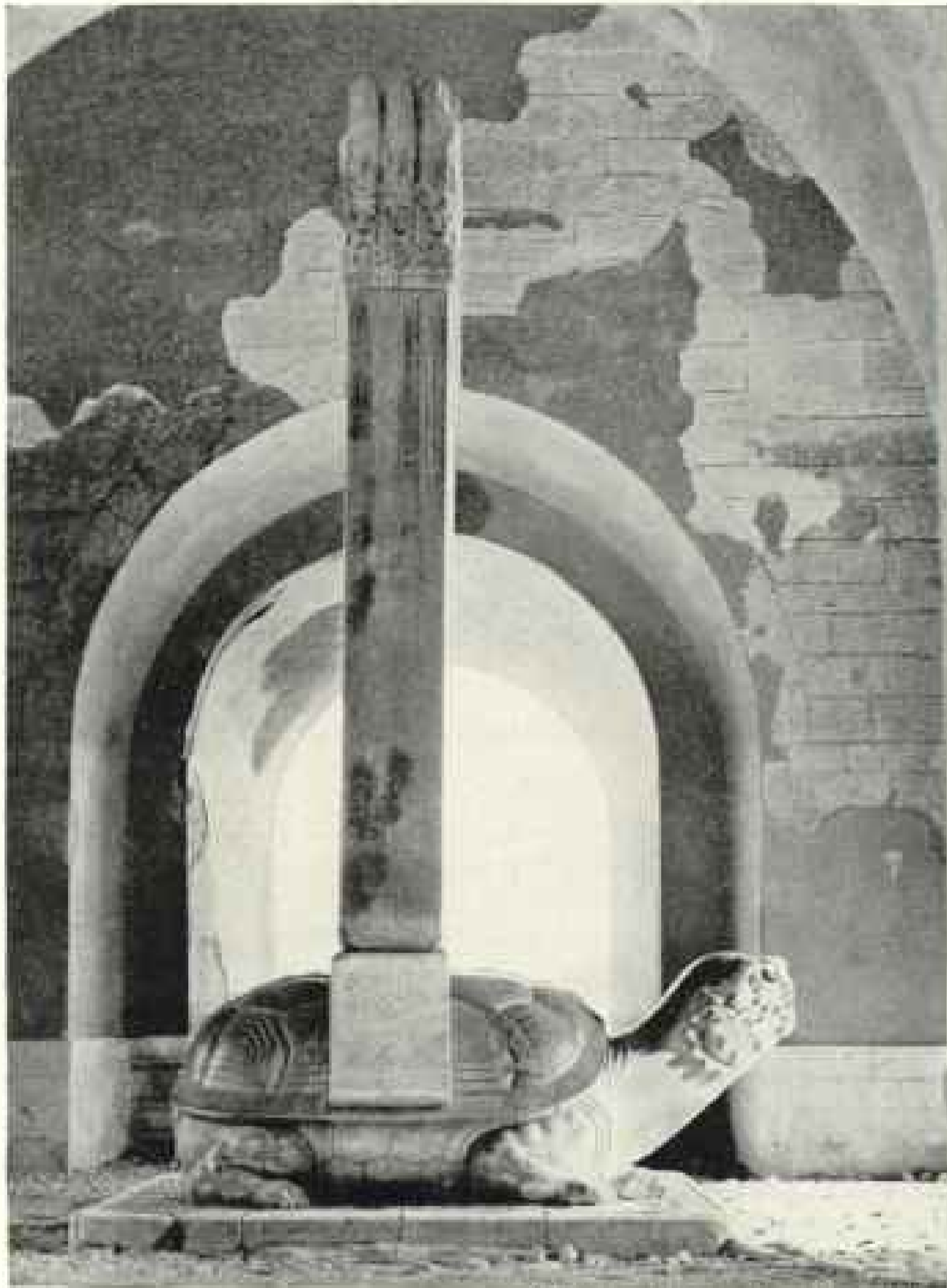
MAGNIFICENT DESPITE ITS DECAY

Yet, despite its decay, the Great Wall remains a magnificent monument, which leaves a powerful impression on even the most frivolous minds. Once seen, it can never be forgotten. But imagination fails to grasp this remarkable structure as a whole, for the "Wan-li-chang-cheng," or Myriad Li Wall, as the Chinese call it, is about 1,250 miles long in a straight line, while its turnings and windings increase it to almost 2,000 miles. This means that it would stretch from Portugal to Naples or from Philadelphia to Topeka, on nearly the same latitude (see map, page 118).

One end of the wall rises out of the sea near Shanhai-kwan (see illustration, page 114). When it was built China had nothing to fear from enemies with powerful fleets, so it was obviously unnecessary to erect a barrier along the coast, where the ocean itself formed a natural one. The Long Rampart, therefore, after rising from the water's edge, starts inland in a westerly direction.

The terminal sea end of the wall is immensely impressive, where the blocks of granite, beaten upon by the waves and their ally, the wind, have broken loose and extend all awry into the water, toys for the rising tide.

Following the curve of wall, we pass the white lighthouse near by and are struck with a contrast between East and West. The eye of the modern searchlight opens and winks with startling effect



Photograph from Adam Warwick

MEMORIAL TABLET OF YUNG LOH, "WHO MOVED THE URNS OF EMPIRE"

This tablet, setting forth the virtues of the greatest of Ming emperors, is a simple bit of wood with gold lettering and represents the soul. The supporting marble tortoise is the finest in China. Yung Loh fortified Peking and made it the capital of China, but his reign is also noted for a gigantic compilation of literature on every subject, called the Grand Encyclopedia, 11,100 volumes, and for a collection of laws.

on the old Pavilion of Literature placed on the very spot where Chin's Rampart joins on to the city wall of Shanhaikwan, two miles from the sea.

Though Shanhaikwan is neither a large nor important city, it was nevertheless once the key to North China. Here for 30 years the Manchus were kept at bay and here, in the famous battle of May 26, 1644, Wu San Kuei managed to overcome Li Tzucheng's vastly superior forces

after hours of bitter fighting in a furious sand-storm.

"If every man does his best," said the redoubtable leader, "the Empire is ours." An irresistible charge followed his stirring words and proved the turning point of the Manchu invasion of China.

TRAIN RUNS THROUGH GAP WHERE PRINCE'S BODY LAY

To-day the spot that once resounded with the blare of war trumpets is disturbed by the whistle of a train following a track that actually runs through the Wall.

Popular sentiment in the days when the line was being built would certainly have forbidden the piercing of the Wall for such a purpose, but the peasants say that an opening was there conveniently to hand, ready to allow the passage of the iron horse, and they tell a pretty story to account for it, about a prince employed by Chin Shih Huang Ti in the construction of his barricade.

"One day," runs the legend, "this prince mysteriously disappeared, as often happened in those times. But his beautiful and devoted wife soon set forth along the Wall in search of him.

"After passing through innumerable hardships, she discovered that her beloved husband was dead and his body entombed somewhere within the Rampart. Just as she was despairing how to find him, a fairy appeared and bade her cut her hand and follow the drops of blood that flowed



Photograph by J. T. McGarvey

FARMING ALONG CHINA'S SACRED WAY, LEADING TO THE MING TOMBS

The thirteen tombs of the Ming dynasty are approached by a great roadway lined with gigantic monoliths of men and animals. The location of the Mount of Imperial Longevity was decided by a geomancer with the aid of a magic tortoise shell and by a study of the *Book of the Blue Bag*, a classic 1,000 years old. The Ming dynasty re fortified the Great Wall and long held it against the Tatars.

from the wound. She did as she was directed and her blood brought her to the object of her desire lying in an opening that had been made miraculously in the Barrier."

Throughout the ages this opening was never closed, and it remained for a prosaic railroad to desecrate the spot where the beautiful girl found her dead lover.

It is easy to ridicule such pretty fancies, but not so easy to put facts in their place.

Beyond Shanhaikwan the Great Wall starts off toward the mountains. Soon it begins to climb the steep slopes. Thereafter for the first 300 miles of its course it is never on a plain, but rises steadily to the height of nearly a mile above sea-level.

It is indeed a wonderful and an amazing experience to stand on some out-jutting parapet, which compares well with a box at the theater, and gaze down on an enchanted scene of fruitful plain and distant sparkling water, or upward to peaks

tipped with towers that appear like the donjon-keep of some old knight's castle.

For several days the traveler who has sufficient patience and endurance to follow the line of the Wall is rewarded by magnificent scenery. Even the least imaginative are humbled and impressed by the panorama of mountains with sharply silhouetted crests and deep gorges—masses of contrasting black shadow. But upon those with a reverence for and some knowledge of the past, the effect of the Rampart in such surroundings is simply stupendous.

No description can convey an adequate idea of the immensity or grandeur of the Great Wall of China, as it writhes along the mountain peaks, giving an impression of infinite power and at the same time of infinite calm and peace. It surpasses our richest expectations. The more we gaze upon it the more we wonder and admire, and even a thousand miles of travel in its mighty shadow seems insufficient to enable



Photograph by Alain Warwick

A STONE FIGURE OF BUDDHA AT TATUNGFU

This stone cave temple, as well as those at Lung Mén (see opposite page), belongs to the period of the North Wei, a barbarian dynasty which first made Tatungfu its seat in 398. The rulers of this state kept up intimate intercourse with the Buddhistic countries of central Asia and built many large temples. Four persons can play bridge on the palm of this statue's outstretched hand (see text, page 134).

us to grasp the proportions of this enormous barrier, which continues its uninterrupted way for hundreds of leagues toward the wilderness.

FEW INHABITANTS IN MANY REGIONS TRAVERSED BY THE WALL

For great stretches along the Wall there are no villages nor any signs of human habitation, and silence reigns save for the occasional cry of a high hovering eagle. No conqueror's foot would lightly climb the slopes of these desolate regions, and it seems indeed a useless waste to have

built a barrier where inaccessibility alone would have insured safety.

In many places there is a sheer drop of several hundred feet from the base of the Rampart, and the *terre-plein* itself is very steep—sometimes so steep that it is necessary to be hauled up for short distances by ropes.

The approaches to the towers are often obstructed by huge boulders, making it difficult to judge from a distance where the Wall begins and the mountains end. They seem, indeed, to have grown into one another.



Photograph from Adam Warwick

ONE OF THE COLOSSAL STONE CARVINGS AT LUNG MÊN, HONANFU

The cave temples in which these figures are to be found stand on a hillside and have been carved out of huge natural rock. One of the temples at Honanfu marks the burial place of the white horse which legend says was led by the missionary monks from India who first introduced Buddhism into China (see text, page 134). Near the city is Hanku Hsankwan, where General Hsiang Chi of Chu buried alive 100,000 captive soldiers in the third century B. C.



TWIN PAGODAS NEAR TAIYUANFU

The pagoda to the left, dating from the Sung dynasty (960 to 1260 A. D.), leans toward its neighbor and is China's counterpart of Pisa's famous tower (see text, page 141).

But the traveler is well repaid for the hard climbing required to reach such lonely spots. His is the reward of a discoverer, for few white men have set foot here before him.

It seems unlikely that even permanent Chinese garrisons were stationed in such places. A solitary sentry would suffice to guard long distances in these inaccessible regions, especially since we know that an elaborate system of beacon fires was perfected to bring reinforcements against any threatened point.

Now and then, in the lower levels, we find a village leaning against the Wall, where an occasional traveler takes shelter for the night in the guest room of the local Buddhist temple. Happy is the hamlet that lies near a river or a shallow lagoon and happy the passer-by who halts there!

The greatest drawback to the stages in the higher altitudes is usually the lack of water for a much-desired bath. Wells in the heights are few and deep, so the peasants object to drawing more water than is required for the most elementary washing and tea-making.

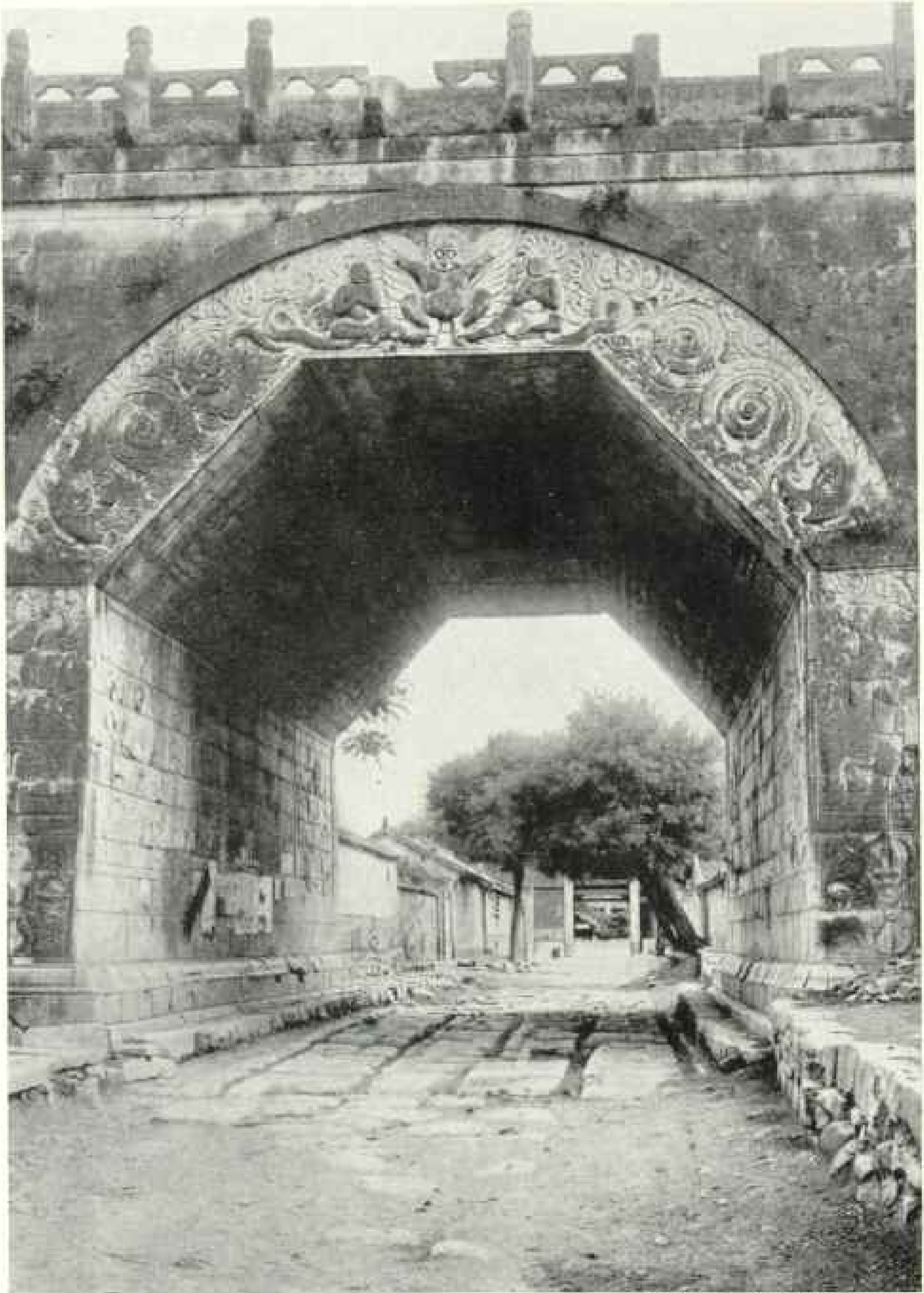
In some places water must be carried from a long distance in wooden buckets on donkey back. Goiter is unfortunately very prevalent in many sections, due to using water that has filtered through rocks heavily impregnated with minerals.

PEASANTS HARNESS THEMSELVES TO THE PLOW

Along the first few hundred miles of the Wall the country folk are miserably poor; they wrest a living from the stony soil with great difficulty. But wherever there are patches of flat land every inch is cultivated, and sometimes the crops extend up the rocky mountain slopes.

Often the hard-working peasants, too poor to afford the luxury of a beast of burden, harness themselves to their primitive plows. Yet everywhere one meets honest, smiling faces. Little children offer the stranger bouquets of wild roses and clematis; men and women toiling in the fields greet him with the polite salutation, "Have you eaten your rice?"

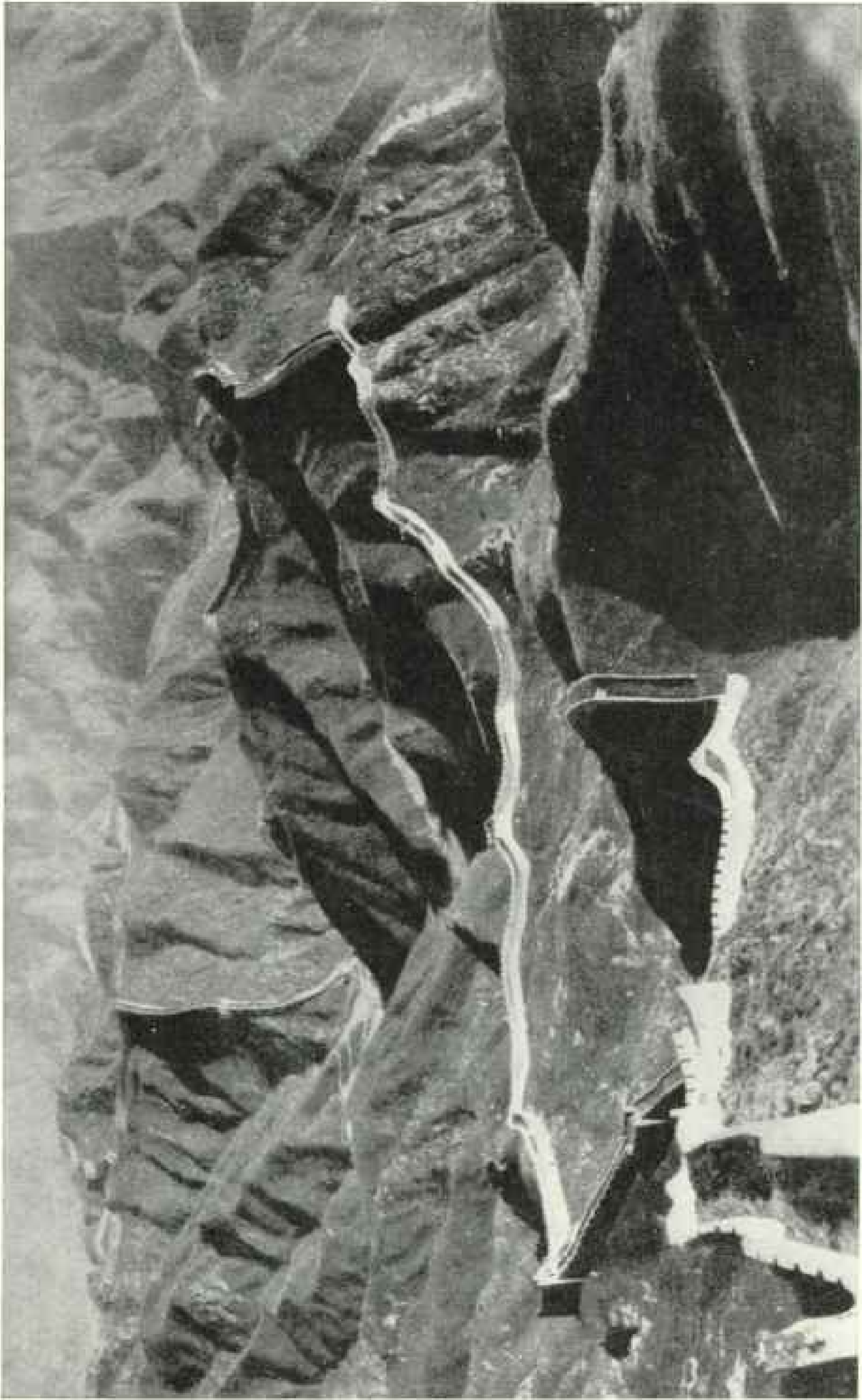
The village elders still believe that the Emperor, father of his people, is on his



Photograph by John D. Zumbro.

THE LANGUAGE ARCH AT CHIUYUNGKWAN

Kublai Khan made the Lamaistic form of Buddhism the state religion of China and invited teachers from Tibet. This archway shows the Tibetan influence. It is a massive structure of marble, dating from 1345, and bears numerous carvings of Buddhist images and inscriptions in six languages (see text, pages 137-139).



Photograph by J. T. McGarvey

THE GREAT WALL AT NANKOW PASS (ALSO SEE FRONTISPIECE)

This is the section of the Long Rampart which is most familiar to the tourist. The Pass is a much-used caravan route from China into Mongolia (see text, page 137).

throne. They have not heard and do not care to hear about the establishment of a republic.

"It is not for us to concern ourselves with the problems of government," they say when naively summing up their simple political creed. "Our business is farming, and that takes all our time and strength."

These hardy mountaineers mind their own business and mind it well. They have their reward, moreover, in contentment and in simple faith; for in their own way they are wise philosophers and religious folk.

Along our route we found many shrines dedicated to many gods, and especially to the guardian spirits of the Wall itself. True, many of these shrines are neglected now and the rain pours through grass-grown roofs on the heads of broken idols, because their worshipers are scattered. But they had their share of incense and adoration in the distant days, when this region was more thickly populated than it is at the present time.

Of those temples that remain intact a very curious cave shrine in the hills not far from Shanhaikwan has been enlarged and dedicated to the Eighteen Genii ("lo-hans"). Scarcely less worthy of notice is a fine temple farther on, near Hsifengkow, with a large idol whose gilded countenance is full of mystery and the divine calm of perfect repose (see page 115).

THE IMPERIAL BURIAL GROUNDS

Hsifengkow is the first important pass across the mountains and is marked by a barrier gate. Not far away is the Imperial burial ground, known as the Tung Ling, or Eastern Mausolea, where five of the Manchu sovereigns lie, including the most famous of them—Chien Lung, Kang Hsi, and the Dowager Empress Tzu Hsi, whose magnificent sepulcher was in course of construction for more than 30 years.

Scattered through a splendid park, the fine tomb buildings are a dream of gorgeous orange and red against a background of somber firs that in their turn stand sharply silhouetted against a range of mountains, crowned by the Wall, shining in the sunlight like a silver diadem.

The wooded inclosure is the haunt of many rare animals, including a little-

known species of monkey. Geil, who made a trip along the whole length of the Great Wall, besides many excursions from it, in 1908, says that the Imperial Forest Preserve at the Tung Ling contains "three varieties of wild cats, three hamsters, and two jerboas, besides the curious goitered antelope and many other creatures; whereas in another large forest a day's journey south of the Wall, at Ningwufu, in addition to the above, we find the roe deer, Peking stag, leopard, wild pig, and David's squirrel."

Some distance beyond the Eastern Tombs the Myriad Li Barrier skirts the famous Pan Shan Hills, with their well-known Buddhist sanctuaries and old "sotobas" covering the graves of abbots, doubtless famous churchmen in their day.

Here the Wall is partly in ruins, in striking contrast to the section near the famous Pass of Kupehkow, where many sections are in almost perfect repair. Here, indeed, we see it at its best, as it crawls over the mountains from peak to peak, mounting a crag to leap down into a valley or dip suddenly to a picturesque river.

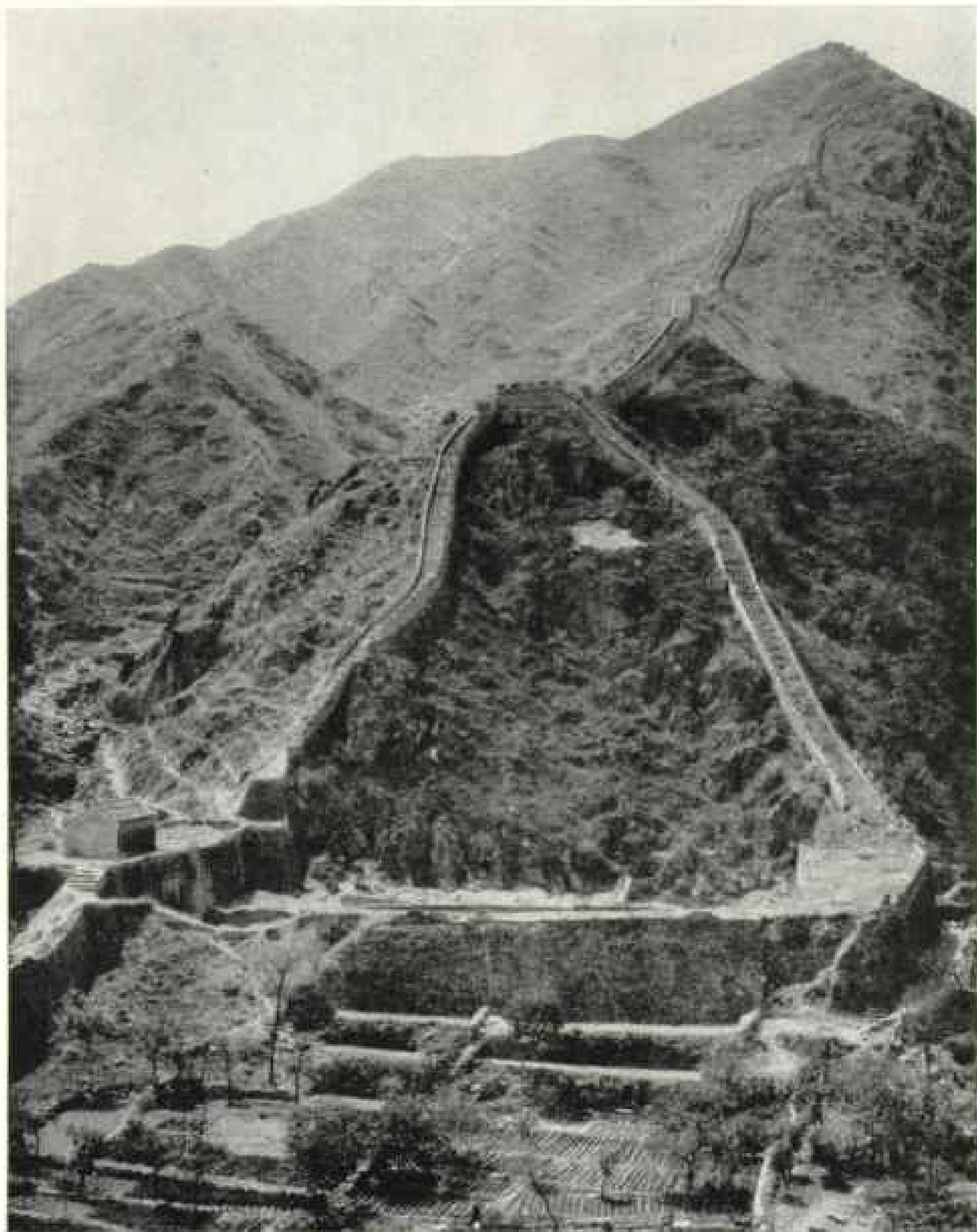
"Standing on the highest point at Kupehkow, one sees the cloud-capped towers extending over many declivities in single files, both east and west, until, dwarfed by miles and miles of skyward perspective, they dwindle into minute piles, yet stand in solemn stillness where they were stationed 20 centuries ago, as though condemned to wait the march of Time until their builders return.

"The winding dike at their feet may be followed, as it leaps across the gorges or lies buried in some chasm, or scales the cliffs and slopes in very exuberance of power and wantonness to vanish in thin, shadowy lines at the horizon.

"The entire extent of the main and cross walls visible from the pass at Kupehkow is over 20 miles and in one place they cross a peak 5,225 feet high."

Their excellent preservation is, moreover, a remarkable tribute to a solidity of construction that has withstood great extremes of climate.

Between Kupehkow and the next important pass of Tushihkow, the wall divides into two loops. One, the outer,



Photograph from Adam Warwick

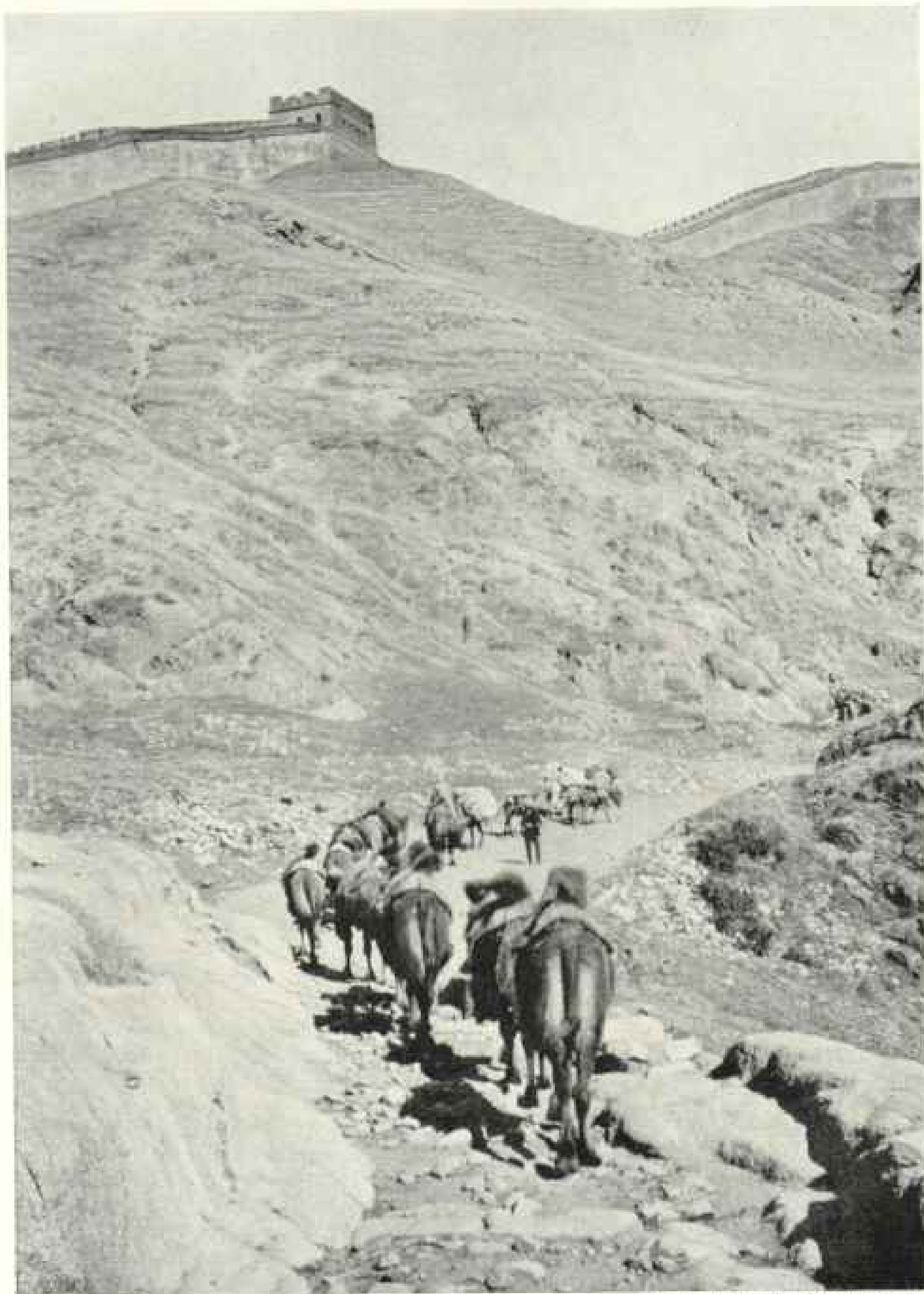
SUBSIDIARY DEFENSE WALLS IN THE NANKOW PASS

One of the first-class fortresses along the Great Wall was once located at the Nankow Pass and it turned back the Mongols under the leadership of the redoubtable Genghis Khan, who finally broke through at the "Goose Gate" Pass (see text, page 139).

passes through the Tushihkow and, crawling westward into the eye of the setting sun, continues, still through magnificent mountain scenery, to Kalgan—a quaint

medieval city known as the Gateway to Mongolia.

Beyond this little gray town it wanders along the Mongolian plateau where, to



Photograph by John D. Zambrian

MONGOLIAN CARAVAN ROUTE THROUGH NANKOW PASS

"A remarkable Thermopylae 15 miles in length," Nankow Pass was the northwestern gateway to China. Though a railway now runs through this pass, it is still a caravan route of some importance (see text, page 137).



Photograph from Horace Brodsky

MONGOLIAN POLICE OFFICERS

The principal work of these men is to catch horse thieves. A man guilty of this crime in Mongolia is put in a box, in such a position that he can neither sit down nor stand up. There is a small hole in the box through which the prisoner can put his hands and reach for his food. The box is kept in a cellar and is never cleaned out. The prisoner usually dies in less than six months.

the north, the picturesque Children of the Wilderness* tend their flocks and herds.

The Barrier here is for the most part in ruins, often no more than a ridge of stones and clay intersected by small square towers far less impressive than those in the eastern section—towers accessible only through their windows by means of ladders.

A COLOSSAL STATUE OF BUDDHA AT TATUNGFU

To the south lies the city of Tatungfu, an important commercial center, whose chief claim to our interest, however, lies in a rock temple where we find a colossal figure of Buddha carved in stone (see illustration, page 126). Its size may be judged from the fact that four persons can comfortably play bridge on the palm of the outstretched hand.

* See "The People of the Wilderness," by Adam Warwick, in *THE GEOGRAPHIC* for May, 1921.

This and other sculptures in the neighborhood date from the fourth century A. D. and were made under the Northern Wei dynasty, representatives of a Tungusic and savage race who nevertheless showed themselves eager for the light of the new gospel then spreading over the East.

These colossal monuments rival in imposing proportions the famous Buddhist sculptures of the Lung Men Valley (so ably described by Chavannes), near Honanfu, dating from about the same period. They are the finest specimens of the so-called Gandhara art which carried, through the Greco-Bactrian kingdom that has become Afghanistan, a reminiscence of Hellenic ideals to the shores of the Yellow Sea (see illustration, page 127).

Farther west the Long Rampart is pierced by the Shahukow (gate), an important customs station on the big trade route between the Mongolian mart of Kueihucheng (the "Blue City") and

China proper. Thence it is but a short distance to the point where the outer loop of the Wall joins the inner loop.

The latter, commonly known as the southern loop, has as much, if not more, historic interest than the former, though it is not the work of Chin Shih Huang Ti, but was built several hundred years later and rebuilt by the Mings in 1487.

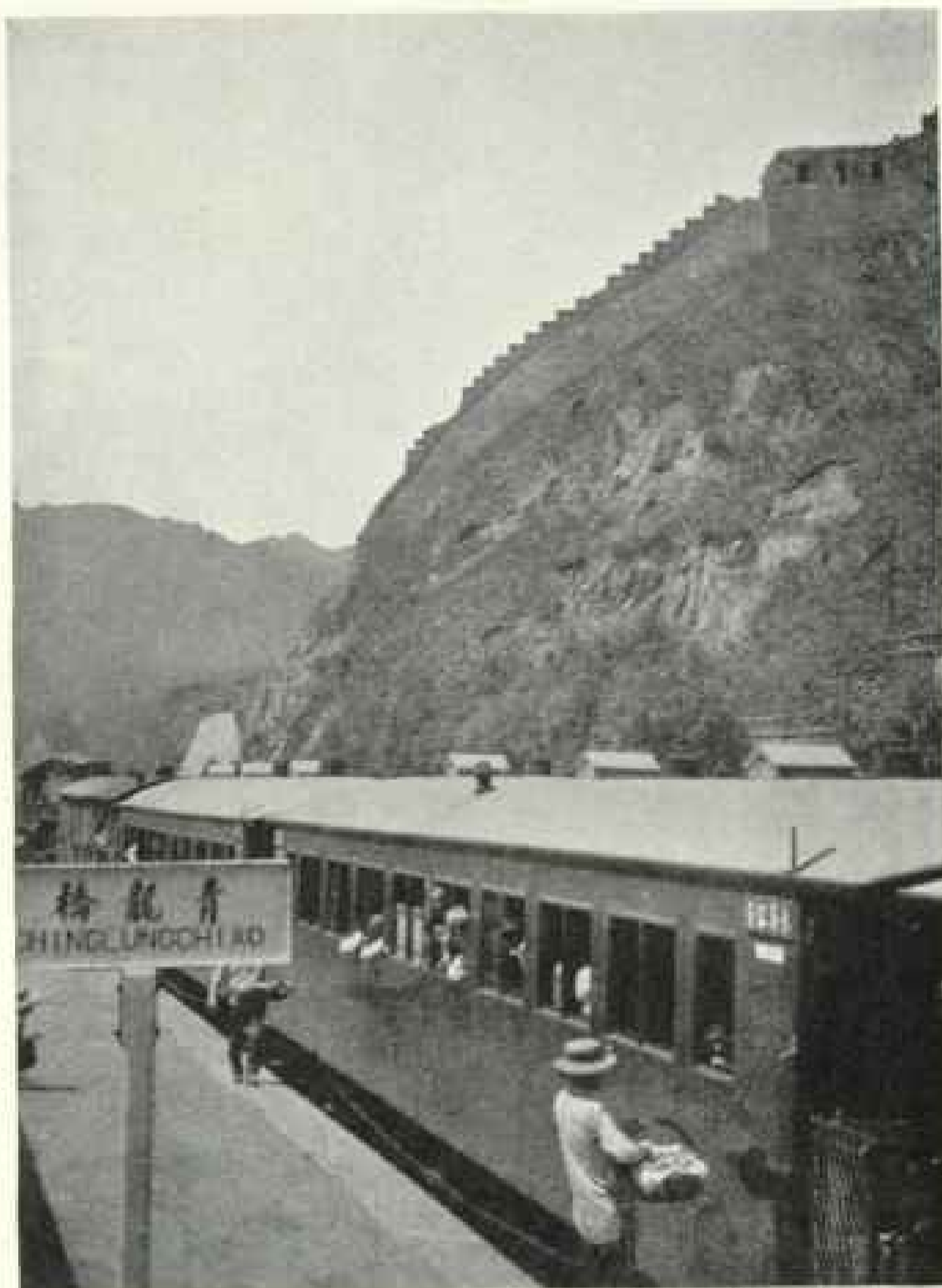
BUILDER OF PEKING LIES ON JEWELLED BEDSTEAD

First of all, it passes near the Ming Tombs, one of the grandest royal sepulchers in the world. Here Yung Loh (1402 to 1424 A. D.), the splendid sovereign who laid out the city of Peking as a Chinese capital, has a tomb which even in its decay remains a marvel.

The huge vault where he lies on his "jeweled bedstead," in his richly lacquered coffin, is said to have cost several million dollars even in his day.

Around him, in the same peaceful valley, are the graves of his successors, less imposing yet scarcely less lovely on a smaller scale.

Fortunate are those travelers to whom it is given in the soft days of spring, when fruit blossoms dot the hill slopes, or in the radiant autumn days, when the persimmon orchards are hung with golden fruit like glowing lanterns, to follow the Spirit Road under the handsome marble archway (the finest in all China) past the noble red Tablet House and the carved



Photograph by R. E. Baber

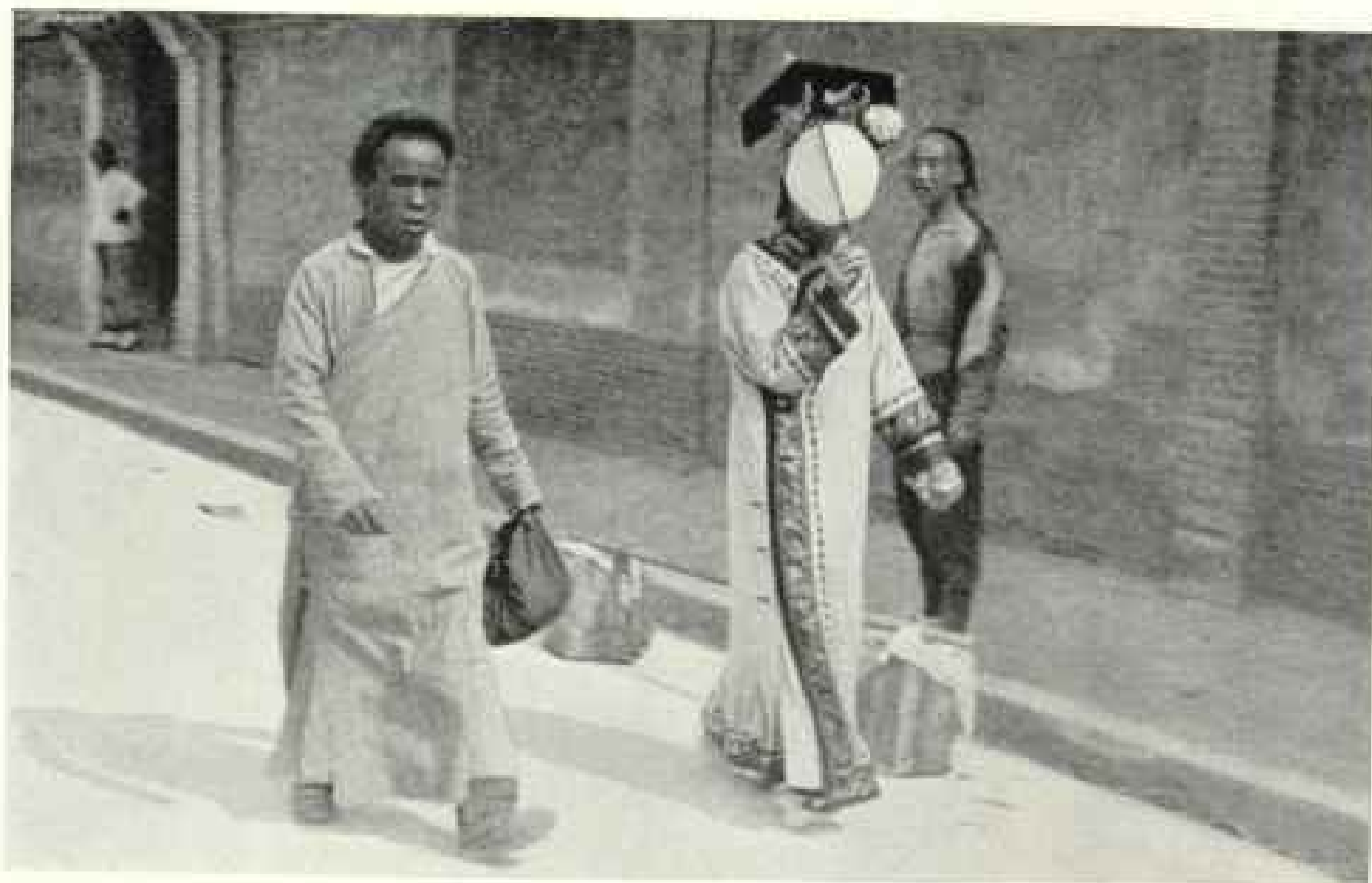
THE PEKING-KALGAN RAILWAY CUTTING THROUGH THE GREAT WALL

Railroads have made a few parts of the "Martial Barrier of all under Heaven" accessible to tourists; but usually the traveler must either walk or ride donkey back to obtain a true appreciation of the bewildering vastness of this eighth wonder of the world.

Pillars of Victory, then along the impressive avenue of stone animals to this unrivaled sepulcher.

Hard by, along the Great Wall itself, rest the Christian martyrs who, fleeing from the Boxers, in 1900, took refuge in the towers only to perish after all and lie in humble graves under the shadow of the Barrier.

Where could one find a more striking contrast than these simple sepulchers of simple Christians and the handsome tombs of kings?



Photograph by Alice Schalek

A MANCHU WOMAN WITH HER MAID

The fan is here employed to protect the high-class oriental from the audacious eye of the camera.



Photograph from Horace Drodaky

ONE UNMARRIED AND TWO MARRIED MONGOLIAN LADIES

Only a married woman in Mongolia is allowed to do her hair up in "elephant ears." These ears are made by plastering the hair in clay and then drying it between two boards. The two matrons are wearing silver crowns which they seldom take off. When they "go out" they put their hats over the crowns. Their costumes are of brilliantly colored and elaborately embroidered silk.



Photograph by J. T. McGarvey

IT WAS TO PROTECT CHINA FROM HER ANCESTORS THAT THE GREAT WALL WAS BUILT

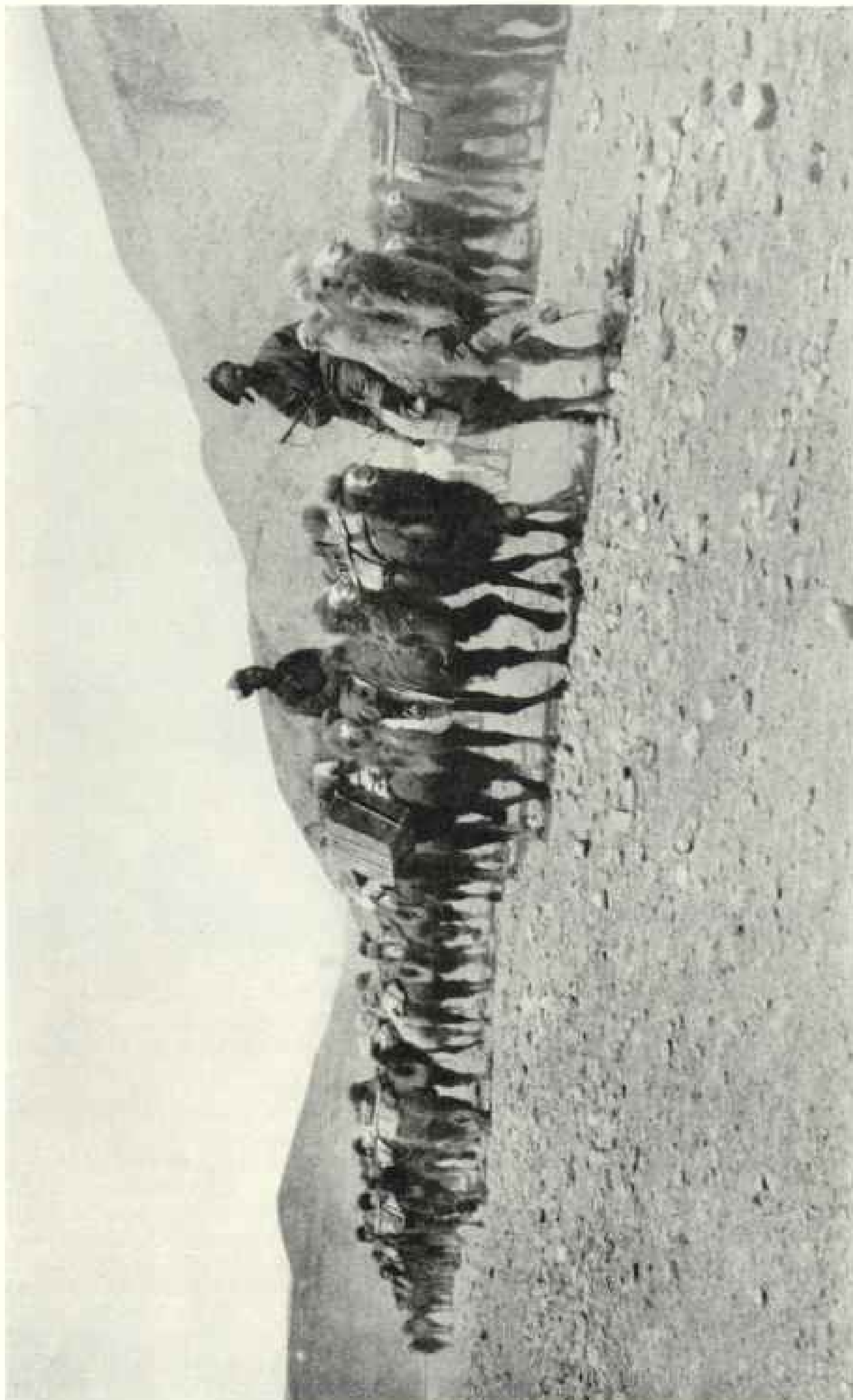
This is a Mongolian girl of the upper class, whose forefathers, undefeated in the field, were shut out from the plains of China by Chin Shih Huang Ti, who built the Long Rampart from the seacoast to distant Kansu.

Scarcely less well known than the Ming Mausolea is the tourist-ridden Nankow Pass, "a remarkable Thermopylæ 15 miles in length, which leads from the plain to the first terrace of mountains above it and at one time was guarded by five additional walls and gates."

This narrow defile used to be and still remains to some extent the caravan route to Mongolia. It was first opened up, according to legend, by the deities known as the Five Tiger Ghosts, patrons of artil-

lery, who blew a passage through the rocks with their cannon.

A railway which is a fine feat of engineering now runs through this gorge, and from the train window the lazy or the hurried traveler catches a glimpse of camel caravans toiling up by road, or shaggy Mongol ponies being driven down from the plains, or, if his eyes be very sharp indeed, of the famous archway at Chuyungkwan (dating from 1345 A. D.), with inscriptions carved in six different



Photograph by J. T. McGarvey.

CAMEL CARAVAN, WITH SUPPLIES, DESCENDING KALGAN PASS

Several caravan routes unite at Kalgan, which is a gateway to Mongolia and a great trading center for China and Siberia. Over 100,000 camels are said to be used in transporting tea alone from Kalgan to Siberia. In the internal caravan trade no less than 1,500,000 camels and 300,000 carts are employed. At Kalgan exists the very earliest, original wall, built by the Emperor Chin, contemporary of Hannibal.

languages, which so long puzzled archeologists (see illustration, page 129).

The neighboring fort once ranked as one of the first-class fortresses along the Great Wall, as a tablet erected by a Manchu emperor testifies.

This stronghold did indeed turn back the Chin Tatars (1125-1234 A. D.) in their heyday, and twice also its defenders resisted the Mongols, once under the personal leadership of Genghis Khan (1215 A. D.). But the mighty captain, unwilling to accept defeat, brought his forces to bear against the famous Yenmen, or "Goose Gate" Pass, in Shansi, on the same southern loop of the Wall, and broke through there by stealth, debouching onto the plains of Chihli while the valiant garrison of Chuyungwan was waiting for another assault.

The whole of the Nankow Valley is wild, rugged and exceedingly picturesque, with subsidiary walls for secondary defense climbing down into it. From the top of the pass there is a grand panorama, with towers standing like sentinels against the sky-line. The Great Wall crosses the caravan road squarely at the Pa Ta Ling, as this place in the pass is commonly called; but the wooden gate, which used to be closed at sunset only to reopen at daybreak, has disappeared.

In order to appreciate the view in all the grandeur of its true perspective, the traveler should mount the Rampart beside this gate and climb to the highest tower of the eastern spur—an ascent so steep that the *terre-plein* takes the form of steps. No matter. The uninterrupted *coup d'œil* of miles of machicolated wall, with 28 towers an arrow's flight from one another, is well worth the effort (see frontispiece).

As this was one of the important passes, capable of admitting carts and horsemen, big guard posts of a hundred men or more used to be stationed in many of these towers, which were equipped, according to the records, with food, fuel, medicines, and weapons to withstand a siege of several months. Treasures of antique cannon and small arms were discovered not long ago in one of these bastions.

It is interesting to note that when this loop of the wall was first built, in 555 A. D., 6,900 workmen were employed per

mile, or on the whole 300 miles 180,000 workmen.

Continuing southward beyond Nankow, the Inner Loop passes near the Hsiling, or Western Mausolea, of the Manchu dynasty, where those emperors whose tombs are not at the Tung Ling lie buried. Thence it continues in the same direction toward Linchü, following along the tops of the mountains in an unequalled natural setting.

The "southern stump" branches off here, running down through the curious loess country along the Chihli-Shansi frontier. Close by is the sacred mountain of Wutai Shan.

That this favorite Mongol place of pilgrimage should be within the very wall which was erected and defended in order to keep the Mongols out of China is a strange anomaly.

HILL SACRED TO BUDDHA NOW A SHRINE OF LAMAISM

Yet Wutai, one of the Four Famous Hills of Buddhist China and intimately connected with the beginnings of Buddhism in the Middle Kingdom, has in course of time become a seat of Lamaism. Most of its monasteries are reminiscent, both in architecture and in faith, of Mongolia and Tibet. Most of its pilgrims come from the steppes. The great majority of its monks are non-Chinese.

The presiding deity is the reincarnation of the Goddess of Wisdom, the Bodhisatva Manjushri, and the ruling ecclesiastic, Vicar of the Living Buddha, is the Gusri Jassak Lama, a septuagenarian of great intelligence and force of character, as his strong face shows.

He lives in the Pusa Ting, the largest and finest of the temples that dot the mountain side, and receives the faithful, who, in the bitter cold of winter as in the broiling heat of summer, climb the interminable flights of steps to this "blessed spot of earth, destined to survive the eternal ruin which is to ensue at the close of the world's existence; even the beast of burden which eats the grass and drinks the water on this holy spot will be reborn into a higher stage at its next existence." So say the Holy Books.

The lover of history and of antiquities will not begrudge the time required to



A LITTLE VILLAGE LEANING AGAINST THE GREAT WALL.



Photographs from Adam Warwick

A GLIMPSE OF LIFE IN THE SHADOW OF ONE SECTION OF THE GREAT WALL.

Here water is being carried in wooden buckets on donkey back. The greatest drawback to travel in the higher altitudes is the lack of water for a much-desired bath (see text, page 128).



Photograph by R. E. Baber

A HOSTELRY IN THE SHADOW OF THE GREAT WALL

Humble inns near the Great Wall form the chief dependence of the traveler when making an extensive survey. Many bear picturesque names—the Inn of Increasing Righteousness, the Inn of Accumulating Prosperity, the Broad Harmony, and the Virtue Abundant. The walls are frequently inscribed with verses and maxims written by merchants from Tibet and Mongolia, princes and shepherds, and by travelers and adventurers from Turkestan.

make a special excursion down the southern stump of the Great Wall to visit the quaint old city of Taiyuanfu, with its curious leaning pagoda (see page 128) dating from the Sung dynasty (960–1260 A. D.), an oriental counterpart of the Leaning Tower of Pisa.

At Taiyuanfu also may be seen the start of that great highway which crosses the Inner Loop at the Yenmen, or "Goose Gate," through which the hordes of Genghis Khan, turned back at Chuyungkwan, finally entered China, continues to the city of Soping, and from there, through the Shahukow, in the Outer Loop, winds away toward the plains—a true highway of adventure and romance.

THE YELLOW RIVER DIVIDES THE GREAT WALL

A little beyond Soping the two loops of the Great Wall unite near the Yellow River, which encircles the wild Ordos country. Roughly speaking, we may say

that the Yellow River separates the Great Wall into two distinct sections, eastern and western.

Only the eastern has been described here, because this portion of the Barrier is the most characteristic of its original purpose and the best preserved.

This was a true defense rampart, intended to exclude foreign encroachment upon Chinese soil. As long as the danger from the north lasted, it was not only carefully guarded, but underwent substantial improvements at great cost and until a comparatively recent date.

The western section, beyond the Yellow River, differed not only in its construction, but in the very purpose for which it was intended. This was not a barrier intended to exclude the foreigner, but, on the contrary, a protecting rampart for the trade road between China and the Far West.

Recent discoveries have shown that under the great Han dynasty (206 B. C. to 220 A. D.) the Wall extended even



Photograph by R. E. Baber

THE GREAT WALL IN THE MOUNTAINOUS PROVINCE OF SHANSI

"Along the northern border of Shansi the Wall is made of clay, without battlements, and is only about five feet high." At many places the Long Rampart lies in ruins, often being no more than a ridge of stones and clay intersected by crumbling towers (see text, page 123).

farther than Chiayukwan, far into the deserts of central Asia.

This elaborate safeguard for foreign communications is all the more interesting to note, since the Chinese have always been credited with an exclusiveness which, as a matter of fact, was really inaugurated by the Ming dynasty.

The policy of the Mings is plainly shown in their neglect of the western part of the Great Wall and their architectural efforts to strengthen and adorn the eastern section, which protected the approaches to their capital—Peking; also in the building of subsidiary walls near

Lanchowfu running toward the Tibetan marches.

There is little left of the great Barrier where it follows the southern border of the Ordos Desert, save an earth and gravel mound a few feet high, and once historic towers are now merely rubbish heaps. Its grandeur and glory end after the first 1,000 miles, though, shorn of its battlements, it meanders on via Lanchowfu, Liangchowfu, Kanchow, and Suchow to its end, beyond the last-named city, near the Chiayu fortress, on the frontier between Inner China and Sin-Kiang, or Eastern Turkestan.

There is little, if any, interest in following this crumbling mound, hastily thrown together, of materials collected on the spot by the builders, who made scarcely any effort to encase it in granite or protect or embellish it with parapets. The traveler here finds many difficulties without an adequate reward.

THE TRAVELER FACES MANY DISCOMFORTS WHILE STUDYING THE GREAT WALL

Even along the first 1,000 miles of its glory there is no royal road for those who would explore the Great Wall. Enthusiasm in unlimited quantities is needed—enthusiasm in spite of the discomforts of native inns, of fatigue from long hours of riding on donkey back on a hard pack-saddle, or walking along rough tracks. But here there are many interests to suit all tastes.

The scientist, the botanist, the archeologist, or simply the lover of natural

beauty, finds many pleasurable thrills along the way.

The storm-cloud effects of midsummer are beautiful and full of unexpected charm. Often the day dawns with a clear blue sky—an infinite space of softest azure—and at noon the heat waves shimmer from the rocks. Then suddenly on the horizon fleecy clouds bank up, followed by heavy black clouds. Soon the thunder is crashing over the peaks, jagged streaks of lightning fall like spears from the heavens, and there is a flood of rain. In a few minutes every little valley is a waterfall and every slope a madly foaming torrent.

Scarcely less lovely is the trip along the Wall in the early autumn season, when the shrubs have donned their brightest raiment and there is a riot of color throughout the valleys and on the parallel slopes of the mountains, when the winds have ceased even to whisper and a day of holy calm prevails.

But best of all the seasons is winter, when the bare, jagged mountain peaks over which the Wall passes are smoothed under a coverlet of snow. Then the rocks take new and strange forms under their white mantle; then the distant views of hills and valleys, ever deceptive in the rarefied atmosphere of North China, are brought unbelievably near. It seems almost as if on these clear, frosty days we could step from one watchtower to another.

A BOUNDARY BETWEEN TWO WORLDS

At all times and at all seasons the Great Wall gives the impression of being a boundary between two worlds—not only a natural boundary, but a racial boundary also.

"It is," says Geil, "a dividing line between two civilizations and two areas. . . . In space it cut off the herdsmen of the north from the tillers of the south. . . . Southward of the Barrier we find

one type of culture; northward there is little but barbarism.

"The wave of true Chinese civilization rolled southward, engulfing all that it met on its way till it reached the boundary of the ocean. Thus all, from wall to water, owned the sway of the sons of Chin."

THE GREAT WALL WAS NEVER A DEPENDABLE BARRIER

As a practical measure of protection, the Great Wall was never really effective. China was overwhelmed again and again, in spite of it, by the huge racial movements of the Tatar hordes, which for 2,000 years devastated Asia and even troubled Europe from time to time; but it did prove valuable as a rampart against petty raids, and its moral effect on any but the greatest conquerors must have been tremendous.

Only a man with stout heart and tremendous military resources would dare attempt a passage of a barrier whose watchtowers in the accessible passes were only 100 yards apart and even in the remotest wilds were never more than a mile from one another.

Nowadays the idea of the Great Wall as a defensive fortification is entirely abandoned. It is left frankly undefended, though the gates at the passes are still closed at night as a measure of protection against local disturbances for the cities near them.

Not even a corporal's guard now paces the *terre-plein* for hundreds of miles.

But the simple people believe that Chin Shih Huang Ti's Rampart, stretched along the frontiers like a huge fossil dragon, protects China from evil influences.

Gradually crumbling to pieces, yet still majestic in its ruin, slipping down stone by stone into the valleys, the Monster, alas, seems to be losing his power to do even this.

INDEX FOR JULY-DECEMBER, 1922. VOLUME READY

Index for Volume XLII (July-December, 1922) of the National Geographic Magazine will be mailed to members upon request.



© Donald McLeish.

FAIR FRISIANS OF LEEUWARDEN, HOLLAND

The European traveler encounters the old Frisian tongue not only in Holland, but in many "language districts" along the southwest coast of Denmark and in some of the coastal islands of that country.

THE BATTLE-LINE OF LANGUAGES IN WESTERN EUROPE

A Problem in Human Geography More Perplexing Than That of International Boundaries

BY A. L. GUERARD

MANY of THE GEOGRAPHIC'S readers, I am sure, have gone through the following delightful experience:

It is night; it is cold. The train pulls up at a little station which marks the boundary between two central European states. Out of your compartment you tumble, with bag and baggage—the easy-going days when a perfunctory glance sufficed to satisfy a *douanier* that you were not a professional smuggler have been swept away by the Great Storm.

Papers are scrutinized, your luggage opened and searched, with more efficiency than gentleness. A thick bundle of greasy notes changes hands. Hastily you pack your scattered belongings again; kneel on the bulging, gaping, recalcitrant suitcase; stuff into your pockets the odds and ends you had nearly forgotten, and hasten, grumbling, to the train, to resume your uneasy slumber.

There you may dream of a country where it is possible to travel for days, instead of hours, without having to face such barbarous and unnecessary discomfort.

THE TRIALS OF THE LINGUISTIC BORDER-LINE

Now, the ordeal of the flesh, when crossing the customs line between two European countries, is but the symbol of a worse ordeal, both of the flesh and of the spirit, when crossing that invisible and very real line, a linguistic boundary. When you reach a country where your speech no longer has currency, it is your *ideas* that have to be dumped out of their familiar container, your language. Then you must pick them up again in a jiffy, and wrap them somehow, anyhow, in a new container, of different size and shape—a foreign language.

No wonder if your most delicate thoughts look crumpled after going

through such a process; if some that you cherished are left behind in the rush; and if you unwittingly appropriate others, not because they are desirable but because they happen to be right at hand.

This linguistic ordeal is one that many of us try to avoid, either by staying at home or by keeping to those well-traveled routes where, thank Heaven, "English is spoken and American understood."

We are all familiar with the story of Babel and the confusion of the tongues of men. But few people in America thoroughly realize what the curse of Babel means in terms of discomfort and even of danger.

Language remains the worst frontier in Europe, the most complicated, the most impassable, the hardest to adjust, the most fertile in conflicts and hatred.

A NEW LANGUAGE EVERY FEW MILES

We are accustomed to the broad lines upon which our Western civilization is built; from ocean to ocean and from pole to pole only three languages prevail: English, Spanish, and Portuguese. (The local survival of French in Quebec and in some of the West Indies hardly affects the general truth of this statement.)

In northern Asia and eastern Europe, from Vladivostok to Brest-Litovsk, and from Archangel to Sevastopol, a single master key opens the civilization of 150,000,000 men. But in western Europe (which, for the purpose of this article, we shall define as the whole of Europe minus Russia) the geographical domain of even the major languages is, according to our American ideas, pitifully small.

The largest, the area of German speech, including the present Republic, German Austria, parts of Czechoslovakia and Switzerland, and a fringe in Belgium, France, Italy, and Poland, is smaller than our single State of Texas.

What are 200 miles to the modern



© Donald McLeish

A TEA-PARTY ON THE ISLAND OF MARKEN, IN THE ZUYDER ZEE

Owing to the fact that the quaint island of Marken is visited annually by thousands of Americans, many of the Dutch children have become familiar with the English tongue.



© Donald McLeish

THE VILLAGE SCHOOL OF STAPHORST, OVERIJSEL, HOLLAND

The language boundaries in western Europe are so numerous and often so close together that it is not unusual for the school child to have to master from three to four languages in addition to his native tongue.

traveler? Two hundred miles is the distance, as the crow flies, from New York to Boston, Syracuse, or Washington—a matter of less than six hours by fast train. Soon we shall think of it as a two-hour ride in a commercial airplane. Now, if with any one of the European capitals as a center (with the exception of Rome) you draw a circle 200 miles in radius, you will find that at least four different languages are reached. Such a circle forms very restricted bounds for the scientist or business man.

ONE'S LANGUAGE MAKES HIM AN OBJECT OF SUSPICION

And it is indeed a prison. Beyond its wall reign incomprehension, diffidence, hatred. If a man lands on the wrong side of the language boundary, the very accent of his speech marks him for a foreigner,

frequently for an enemy. He is fair game for the crook and an object of suspicion to the police.

The simplest transactions of practical life become a series of pitfalls. The writer once had to rescue a number of dough-boys of the American Expeditionary Forces who had wandered away from their outfit with no French at their command except "toot sweet."

The telephone turns into a mockery. What is the use of being connected with Berlin and Rome if you can't speak German or Italian? The telephone is pitiless for strangers whose pronunciation is imperfect. It is not always easy to get the right number even in your own language, but with the added handicap of a foreign accent, the case is well-nigh hopeless.

No doubt that very uncertainty adds to the romance of life. You try to order



Photograph by Marie Hagemiers.

FAMILY OF LACE-MAKERS, BRUGES, BELGIUM

Bruges is a Flemish city and its inhabitants speak Flemish, a German dialect, in contrast to the Walloons of southern Belgium, who speak French. It is estimated that five-eighths of the people of Belgium speak Flemish, but French is the language of the government, of the army, of most of the newspapers, and of public traffic.

a drink in a restaurant, and the waiter brings you delicious fish. You follow directions that should lead to Kensington Museum, and finally reach the Angel, Islington, or the Whitechapel Road. You ring up a friend, and are connected with a total stranger who may be much more interesting—if only you could understand him.

It is thrilling, and should appeal to a G. K. Chesterton. But if you happen to

have some definite purpose, such adventures will soon cease to tickle your sense of humor. Once more, you will sigh for "God's own country," where people can talk, instead of jabbering.

Western Europe—by which we mean, once more, the whole of Europe minus Russia—is considerably smaller in area than the United States, and it rejoices in the possession of some 40 languages.

By languages we mean, not local *patois*,



Photograph by Clifton Adams

PARISIENNES IN ALSACE-LORRAINE COSTUME SELLING SOUVENIRS TO AMERICANS

A feature of the Alsatian costume is the huge bow of black ribbon used as a headdress, its size varying according to the locality. There are probably fifty styles of costume in these redeemed provinces of France, where "populations of different speech jostle one another in the same territory."

which are innumerable, but only those dialects which are advancing definite political and cultural claims to recognition; those that are actually taught in schools, and in which books and papers are printed; those which, even though they are not officially established, are strong enough to create a "question"; those for the sake of which men are willing to fight or to be persecuted.

It may be objected that we are exaggerating the evil; that the linguistic map of Europe is not so complex after all. If there are 40-odd languages in Europe, and more *patois* than are dreamt of in our philology, four-fifths of the population speak languages that belong to one of the three main groups—Slavic, Romanic, and Germanic.

True enough. These kinships among languages do facilitate comprehension. I am informed by a Bulgarian scholar (Dr. R. A. Tsanoff) that Serbs and Bulgars could understand one another easily enough, if only they wanted to, which,

unfortunately, is not the case; and that Bulgarian students soon found themselves at home in the Czech university of Prague. There is no doubt that German comes more easily to a Scandinavian or to a Dutchman than to a Frenchman; and the Italians in Buenos Aires soon master the Spanish language.

RELATED LANGUAGES ARE OFTEN NOT ON "SPEAKING TERMS"

But it would be wise not to lay too much stress on these theoretical language affinities. Many languages are "related, but not on speaking terms." Two of the most important languages in Europe have developed in such a way as to become strangers in their own families.

English bears only a distant likeness to the other Germanic tongues. It has really become, in syntax and vocabulary, a hybrid, as Max Müller maintained. Standard French is Northern French (*Langue d'Oïl*, or *Francian*), which has moved so



Photograph by Grifé

GIRLS FROM ST. POL DE LÉON DISTRICT, FRANCE

Many French women proclaim their town and province by means of their caps. Brittany is rich in striking types.

far from its Latin origins that many problems of etymology remain obscure even to-day. It is impossible for "Latin" cousins from Paris, Madrid, and Rome to understand each other without serious study.

We may therefore stick by our number of 40 as a fair representation of the European situation. If we err, it is rather on the side of optimism.

Italian, for instance, is counted as only one language, because there are no Italian dialects that are advancing political claims and creating a "question." But Italian dialects still have a very real existence, and a man who knows only standard

Italian will not find it easy to understand a conversation in the streets of Venice or Naples.

But even if we admit that language affinities relieve the situation to some extent, they are far from helping us out of our worst difficulties. The former Hapsburg Empire, with an area barely one-fifteenth of that of the United States, had German, three groups of Slavic languages, two Romance languages, and Magyar!

To learn a related language is no child's play, but to learn a language totally unrelated to your own is a tremendous undertaking. It involves the acquisition of thousands of words which have little in common with our native vocabulary, and the complete recasting of our habits of thought.

It is not surprising, therefore, that people should give up the attempt, and that, century after century, a

French village should stand a few miles away from a German village, with a surprisingly small amount of infiltration from one language into the other.

MIXED POPULATIONS WILL NOT MIX

We have so far insisted upon the number of languages spoken in western Europe, and the small area allotted even to the more important of these. But confusion grows worse confounded when, instead of forming a patchwork or mosaic of self-contained elements, populations of different speech jostle one another in the same territory. No map can do full



Photograph by Cr  t  

HARVESTING ARTICHOKES BETWEEN ST. POL DE L  ON AND ROSCOFF, FRANCE

Not all Frenchmen speak French. There are, for example, the Bretons, who are of Celtic origin and who derive their name from ancestors who emigrated from Great Britain to escape the Angles and Saxons in the fifth century.

justice to such a situation, the result of conquest, migration, or infiltration.

Frequently the dominant population belongs to one linguistic group, the common people to another. Thus, the Poles, who were held down as a subject majority in Posen, found themselves a ruling minority in the east and southeast of their ancient kingdom. Persecuted by the Prussians, they lorded it in their turn—and with no waste of gentleness—over White Russians, Lithuanians, and Ruthenians.

The cases of Transylvania and the Banat of Temesvar are singularly complicated. When the receding Turkish flood left Transylvania in Hungarian hands, a Rumanian-speaking peasant population, unorganized and illiterate, was dominated by Magyar *Szeklers*—a significant word, for it means frontier guardsmen; and among Rumanians and *Szeklers* live solid colonies of Saxons, one of which may have been led thither by the Pied Piper of Hamelin!

In the Banat, Rumanians, Serbians,

Germans, and Magyars are hopelessly entangled.

SALONIKI IS A BATTLE-FIELD OF RIVAL TONGUES

Perhaps the most extreme case is provided by the city of Saloniki and its immediate hinterland in Macedonia. The place was Turkish for centuries, and is now under Greek rule; but the languages of its present and of its former masters are used only by minorities. At its very gates are found Macedonian peasants whose Slavic speech shades off imperceptibly from Serb to Bulgar, thus providing a battle-field for philologists and diplomats, a "question" drenched in blood and printer's ink!

Rumanian (Kutzo-Wlach) and Albanian tribes hover near, and the chief element in the city is Jewish. But those Jews, exiled from Spain ages ago, still speak a Spanish jargon, instead of the Germanized Yiddish of most of their coreligionists. No wonder that there, as in



YOUNG CITIZENS OF CHALONS-SUR-MARNE

The plains in the vicinity of Chalons-sur-Marne have been a battle-ground of nations since the beginning of the Christian era. It was here that one of the decisive contests of the world was fought, when the Romans and their allies defeated Attila and his Huns and saved western Europe from the Mongols.

Constantinople, the current language should be none of these conflicting tongues, but French, in which the best schools are conducted, and the most widely read papers are published.

EUROPEAN PROBLEMS DIFFERENT FROM AMERICAN "MELTING POT"

"Well," you may say, "Saloniki 'has nothing on' our leading American cities, and particularly the one orifice of our melting pot, New York. There also you will find the most heterogeneous agglomeration—all the dialects of eastern and western Europe, with baseball slang, Mr. Mencken's *American*, and Chinatown thrown in for good measure. Yet no one worries seriously over our language difficulty. It is adjusting itself all the time."

But the comparison between Europe and America is wide of the mark. Europe may be a witches' caldron; it is not a melting pot.

Our immigrants of foreign speech—like the writer—came of their own accord into a land of promise. The country was strongly organized, and they found themselves, at any one moment, a pulverized minority. Had they attempted to challenge the supremacy of the national language their defeat would have been certain.

But there was no reason for them to make such an attempt. There was, on the contrary, every inducement for them to seek assimilation. There was nothing to hinder, nothing in the principles or annals of America that would jar upon their own



Photograph by A. Frankl

A COSTUME COMPETITION AT ULM, SOUTH GERMANY

The jury is examining the aprons and skirts of the young Bavarian girls to see whether the costumes are strictly original. Ulm is noted in the history of German literature as the spot where the *Meistersinger* lingered longest, preserving without text and without notes the traditional lore of their craft.

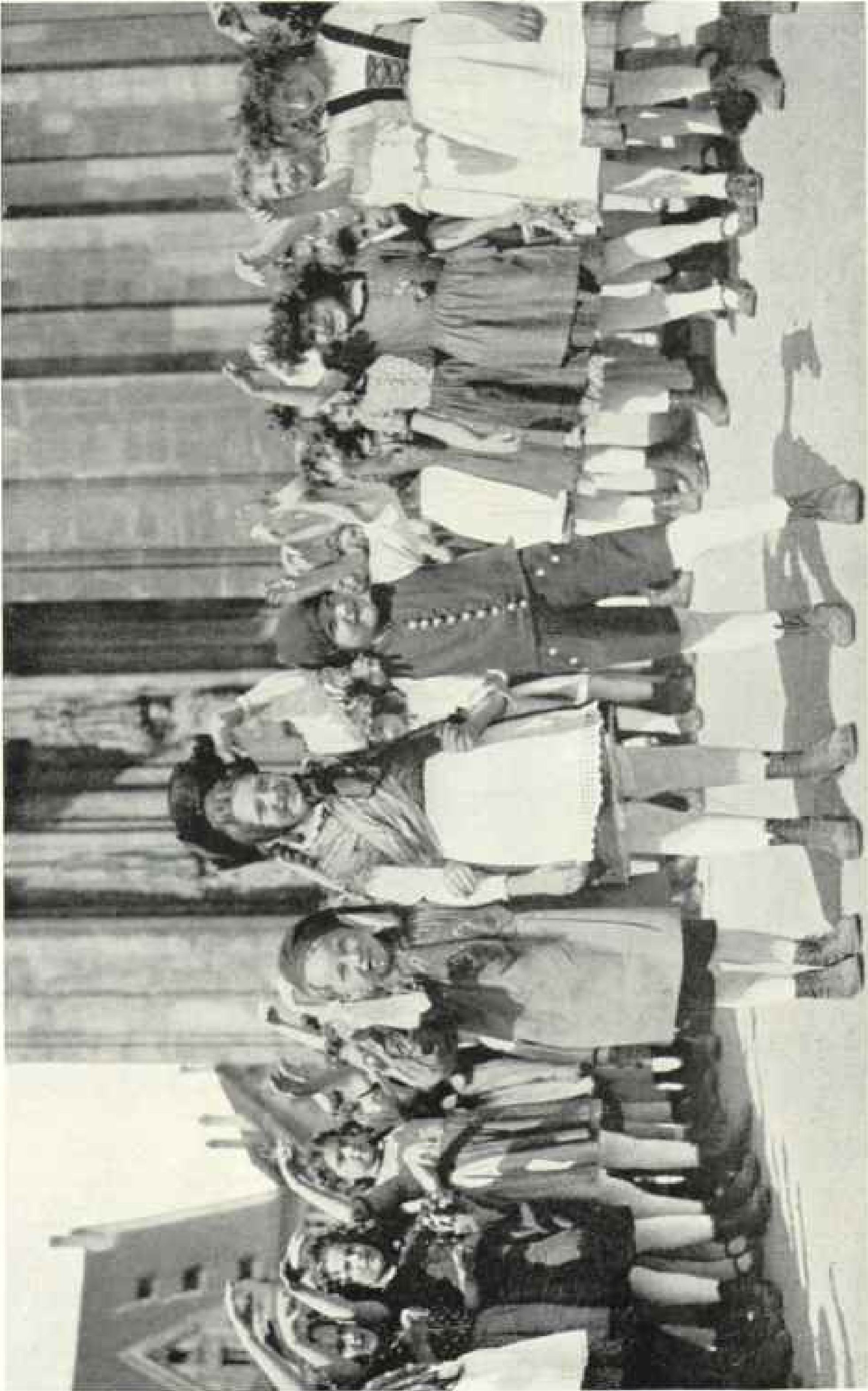
habits of thought, no new dynasty to serve, no bitterness of former wars to forget.

They were only expected to behave decently in a trusting and hospitable country, and to cherish the ideal of liberty under law. Therefore, assimilation is proceeding so fast that in most cases the second generation does not know the language of its forebears.

Very different indeed is the situation of

a compact group of men, rooted in the soil, having their own traditional rights, aspirations, and organizations, a cohesive force binding land, people, language, church, and school together. Such groups, though small, are almost ineradicable.

French civilization is credited with a wonderful "contagious power." Paris takes a Brazza, a Novicow, a Psichari, a Papadiamantopoulos (Jean Moréas), a Brancovan (Comtesse de Noailles), and



Photograph by A. Frankel

YOUNG BAVARIANS OF ALGAU WEARING THE ANCIENT COSTUME

While the Bavarian German is softer in accent than the Prussian German, it is not such minor divergences that constitute the language problem in Europe, where there are forty-odd distinct tongues spoken in an area smaller than that of the United States (see page 148).



Photograph by A. Frahm

GIRLS OF THE SPREEWALD DISTRICT, NEAR BERLIN

These people are Wends (Slavs), whose home is a wooded, marshy district, intersected by a network of two hundred branches of the river Spree. In summer the chief means of communication between the various villages is by water, and in winter over the ice.



Photograph by A. Frankel

GERMAN STUDENTS OFF FOR A VACATION WALKING TOUR THROUGH THE BLACK FOREST



A DANCE IN HESSE PROVINCE, GERMANY

The area in which the German language prevails is larger than that of any other tongue in western Europe. It includes not only the present German Republic, but German Austria, fringes of Italy, France, Belgium, and Poland, and parts of Czechoslovakia and Switzerland—but, in all, an area smaller than our State of Texas.



Photograph by Maynard Owen Williams

BELLES OF CZECHOSLOVAKIA

The native costumes of Czechoslovakia are a never-ending delight. Each little village has its distinctive dress, which runs the gamut of color. The woman in the center is a matron and wears the Cismany costume, one of the most beautiful to be found in this country. The Czech language has remained the organ of the common people through many years of tribulations and has produced a wealth of early poetry found among no other Slavs.

turns them into ardent Frenchmen in less than a decade. But, in spite of this magnetic quality, in spite of a centralizing policy which is meant to grind minorities out of existence, the historical groups resist assimilation with a tenacity which is purely passive, and yet amazing.

French is driving back Breton, Flemish, and Basque, no doubt, but at a rate which must be counted in terms of centuries, not of years.

Similarly, our triumphant North American civilization finds it surprisingly difficult to absorb blocks of alien population

when they are compact, and not disintegrated; when they have their own local traditions and are imbedded deep in the soil. Quebec will remain, apparently for all time, an impregnable French island in an Anglo-Saxon world.

After three-quarters of a century, there are thousands upon thousands of New Mexicans who have retained their habits and their language. Even the handful of French colonists in Louisiana, long outnumbered, ruined by the Civil War, have managed to hold their own for 120 years.



Photograph by Maynard Owen Williams

SEMITIC TYPES IN MUNKACS, CZECHOSLOVAKIA

In reviving the Czech language as a vehicle of culture the Bohemians have erected a new barrier between themselves and the rest of the world (see text, page 166).

These examples give us the true European note. Transylvania, for instance, is not a melting pot like the Bowery; the minorities cling more passionately to their separate existence than even the French in Quebec. A Magyar, who on this side would have been assimilated in five years, will in Kolozsvár live and die a Magyar, transmitting to his sons the pride of the Magyar name. Once more, national elements must be disintegrated before they can be fused.

ASSIMILATION CHECKED BY THE TREATIES OF 1919-1920

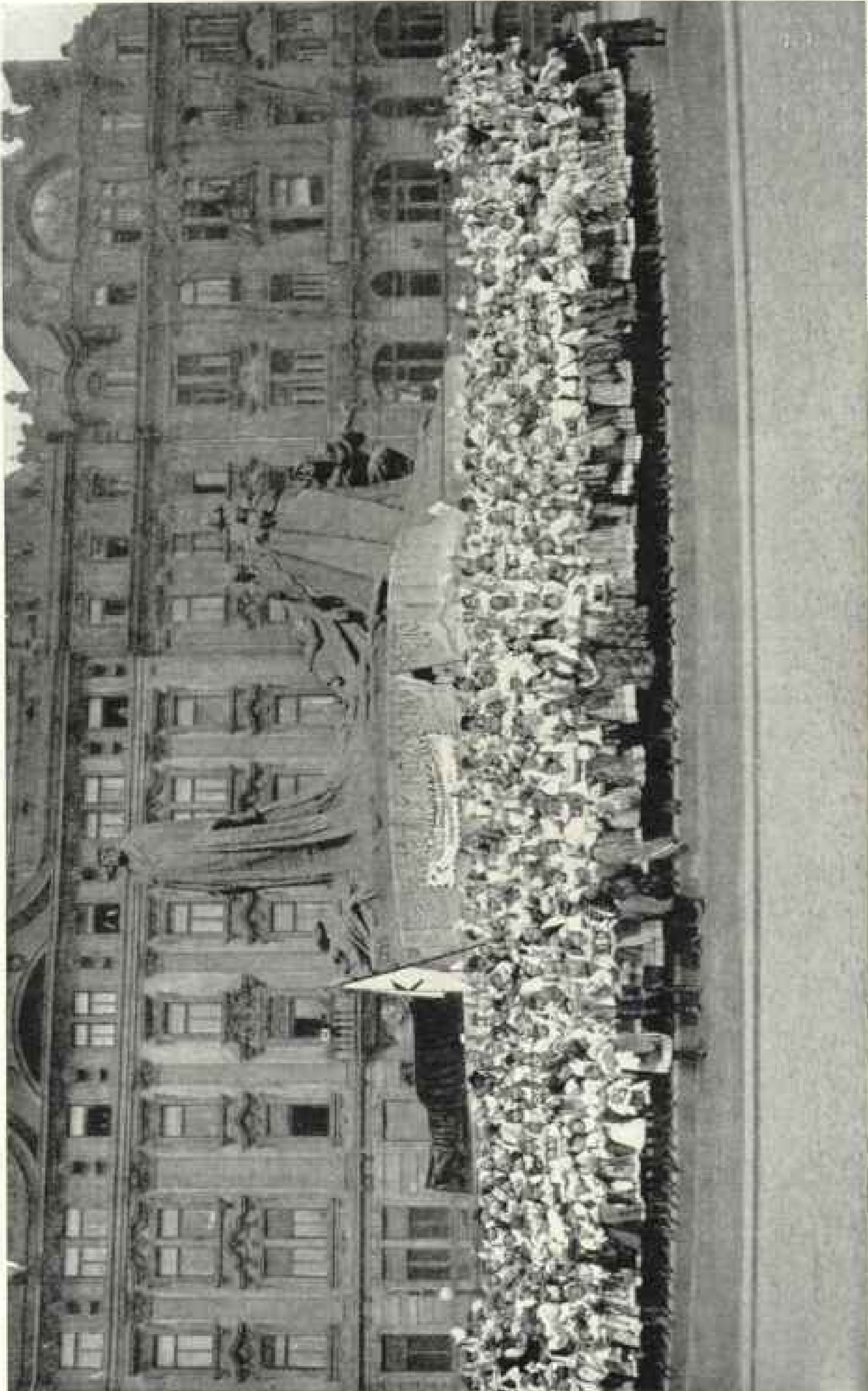
Our chief instrument of Americanization has been the little red schoolhouse. Our mighty nation was kneaded together by the hands of the "schoolmarm." But there is nothing in Europe that exactly corresponds to that unifying factor. The schools teach the national languages, and the best they could achieve would be to bring the linguistic map of Europe into harmony with the political map.

This would be a simplification, but it would still leave some twenty nations with

twenty languages. We are very far from the goal.

But even this process of simplification has been made almost impossible by the provisions of the treaties of 1919-1920. Ethnic groups separated from the main body of their people were guaranteed the free use of their language in school, church, and local administration. No doubt the central government retains the right of making the study of the official tongue compulsory in all schools, but it will remain a foreign idiom. Most children will not progress any further in it than our sophomores in French or German. The smaller languages, in minor countries, in autonomous provinces, in enclaves, are now entrenched in international law.

The policy was undoubtedly a well-meaning one; we had protested loud enough against forcible Prussification or Russification, and we did not want to see forcible Rumanization or Polanization take their place. The perpetuation of the European Babel was the lesser of the two evils.



Photograph by Rudolf Bruner-Dvorak

THE HUSS MONUMENT IN THE PUBLIC SQUARE OF PRAGUE, CZECHOSLOVAKIA

"Golden Prague," as the Czechs love to call it, has had a stirring history. This monument to the Bohemian national hero, John Huss, was unveiled in 1913, on the five-hundredth anniversary of his death in the city of Constance.



Photograph by Neri O. Winter.

PEASANT TYPES OF POLAND.

In the days of its political eclipse, Poland was partitioned among Austria, Germany, and Russia, but Polish as a language of literature and of culture was never subordinated, as were the tongues of other oppressed nationalities of Europe.



Photograph by Erdelyi

A HUNGARIAN BELLE OF KARCSAG, EAST OF BUDAPEST

This is one of a bewildering variety of costumes to be found among the Hungarian peoples. They are all exquisitely embroidered in striking colors.

Minor languages cannot be killed, and refuse to commit suicide. But are there not forces deeper than man-made law, stronger than local pride or customs, that are making for increasing unity?

THE LANGUAGE BARRIERS HOLD DESPITE ECONOMIC NEEDS

As a result of scientific discovery, the Continent is shrinking under our eyes. The human voice can be carried in a few seconds, the human body in a few hours, all over central Europe. The economic

interdependence of all European countries is no longer denied, even by the most hidebound protectionist. It would seem that under the impact of such forces, international barriers would crumble away, including the most definite and lasting of them all, the barrier of speech.

The experience of the last hundred years is not reassuring. The nineteenth century was an epoch of scientific, industrial, and democratic progress, but also one of riotous nationalism; and there is no sign that national exclusiveness and



Photograph by Kilgohr

OLD-STYLE DRESS FROM LAVANT TAL, AUSTRIA

This valley is near Vienna, and its smiling natives share the genial dispositions for which the Viennese are noted.



Photograph by Kitzbühel

A FIGURE IN THE MILLERS' DANCE, CALLED "THE STAR," IN OETZ TAL, AUSTRIA

It is in districts such as this, far removed from metropolitan centers, that the *patrimoine* of the peasant is cherished and persists for centuries as the language of the home, of legend, and of prayer.



Photograph by A. Franke

HUNGARIAN COUNTESSSES DISPLAYING NATIVE COSTUMES ON ST. STEPHEN'S DAY: BUDAPEST

The Hungarian capital is the Mecca of Magyar aristocracy and the cosmopolitan center of Hungarian national life. Its architectural beauty is unsurpassed.



Photograph by Maynard Owen Williams

BULGARIAN PEASANTS AT A VILLAGE MARKET

Their melons spread on aprons at their feet, these women improve the time by spinning while awaiting a customer. They do not wear the native picturesque costume except on gala occasions. Bulgarian is called "at once the most ancient and most modern" of Slavic languages. The grammar shows modern tendencies, but the linguistic groundwork is in close affinity with the oldest written Slavic dialect, that of the church.

pride have in the least abated in the twentieth century.

CRAVING OF ETHNIC GROUPS FOR RECOGNITION MULTIPLIED LANGUAGES

Many nations have revived and struggled for recognition, for the last hundred years; and every little group, as soon as it acquired consciousness, became loudly assertive and exclusive. Sinn Fein could be the motto of all the national revivals in recent history.

Nationalism has no doubt been a great power for good, but it has also exacted a heavy price. In reviving the Czech language as a vehicle of culture, the Bohemians erected a new barrier between themselves and the rest of the world. Catalonia is the most active part of Spain, and the Catalan language has a noble tradition; yet it seems a pity that this sturdy, progressive population should not be satisfied with Castilian, a language of world-wide availability.

The Irish Free State will not let the Irish language fade away; it may even require every loyal Irishman to burden his mind with that venerable and impracticable instrument.

In 1830, French was practically the sole culture language of all the Belgians. But the Flemings would have no peace until they had secured for their Dutch dialect full equality with French, thus creating a linguistic barbed-wire fence through a country about as large as

Maryland and Delaware together.

France had repeatedly threatened the independence of Belgium, and Flemish belongs to a different family from French, so there is some justification in the hostility of the Flemings to the supremacy of the French language.

These reasons do not exist in the case of Rumanian. There was no Rumanian literature until half a century ago. French was the current language of all educated people in Rumania; only French was



Photograph by Erdelyi

A SHEPHERD OF THE HUNGARIAN PLAINS

The Magyars, the dominant race of Hungary, are a virile people, who were, for more than a century, the buckler of Christendom against the Ottoman Turks. The sleeves of this shepherd's coat are never used, the garment being placed loosely over the shoulders and fastened in front by a short leather strap.

heard in the salons and theaters of Bucharest, and even in the corridors of the National Parliament.

French and Rumanian are cognate languages, and there is not the slightest danger that France would ever threaten the political or economic independence of Rumania. It seems as if the wise thing to do would have been frankly to adopt French as the official language of the new state.

NORWAY SETS UP A NEW NATIONAL LANGUAGE

But that was incompatible with the fierce pride of a new nationality, which must have all the appurtenances of its dignity—a dynasty, a diplomacy, an army, a navy, a language. So, without any feeling of hostility toward France, patriotic Rumanians began deriding and even mis-

handling the *Bonjouristes*, as they called their Frenchified aristocracy.

One of the most curious instances of this craving for national differentiation, this "Ourselves Alone!" in the linguistic domain, is provided by the Norwegians. It seems bad enough that Scandinavian, spoken in five countries (Sweden, Norway, Denmark, Finland, and Iceland), should be divided into at least two branches, which a peculiar accentuation makes noticeably different.

We might desire to see the rise of a Pan-Scandinavian, overriding local idioms, in the same way as the King's English is superseding provincial forms. But Norway has chosen another path. She was getting along well enough with Danish as her official language, when some patriot discovered that the use of Danish was the badge of previous servitude. So, against



Photograph by A. Frankl

THREE WOMEN OF THE UPPER CLASS AT SCUTTARI, ALBANIA

The Albanians are thought to be the most ancient people of southeastern Europe. Their vocabulary is cumbered with many Greek, Latin, Italian, Slavic, and Turkish words, but their grammar is their own.



Photograph by A. Franchi

NINETY SQUARE FEET OF ALBANIAN FEMININE TROUSERS

The costumes of Albanian women are varied and picturesque. The Turkish trouser is a voluminous feature of most of the styles.



Photograph from "Le Tour Du Monde"

A DANCE OF SPANISH GIPSIÉS

The language of these wanderers (see also illustration, page 172) is a primitive Indo-European, now spoken by no other peoples and contained in no book of manuscript.

Danish, or Riksmål, a new "national" tongue was set up, the Landsmaal. This, although it calls itself the Norwegian Popular Language, is an artificial combination, a composite dialect, on the basis of old Norse peasant *patois*. It is not spoken spontaneously anywhere, but it is taught, it is gaining ground, and it may become the sole medium of expression in Norway.

Thus an obstacle deeper than the Skagerrack will be created between two sister countries which, even combined, would form too small a culture group.

NATIONAL PRIDE FIERCELY DEFENDS LINGUISTIC BOUNDARIES

Mind you, we do not mean to deride the unpractical, the quixotic attachment of each nation to its dialect, even though it be spoken only by a mere handful of men. Not only is the sentiment respectable in itself but, from the point of view of the artist, it is justifiable.

Local dialects alone are truly racy of the soil; they should provide a more exquisitely attuned instrument than the semi-artificial languages imposed by a central government. The world is richer for the Scotch of Burns, the Platt-Deutsch of Fritz Reuter, the Provençal of Mistral. The value of a violin is not measured by the volume of sound it can give out; such a test is legitimate only in the case of fog-horns.

The aesthetic value of a language depends upon the subtle harmony between the author and his public. The more intimate the circle, the more perfect the harmony.

But there are two aspects to a language. It is an instrument of art; it is also a business tool. From the latter point of view, the value of a language depends chiefly upon its diffusion, just as an imperfect telephone system with a large list of subscribers is of more service than an ideal apparatus with only two stations.

MAN IS NOT PRIMARILY AN ECONOMICAL CREATURE

So the tendency toward a concentration of languages is checked by the pride of the nationalist and the scruples of the poet.

"Natural evolution" might reduce major languages to four—English, French, German, and Spanish; it might even lead to the survival of English alone, possibly in a simplified form. But man is not a *homo economicus*, whose sole aim is to get goods or ideas from the cheapest sources and sell them in the highest market. Man is an absurd and noble compound of traditions and passions.

One of these traditions is to cling to his native speech; one of these passions is that his language, like his government or his flag, should acknowledge the supremacy of no foreign authority.

There is nothing less "natural" than a line of frontier poles across a level country or at right angles with a navigable river. Winds, waters, plants, and birds ignore such "foolish" separations. But men will die rather than see such a line moved a few miles back; and the linguistic boundary is defended as fiercely as the political one.

NEUTRAL LANGUAGE NEEDED FOR INTER- NATIONAL RELATIONS

Such is the situation in Europe: some 40 languages having secured, or striving for, recognition. That situation is manifestly out of harmony with modern needs. The smaller nations in Europe can no longer live in isolation, as yet smaller districts could live before the industrial era.

Even France, now the largest nation of western Europe and the most nearly self-sufficient, recognizes the need of close international cooperation. The life of Europe cannot be normal until it is organized, like that of North America, upon a continental scale.

But the subjugation of all states by one state, of all languages by one language, is a dream, and certainly not a beautiful dream. The passionate pride of historical groups, great or small, must be respected.

Is there no way out of this contradiction? Yes: the adoption of a neutral auxiliary language for international relations.

The problem is pressing and will not be denied. The lack of a common medium creates material obstacles and perpetuates historical misunderstandings. The "unspeakable" enemy is the enemy with whom we cannot talk.



Photograph by Dr. Franz Siedlner

MYSTERIOUS NOMADS OF THE WORLD

The Gipsies first appeared in western Europe in 1417, but no tradition exists as to how they arrived or whence they came. Many Rumanian, Serbian, and Bulgarian ballads are derived from these wandering troubadours, and Liszt ascribes to them "the origin of Hungarian national music."

Whenever people from different countries come together—and come together they must, with increasing frequency—they have to decide upon a method of intercourse. They may decide upon several languages, with translations *ad infinitum*; they may restrict themselves to a couple, as in present-day diplomacy; but they have, first of all, to face the language question. For them, it is not, as

many Americans think, a curiosity, a fad, a Utopia; it is an immediate need.

Any one who has attended an international gathering in Europe knows how tedious the present method is. Before the war, as many as five languages were officially recognized: English, French, German, Italian, and the language of the country in which the meeting was held. Speeches were repeated five times—four

times by interpreters, who, even if they were wonderfully proficient in their difficult art, were, as a rule, not thoroughly acquainted with the subjects they were treating.

Thought had thus to go, without any time for reflection or correction, through the imperfect medium of the interpreters' brains. The writer has frequently acted as interpreter, and he knows! Some of the translations were given at second-hand, from previous translations. A constant hubbub of conversation arose from those in the audience who could not understand the speaker.

THE INTERNATIONAL LANGUAGE MOVEMENT

It is a sign of the profound need for international organization that, in spite of this tremendous language handicap, international gatherings, diplomatic, scientific, economic, religious, social, are being held with increasing frequency.

That is why the agencies which, slowly and painfully enough, are attempting to evolve order out of the European chaos are compelled to take the keenest interest in the international language problem. They are wise in not committing themselves to any one particular scheme; they are only gathering materials for a solution, and expressing their belief that a prompt and definite solution is desirable.

The World Congress of International Societies (Brussels, 1920), the Paris Chamber of Commerce, many members of



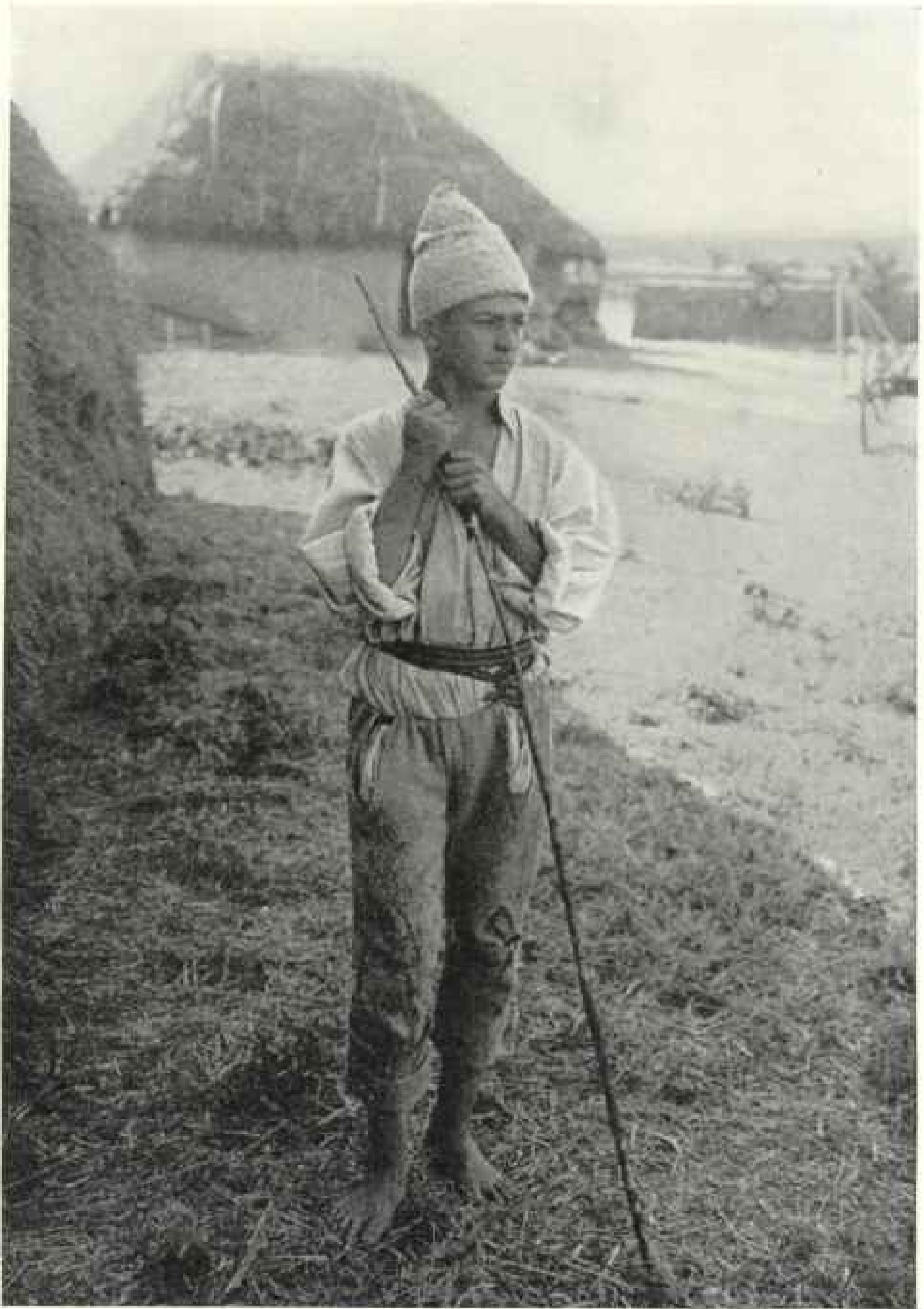
Photograph by Capt. Alexander Edouart

A STURDY MONTENEGRIN TOILER

This woman, whose once independent kingdom has been merged into the new State of Jugo-Slavia, is wearing rawhide sandals. To her load of hay she has tied her leather shoes, which she considers too valuable to wear except on the roughest roads.

the French Institute, the Congress of Red Cross Societies, the British, French, and American Associations for the Advancement of Science, have endorsed the idea. The Finnish Parliament has voted a subsidy in favor of the movement; Sweden has delegated a committee, which includes her Minister of Public Education, to urge the matter upon the League of Nations.

There is at Bern a Union for the Creation of an International Language Bureau. The International Research Council has appointed a committee, of which



Photograph by Dr. Franz Steudner

A WALLACHIAN SHEPHERD OF COZEA ALI, RUMANIA

The Wallachians are the only nomads found in the Balkans except Gipsies. Their lives are simple, solitary, and so essentially pastoral that their very name, Vlachs or Wallachs, is sometimes a synonym for "shepherd." The speech of the Rumanians is derived from the "rustic" Latin spoken by the Roman colonists of Moesia and Dacia.



Photograph by Dr. Franz Stuedtner

DRIVING A BARGAIN IN ONIONS; RUMANIA

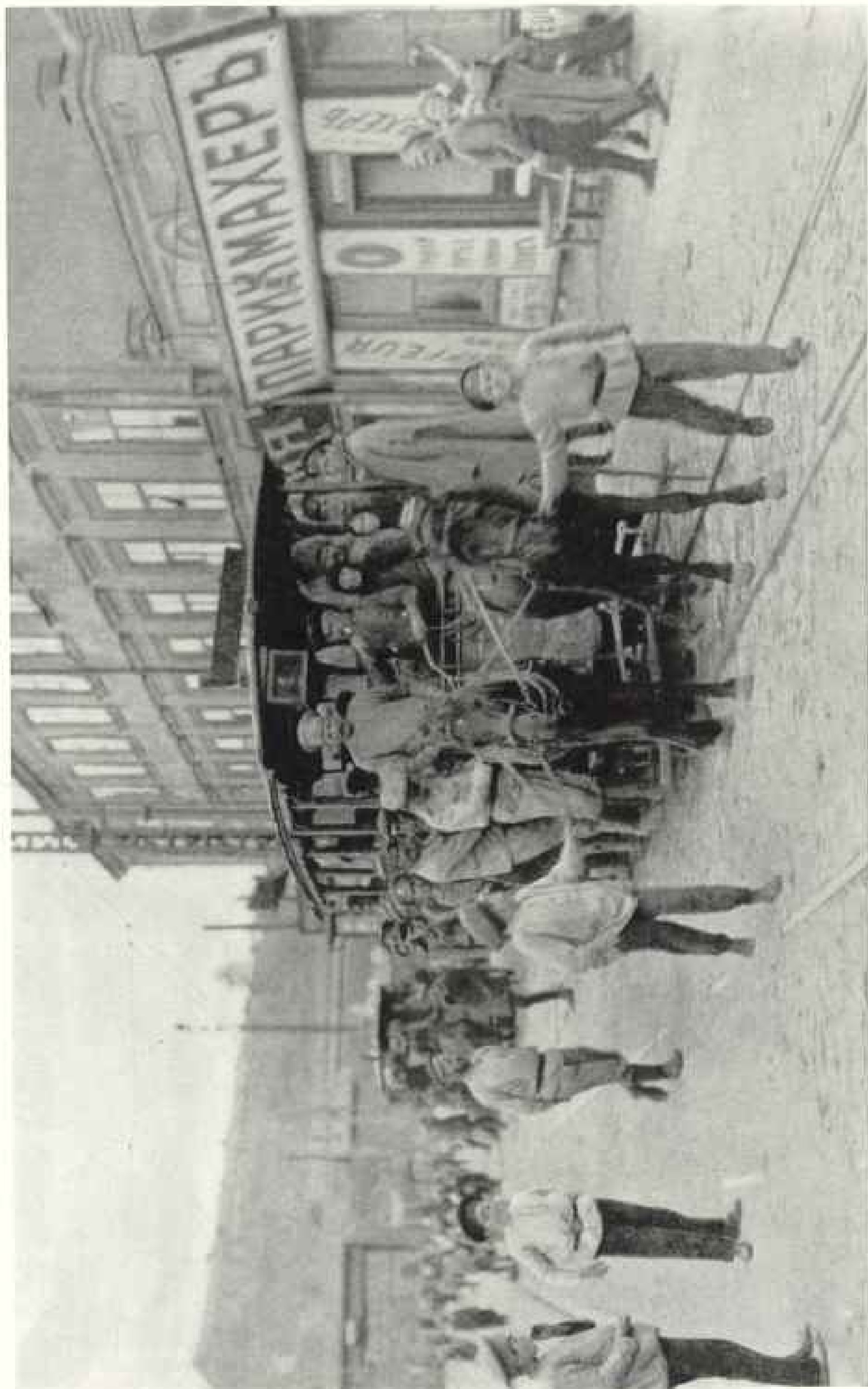
Surrounded by powerful Hungarian and Slavic peoples, separated from Italy and all things Italian by 500 miles of distance and 1,000 years of time, the Rumanians are, nevertheless, "a people compact and homogeneous, whose features, language, monuments, customs, and very name show its Italian origin."



Photograph from Keystone View Company

A COUNTRY SCENE IN LATVIA

The Letts resemble their neighbors, the Lithuanians, in occupations and hardships of life, but are a distinct race. Until the World War, they had no thought of a national existence. They are an imaginative people, with an immense collection of folk-songs and legends.



© Dr. Orrin S. Wightman

SOLDIERS IN ODESSA HAVING A FREE RIDE ON THE STREET-CAR

The Little Russians, or Ukrainians, number about 30,000,000. In 1320 the country was conquered and annexed by the Poles, who called it Ukraine, or "barrier" against the Tatars. Odessa dates from 1794 and owes its existence to Catherine the Great, whose purpose was to establish a strong city near Constantinople.



Photograph by Dorg Mesch

A LAPP MOTHER WITH HER BABY

The Lapp "komsin," or cradle, is hollowed from the trunk of a tree. When a child is born a reindeer is set apart for him, which, with its progeny, forms the foundation of his future fortunes, and he can never be wholly without property. The Lapps are the most round-headed people in Europe.



Photograph by Jan Bulhak

YOUTHFUL LITHUANIAN TYPES AT VILNA

"In the eyes of the ethnologist, Lithuanian is the most important language of Europe." It is allied to the western branches of Slavic, resembles Latin more than it does Celtic or German, and is most like Sanskrit.



© Elmanlori

ACQUIRING THE "GIFT O'GAR"

The celebrated Blarney Stone was, according to legend, endowed by a witch with the power of imparting to any one who kissed it a fluent and persuasive tongue. Iron braces support it in the wall of the tower of Castle Blarney, near Cork, Ireland. Though the feat of kissing it is difficult of accomplishment, the stone is worn and polished by thousands of lips.



Photograph by A. W. Cutler

JAUNTING TO MARKET IN COUNTY GALWAY, IRELAND

The classic language of the Celts is fast yielding to the English tongue. Spoken in the middle of the last century by more than half the people, it is now used by less than one-seventh of the citizens of the Irish Free State.

an American, Dr. Cottrell, is chairman. At the request of thirteen members of the Assembly of the League of Nations, the Undersecretary General of the League, Dr. Nitobe, has prepared a report upon the present condition of the problem.

An auxiliary language is needed to make communications easy among those teeming millions who, whether they like it or not, are all members of one great economic society of nations. It will respect the independence and the pride of all existing dialects; it will not abolish, but transcend, frontiers. It will be the symbol of the new industrial and democratic civilization, which cannot be for-

ever bound by the capricious historical lines of another age.

Every *patois* will remain, as long as men cherish it, the language of the home, of poetry, and of prayer. But by the side of the local language there is room for a simple, convenient, neutral instrument, common to all, through which men will realize that the stranger may be a fellow-worker and a friend.

In our splendid western isolation we are apt to misunderstand the bitterness of the need for an international language in Europe, and to ignore or belittle the efforts made in that direction. It is a practical problem in human geography which deserves to enlist our sympathy.





Photograph by A. W. Cutler

A SHEPHERD FROM THE TOE OF ITALY'S BOOT

Though there are now few visitors to Calabria, this southernmost province of Italy proper has had many stirring events of history connected with it. Scylla was a terror to Ulysses; it lay in the path of Garibaldi's triumphal march to Naples from Sicily; earthquakes often shatter the homes of its people, and archeologists still find it a treasure-trove.



Photograph by A. W. Coiler

SUCH TYPES AS AN ARTIST SEEKS

Many of the thriftiest citizens of Calabria have emigrated from its low, sandy plains and unhealthy marshes and have come to America. This region of Italy was once a notorious brigand retreat.



Photograph by A. W. Cutler

BEFORE THE CATHEDRAL OF ST. ANDREW: AMALFI

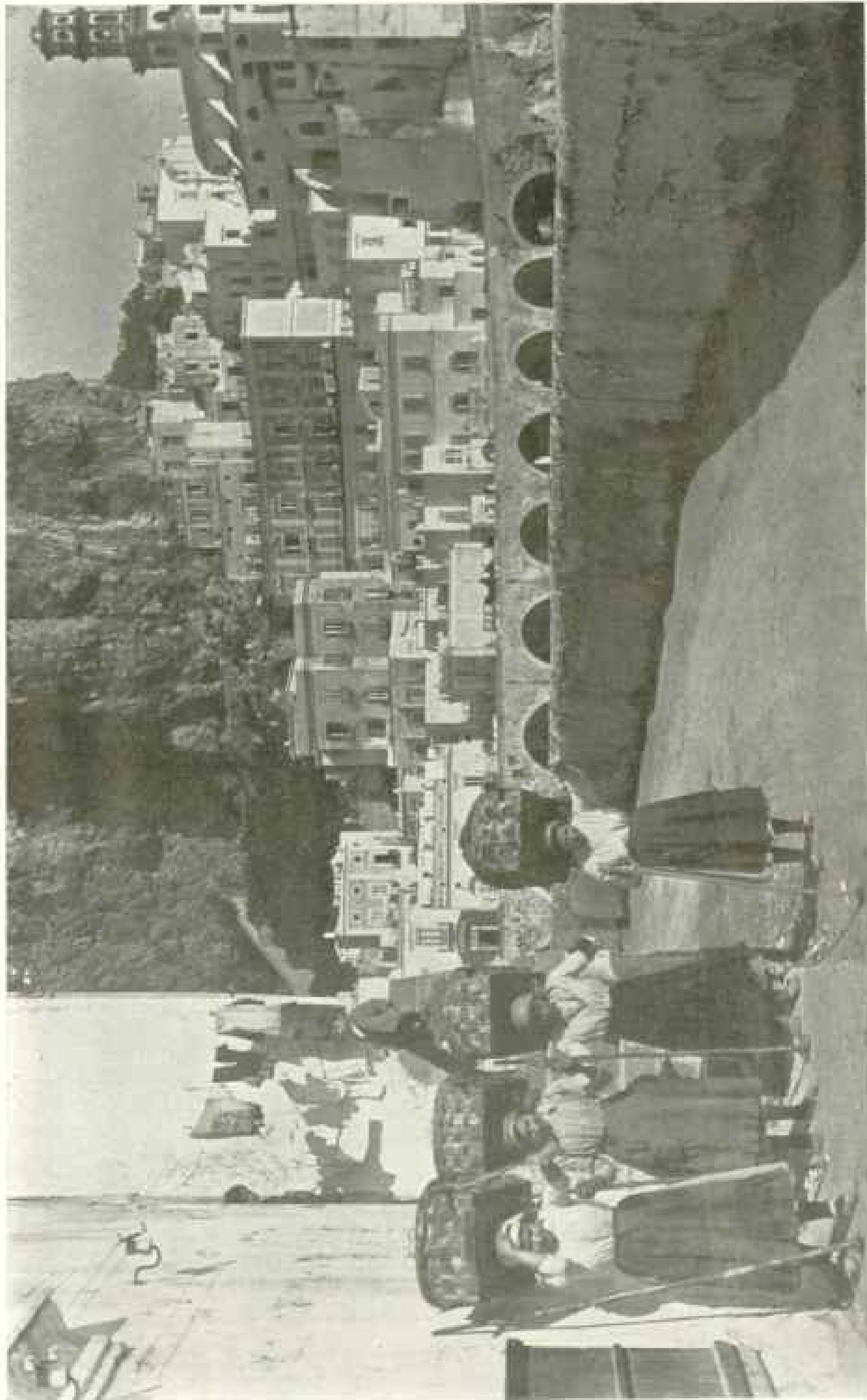
The magnificent coastal scenery in the vicinity of Amalfi makes this once independent city republic a show-place of the Mediterranean. The bronze doors of its cathedral were cast in Constantinople in the same year that William the Conqueror landed in England.



Photograph by A. W. Carter.

CALABRIAN PEASANTS AT SARACENA

Many old customs, proverbs, and superstitions still survive in Calabria and all southern Italy. When a girl child is born to a peasant he immediately plants a row of poplar trees, which will be large enough to cut down for her dowry when she is seventeen.



Photograph by A. W. Carter

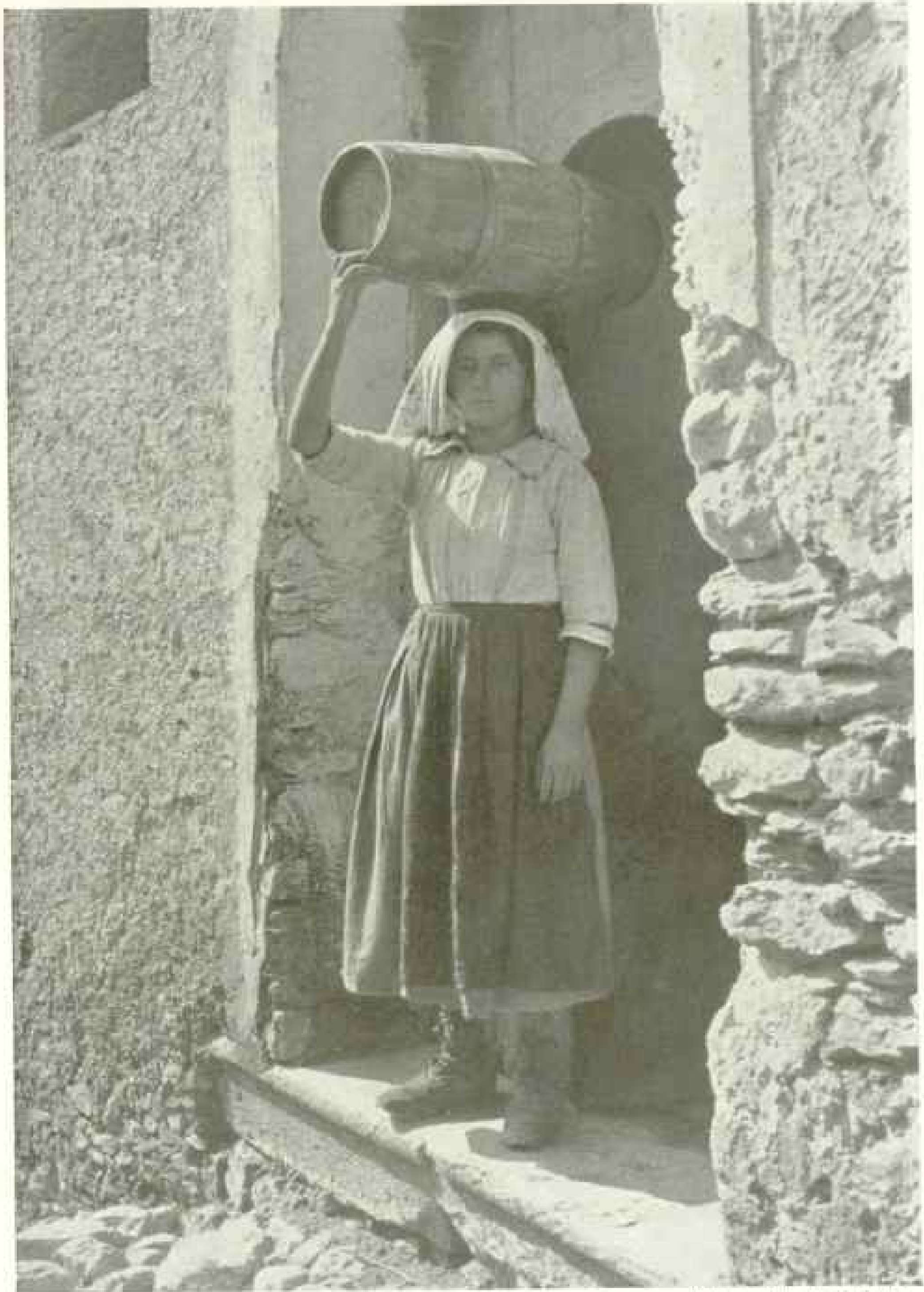
STALWART MAIDS OF ATRANI

Atrani, one of the most picturesque towns of southern Italy, clings to a steep hillside. Within its little church of San Salvatore di Biretto the doges of Amalfi's days of power were elected and buried.



Photograph by A. W. Coker

CHATTING BENEATH A WAYSIDE SHRINE AT DRAGONEN



Photograph by A. W. Coster

HER CASK IS FILLED WITH CALABRIAN WINE



Photograph by A. W. Carter

SAN FRANCISCO DI PAOLA STANDS GUARD OVER HIS HOME CITY

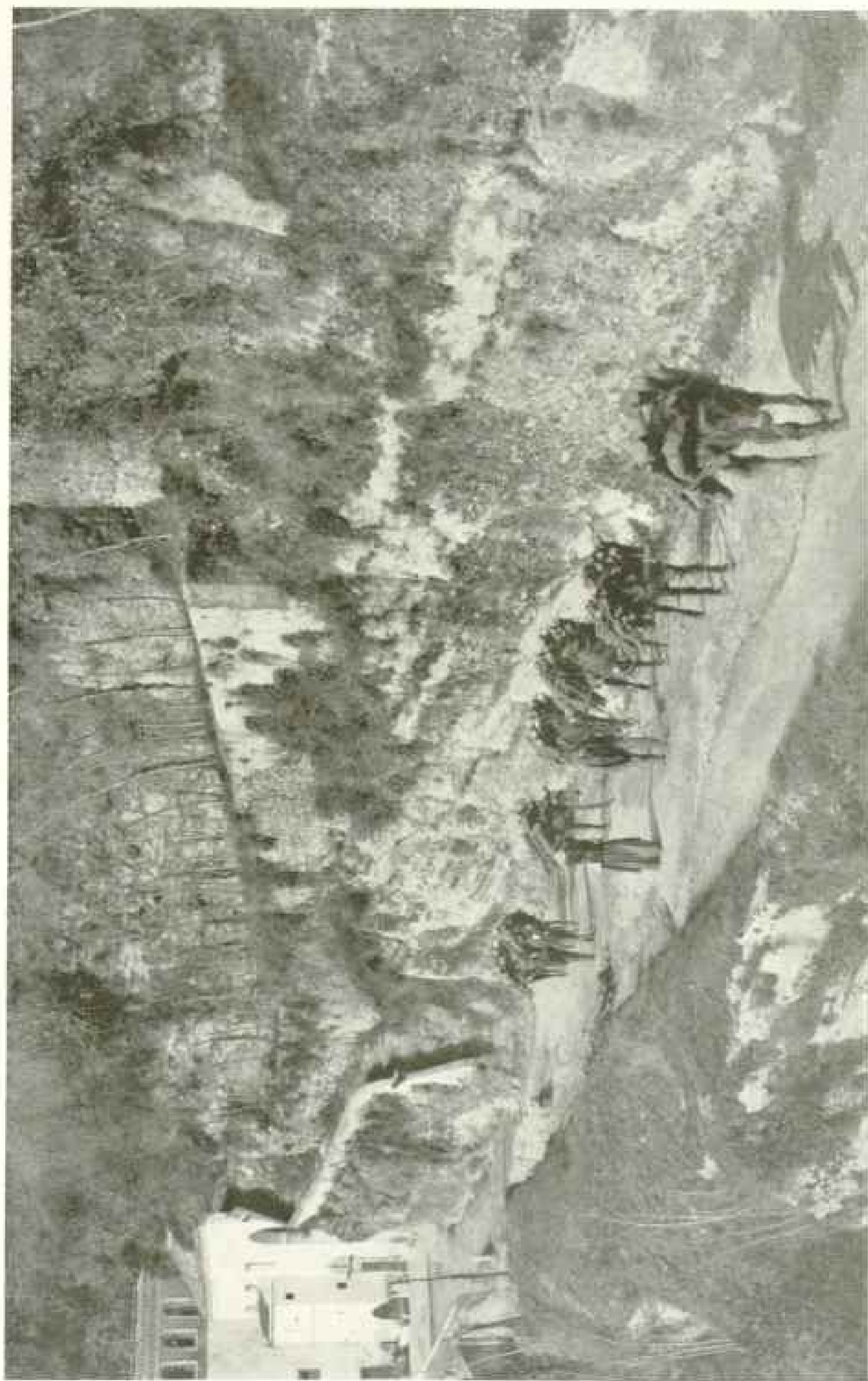
Just outside the city of Paola, the birthplace of this saint who founded the order of Mendicant Friars, there is an old monastery built in his honor around a fountain which he is said to have made gush out of the earth. To its waters are attributed many healing powers.



Photograph by A. W. Cutler.

AN ITINERANT HARDWARE STORE IN NAPLES

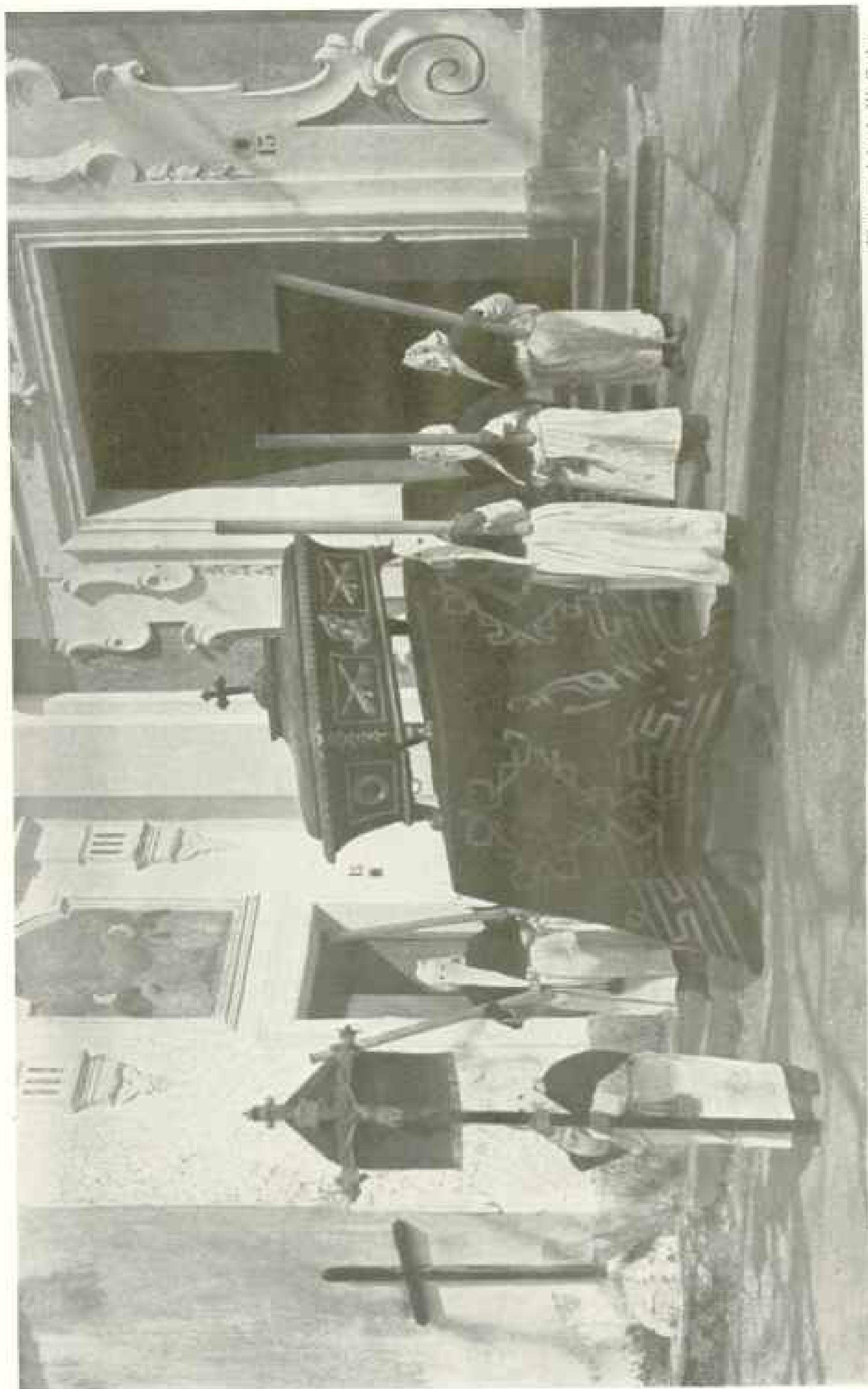
In southern climes, where the heat of midday is oppressive, the customer finds it a much simpler expedient to have his shop come to him than to seek his own necessities in a crowded market-place.



Photograph by A. W. Cudde

A FIREWOOD DONKEY TRAIN FROM THE FOREST NEAR LA CAVA DEI TIRRENTI

La Cava boasts of a library rich in parchments and diplomas; a near-by Benedictine convent, one of the most famous in southern Italy, and the Church of Pietra Santa, built with the rock on which the First Crusade was preached projecting through the floor near the altar.



Photograph by A. W. Culler

FUNERAL PROCESSION LEAVING A CHURCH AT DRAGONERA

The lonely majesty of the ruins in Calabria, the withering malarial breath of its plains, and the constantly recurring earthquakes are factors which have instilled a simple pity in its people.



Photograph by A. W. Cotler.

ADVERTISING HER WARES AT LA CAVA DEI TIBRENI

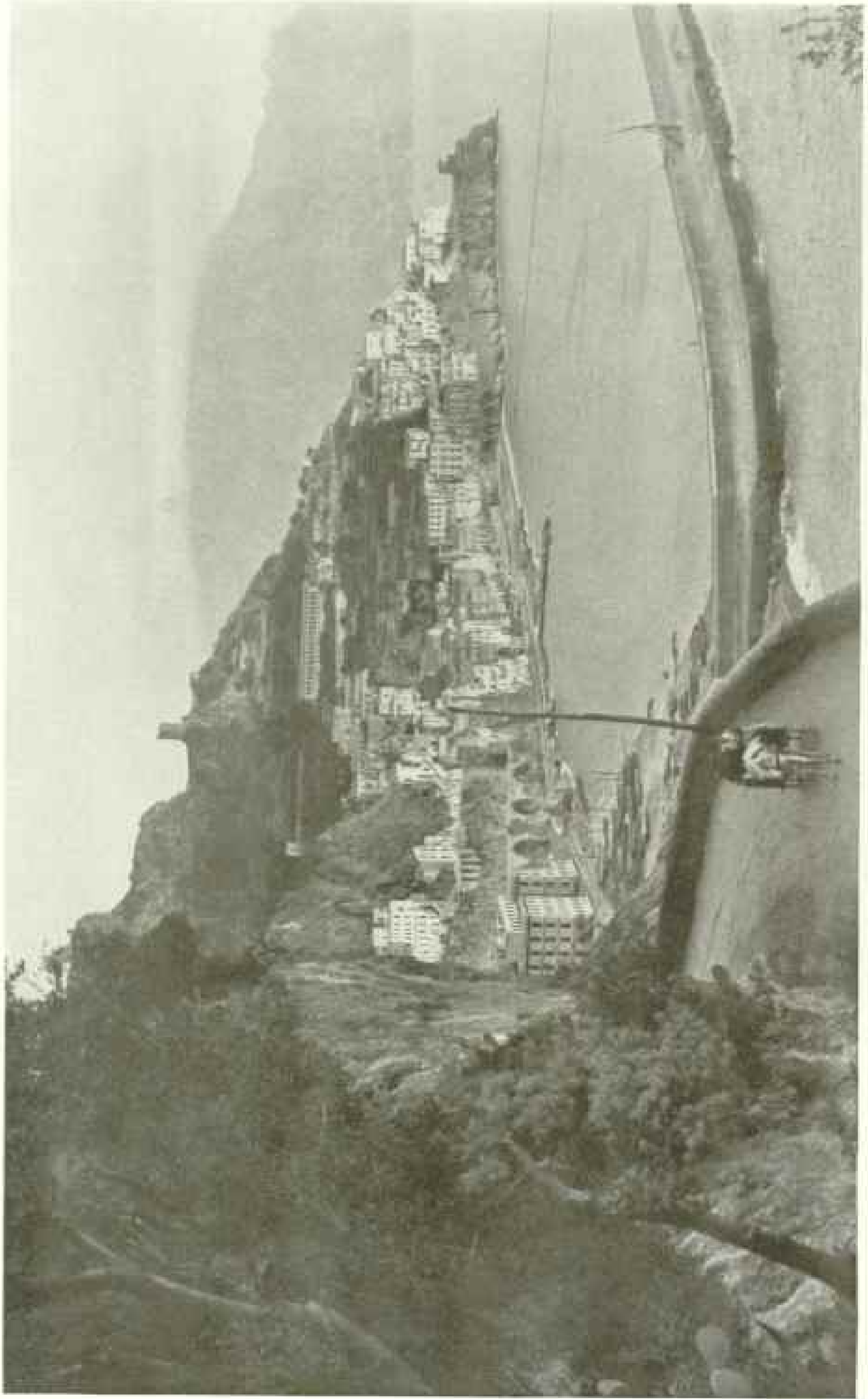
In lieu of a display window to call the attention of passers-by to her alluring fruits and vegetables, she resorts to a Simple Simon assistant. The country around La Cava, which is a popular summer resort, is rich and fruitful, its figs being especially celebrated.



Photograph by A. W. Carter

A POINT OF VANTAGE

These children and their pig live in Policastro, now a town of barely 500 inhabitants, but a city of power and affluence in the days of ancient Rome. It fell before the Saracens in 915 and was destroyed 140 years later by the Normans under their heroic leader, Robert Guiscard.



Photograph by A. W. Custer

AMALFI'S WATERFRONT IS ONE OF THE LOVELLIEST IN ALL ITALY



Photograph by A. W. Cutler

A NEAPOLITAN CHAIR AND BASKET VENDOR WHO MAKES PERSONAL DELIVERIES



Photograph by A. W. Cutler.

CALABRIAN WATER-CARRIERS FROM PAOLA

Paola is one of the most important towns on the neglected southwest coast of Italy. In the hills back of the city lived Re di Sila, or the King of the Mountains, who during the 16th century was the terror of the Spanish viceroys and barons.

ENCIRCLING NAVAJO MOUNTAIN WITH A PACK-TRAIN

An Expedition to a Hitherto Untraversed Region of Our
Southwest Discovers a New Route to
Rainbow Natural Bridge

BY CHARLES L. BERNHEIMER

With Illustrations from Photographs by the Author

A PARADISE for the faultfinder, for here he would have plenty to find fault with; "The land that God forgot," in the language of my guides who have an eye to happy grazing and hunting grounds; a veritable storehouse of delights for the sympathetic explorer—such is the broad desert country east of the Colorado River, south of the San Juan River, west of Navajo Mountain, and north of the Little Colorado River, stretching along the Arizona-Utah border (see map, page 198).

It is a desert of unique character—it is neither flat nor sterile. The voyager's eye is constantly confronted with startling vistas. A disorderly, unsymmetrical rock jumble, rugged beyond description, suddenly dissolves into a well-ordered canyon inclosed by cliffs, a thousand or more feet high, perpendicular and as straight as if carved with a knife.

Caves, often chains of caves, hundreds of feet deep and wide, the shape of an egg-shell and equally as smooth as its inner surface, stir the imagination, for many of those having a southerly exposure were the dwelling-places of prehistoric races of men.

With a suddenness inconceivable to the uninitiated, yet so familiar in these reaches of surprise, the barren, waterless, and soilless rock masses disappear and one is confronted with an oasis.

A cleft in the rocks serves as the gateway to a veritable Garden of Eden where all looks green, well watered, flourishing, and contented.

The sand blasts of ages have overlooked the canyon spring which faithfully continues to serve. The toiling travelers, man and beast, are joyfully revived.

Then there are the desert flats, sage

covered, pleasing, and interesting in their temporary monotony. Rare minerals abound for the geologist; unusual plants for the botanist; cliff ruins, pottery, basketry, and rock inscriptions for the anthropologist; color and form effects for the artist; and an educational opportunity of superlative worth for the student on his vacation under the chaperonage of a tutor.

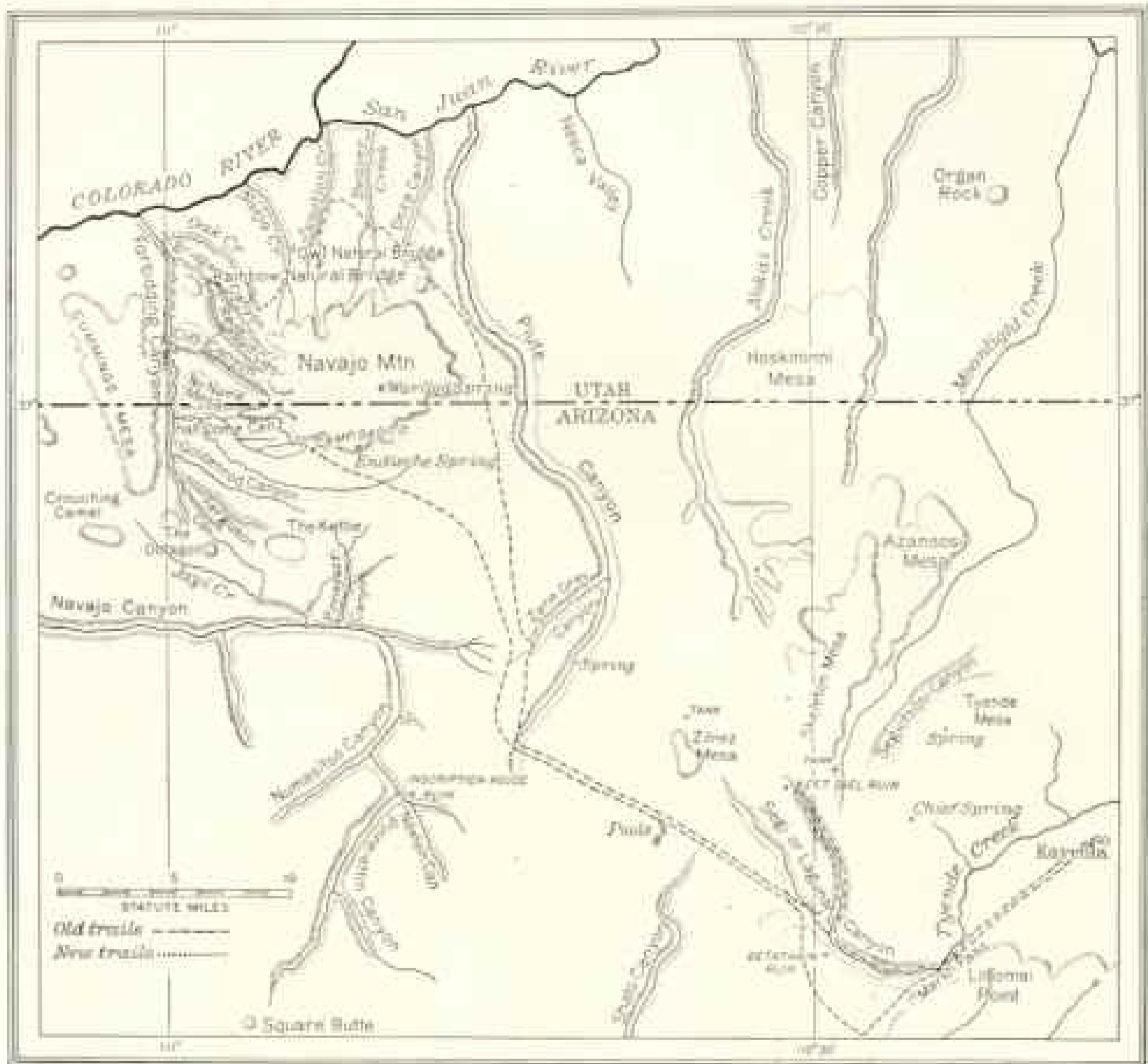
But, permeating all, there is a sense of physical lonesomeness, mingled with an almost constant feeling of the presence of the Creator.

Animal life is scant; but this has its advantages, for who would not do without game, which we at least did not come to kill, if compensated by a comparative paucity of rattlesnakes, gila monsters, scorpions, centipedes, ants, and mosquitoes? All of these are there, but not in annoying numbers.

THE SURROUNDINGS OF RAINBOW NATURAL BRIDGE

In the very heart of this expanse towers the oft-described Rainbow Natural Bridge.* Were it located elsewhere than in this cross-bedded sandstone country, it would be a freak, but in its own setting it is a natural and logical phenomenon. On the northwest slope of Navajo Mountain it partially spans one of the canyons which lies deep in the eroded flanks of the monstrous radiating buttresses that descend from the sides of this 10,000-foot mountain.

*See also, in the NATIONAL GEOGRAPHIC MAGAZINE, "Colossal Natural Bridges of Utah," September, 1904; "The Great Natural Bridges of Utah," March, 1907, and February, 1910, and "The Great Rainbow Natural Bridge of Southern Utah," November, 1911.



Drawn by A. H. Damstead

SKETCH MAP SHOWING THE NEWLY DISCOVERED ROUTE TO RAINBOW NATURAL BRIDGE.

The Bernheimer Expedition outfitted at Kayenta, Arizona, proceeded northwest and, after failing in 1920 and 1921, succeeded in circling Navajo Mountain by continuing west, during the summer of 1922.

Four miles farther down, the streamlet which contributed to the bridge's formation joins a similar watercourse emanating from Forbidding Canyon, and three miles farther on the two, united, empty into the Big Colorado River.

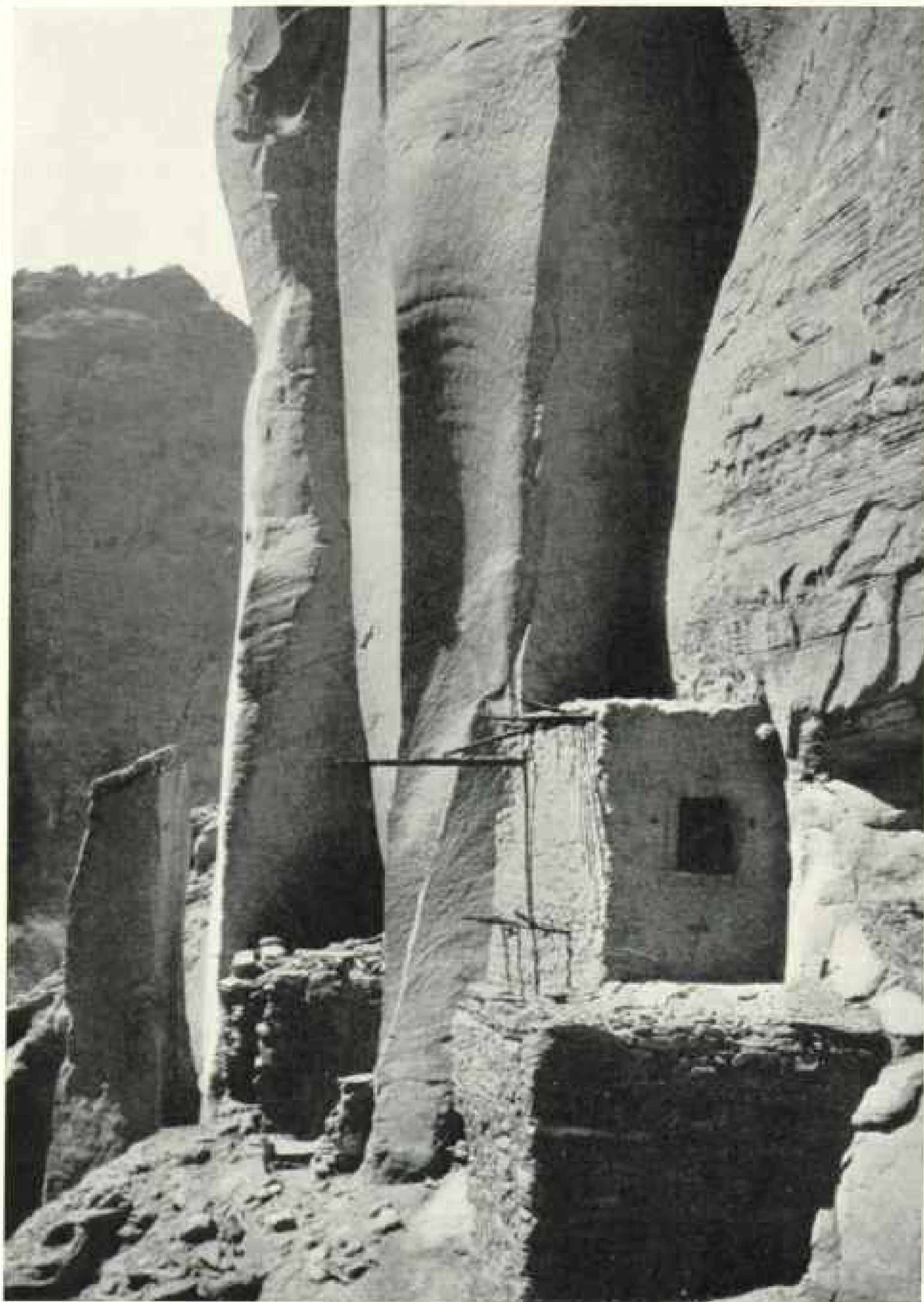
THE 1921 EXPEDITION FAILS

In order to reach the Rainbow Natural Bridge in 1920, we climbed Navajo Mountain, but finally had to skirt it by a circuitous trail to the east.

In 1921 we organized our expedition to reach the Rainbow Natural Bridge by a route to the west of Navajo Mountain, utilizing Forbidding Canyon. We failed

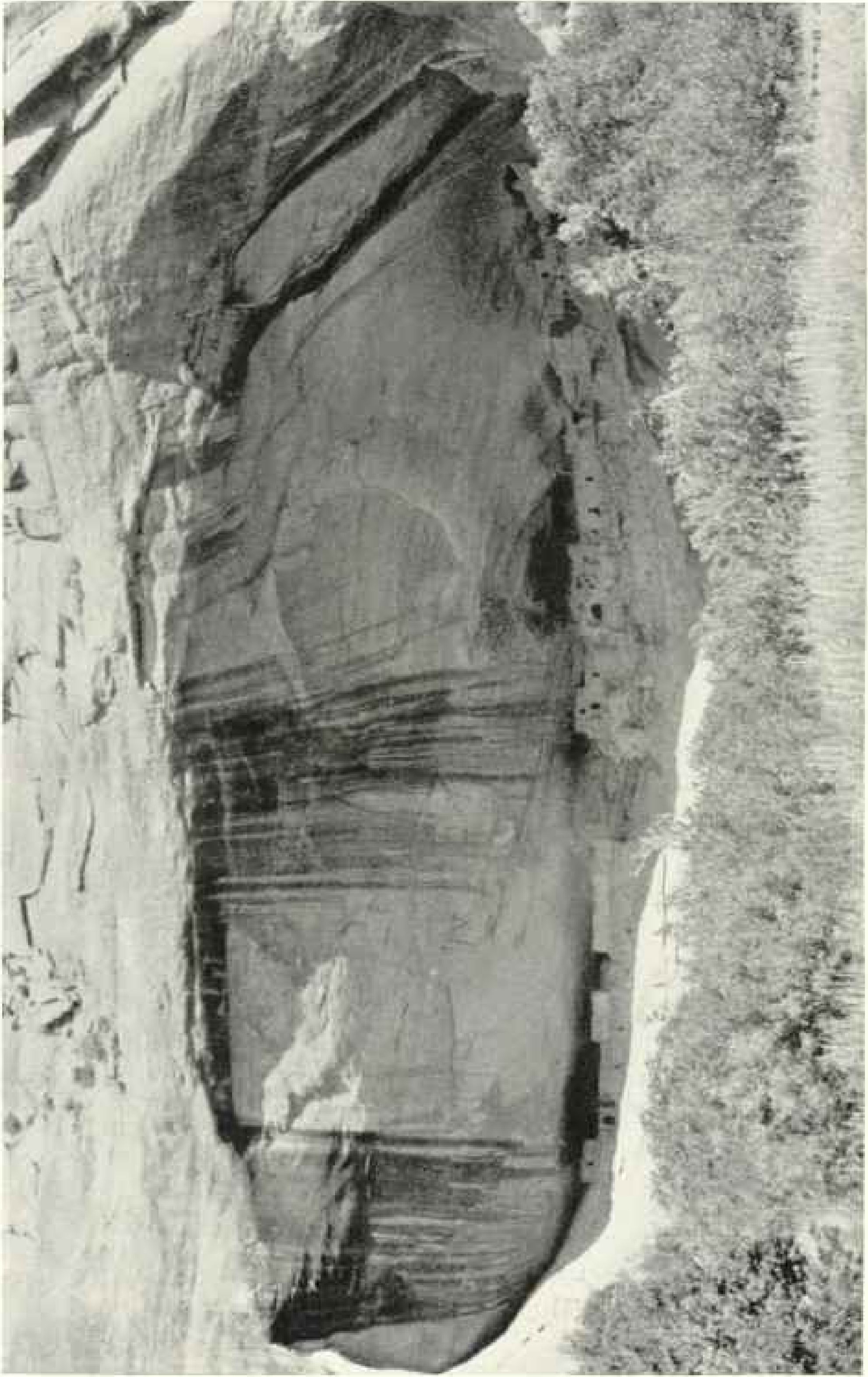
by what we then estimated as about seven or eight miles. Forbidding Canyon proved impassable for a pack-train. Lack of food and feed, horseshoes, tools, and explosives compelled us to leave the accomplishment of our expedition's object for another year, when we would have an equipment calculated to improve our chances for success.

However, it was clear to us that Forbidding Canyon was not to be our avenue of approach; it was too rugged and snarly; it was blocked by steep shelves that could not be descended, necessitating detours on trailless mountain sides, often dangerous to man and beast.



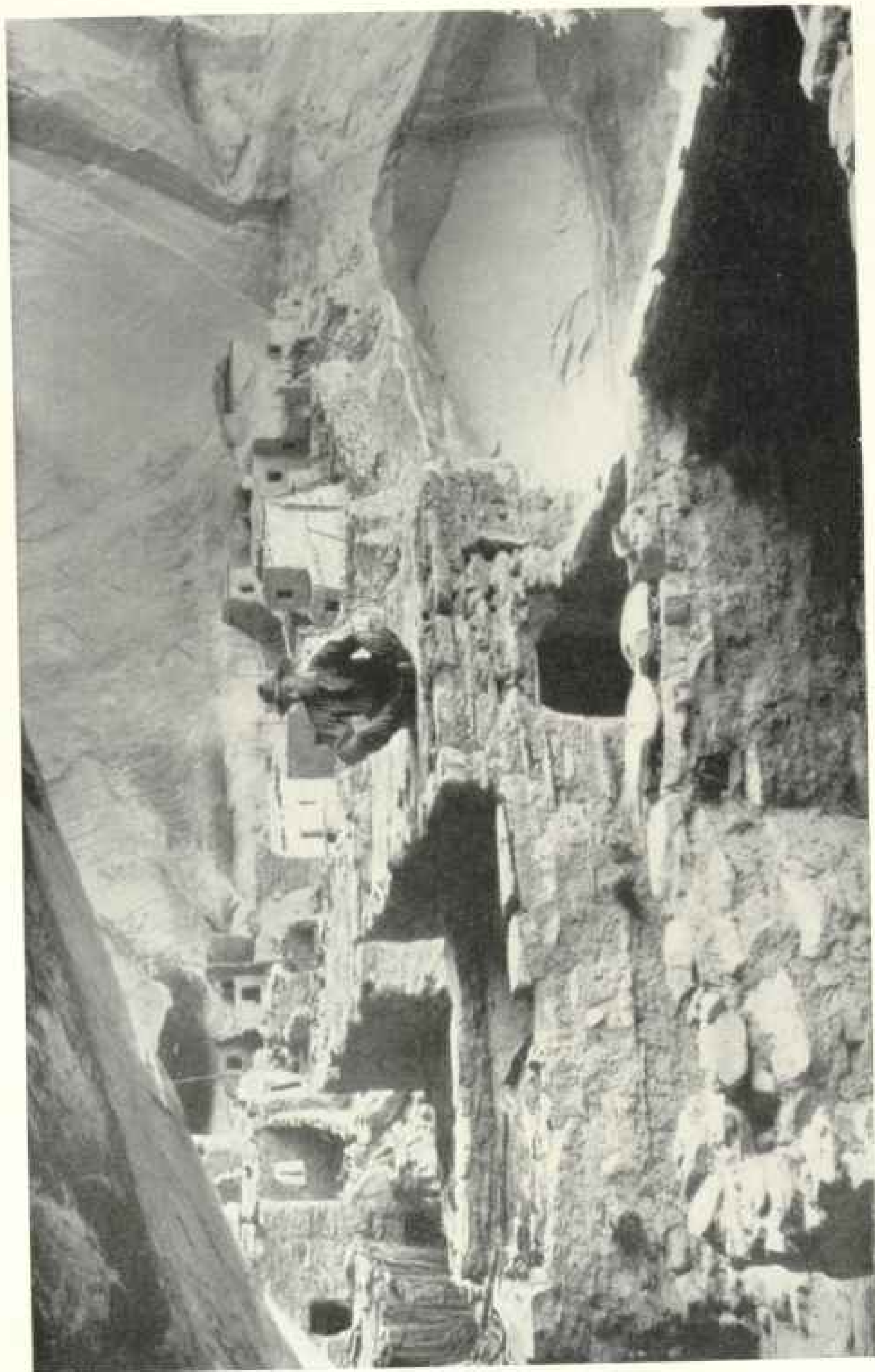
WESTERLY EDGE OF THE BETATAKIN CLIFF RUINS: ARIZONA

Note the massive, sharply defined rock pillars. These ruins are located in a side canyon of Segi or Laguna Canyon, a day's journey from Kayenta.



A GENERAL VIEW OF THE CLIFF RUINS AT KEET SEEL, IN A BRANCH OF SEGI CANYON

In this canyon many prehistoric sites are located in extraordinarily picturesque surroundings. Between the wild gooseberry bushes, aspen, and oak in the foreground and the wall on which nestle the ruins is a 60-foot-deep ditch filled with broken pottery.



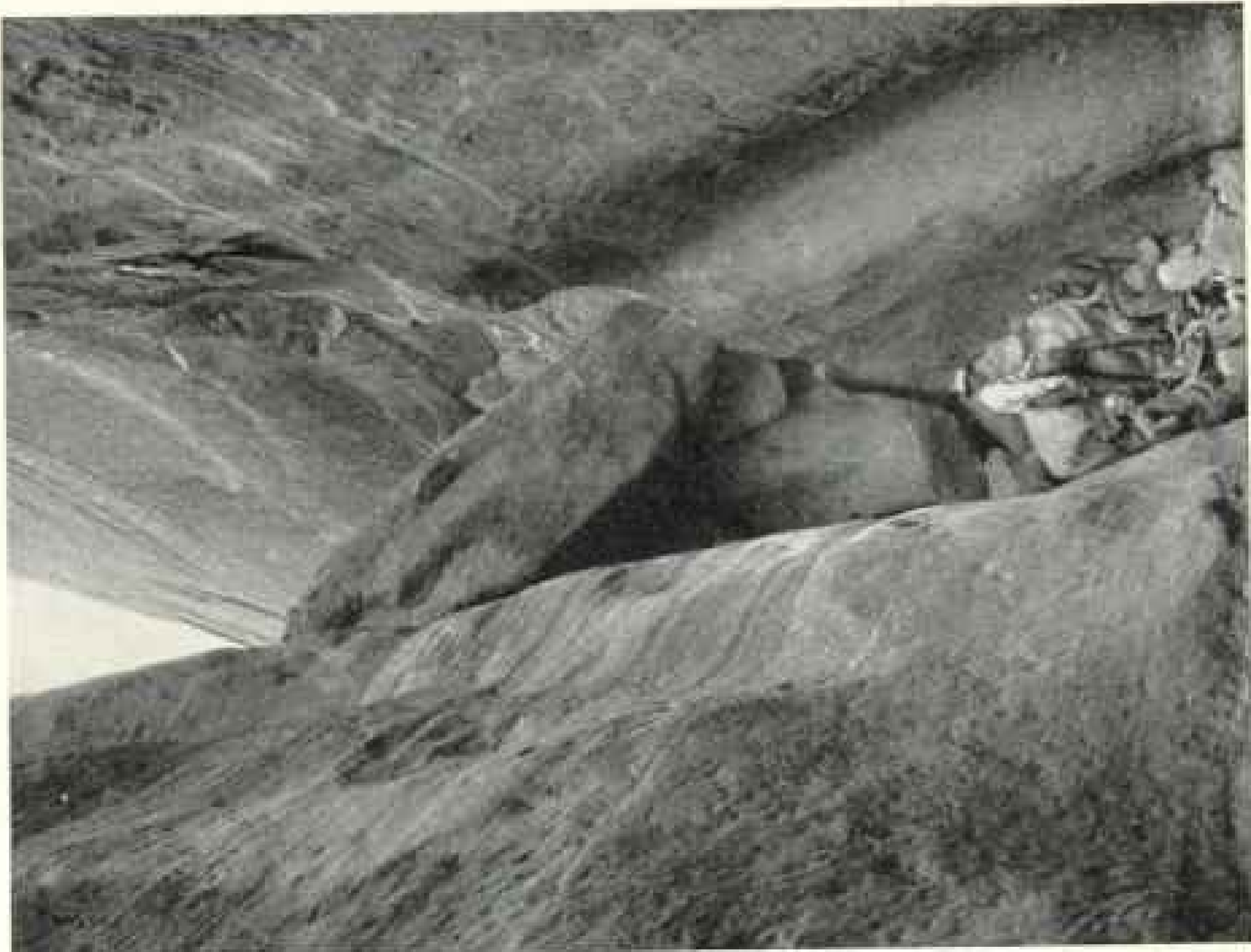
ANOTHER VIEW OF THE KEET SIEL RUINS
Inscription House, Betataaldu, and Keet Siet Siet cliff-dwelling ruins lie to the west of Kayenta, along the trail to Navajo Mountain.



ON THE MESA TO THE WEST OF SEGI CANYON



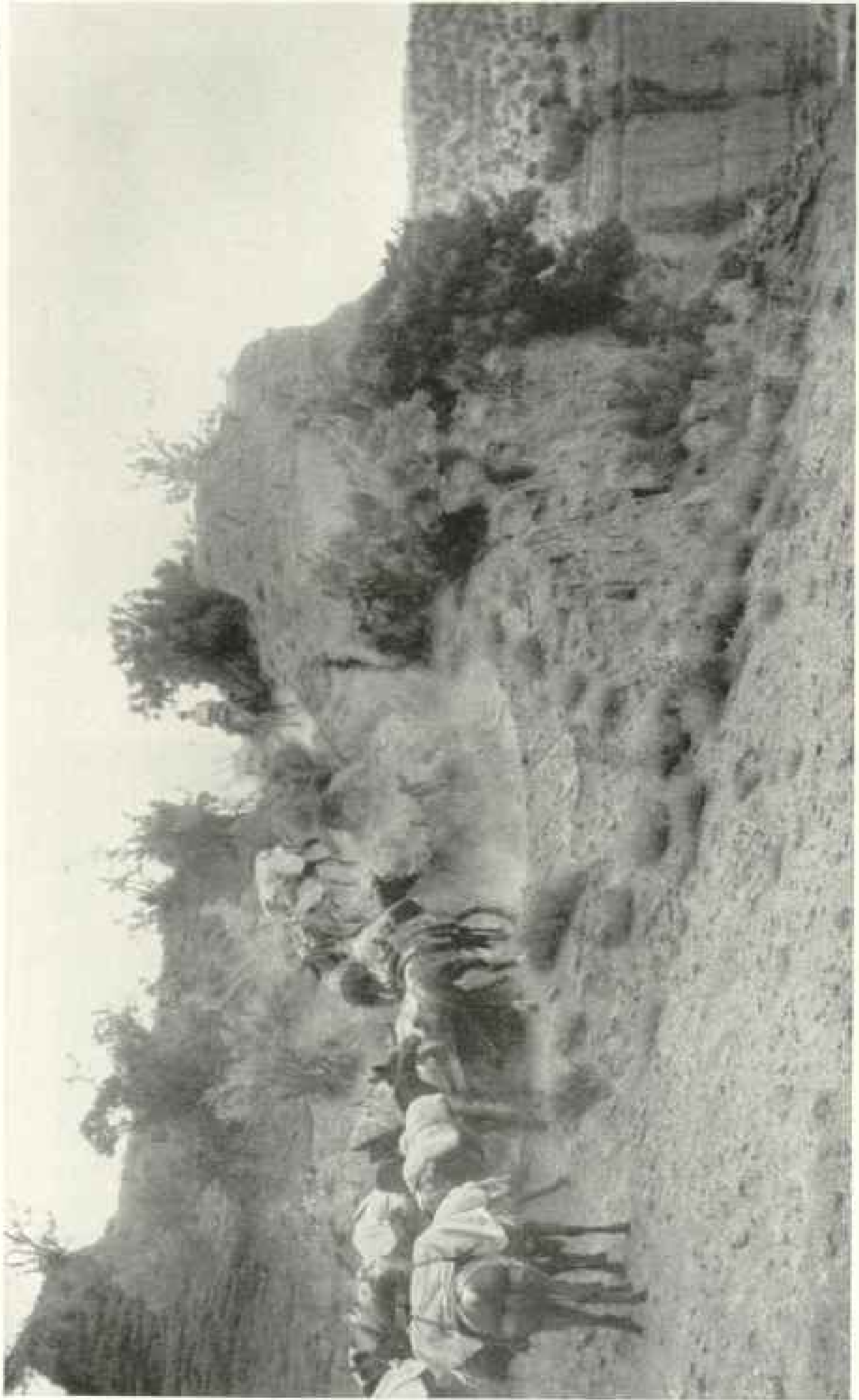
THROUGH CEDAR AND PINON PINE, SASAJA CREEK



ATTEMPTING TO REACH THE TOP OF NO NAME MESA
 Smaller rocks between the larger ones had to be dislodged to create a
 hole big enough for man to crawl or hoist himself through.

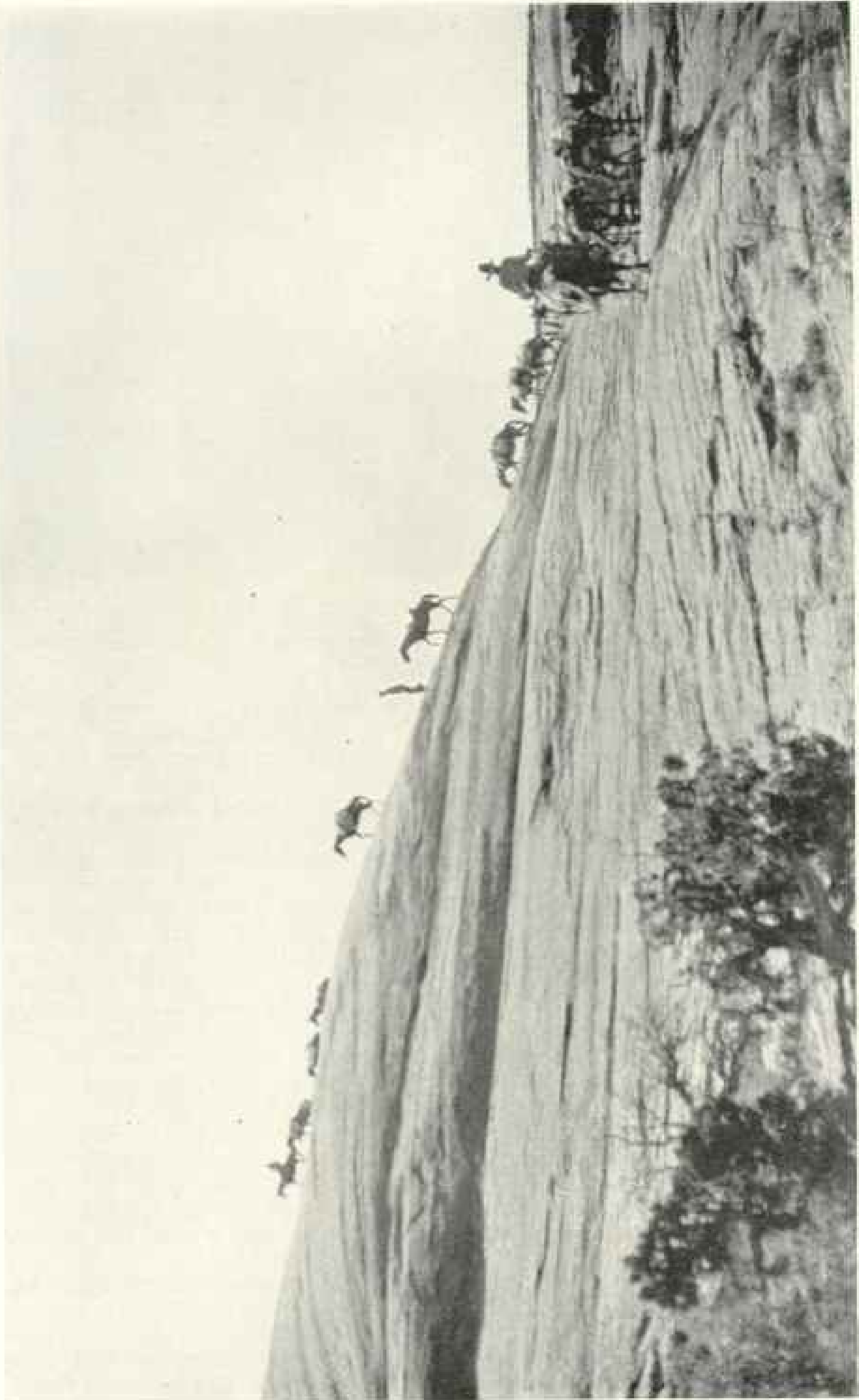


GATEWAY TO THE TOP OF NO NAME MESA
 It is called Johnson's Hole, after the guide of the Bernheimer Expedition,
 to whom its discovery was due.



A CARAVAN OF 28 ANIMALS ON THE EDGE OF SEGI CANYON

Note the crowding of the animals, a perilous habit when permitted near the brink of a canyon.



TRAVELING OVER THE "BALDHEADS" ON THE EASTERN ROUTE TO RAINBOW NATURAL BRIDGE

This sort of travel is not relished by either man or beast. The rocks in places are hard and slippery and there is nothing to stop a fall in case of a misstep. The purple sage, a rare and beautiful flowering plant, found in the crevices of these "baldheads," blooms in May and June.



BREAKING CAMP AT SAGITO, ON THE SOUTHWEST EDGE OF NAVAJO MOUNTAIN

"We knew not where we would arrive, for the journey before us was through lands never before penetrated by white man."

Besides, Forbidding Canyon had a way of abruptly closing up, its streamlet in the meantime forming an underground passage with sudden ghastly pothole vents or crowded polished throats to one side of a high steep shelf which blocked all travel except for man on all fours and with the aid of a rope.

SUCCESS ACHIEVED IN 1922

For many years it had been my ambition to find a passage west of Navajo Mountain to the Rainbow Natural Bridge, thus penetrating one of the most appalling rock jumbles on this continent. This feat was consummated by our expedition of 1922.

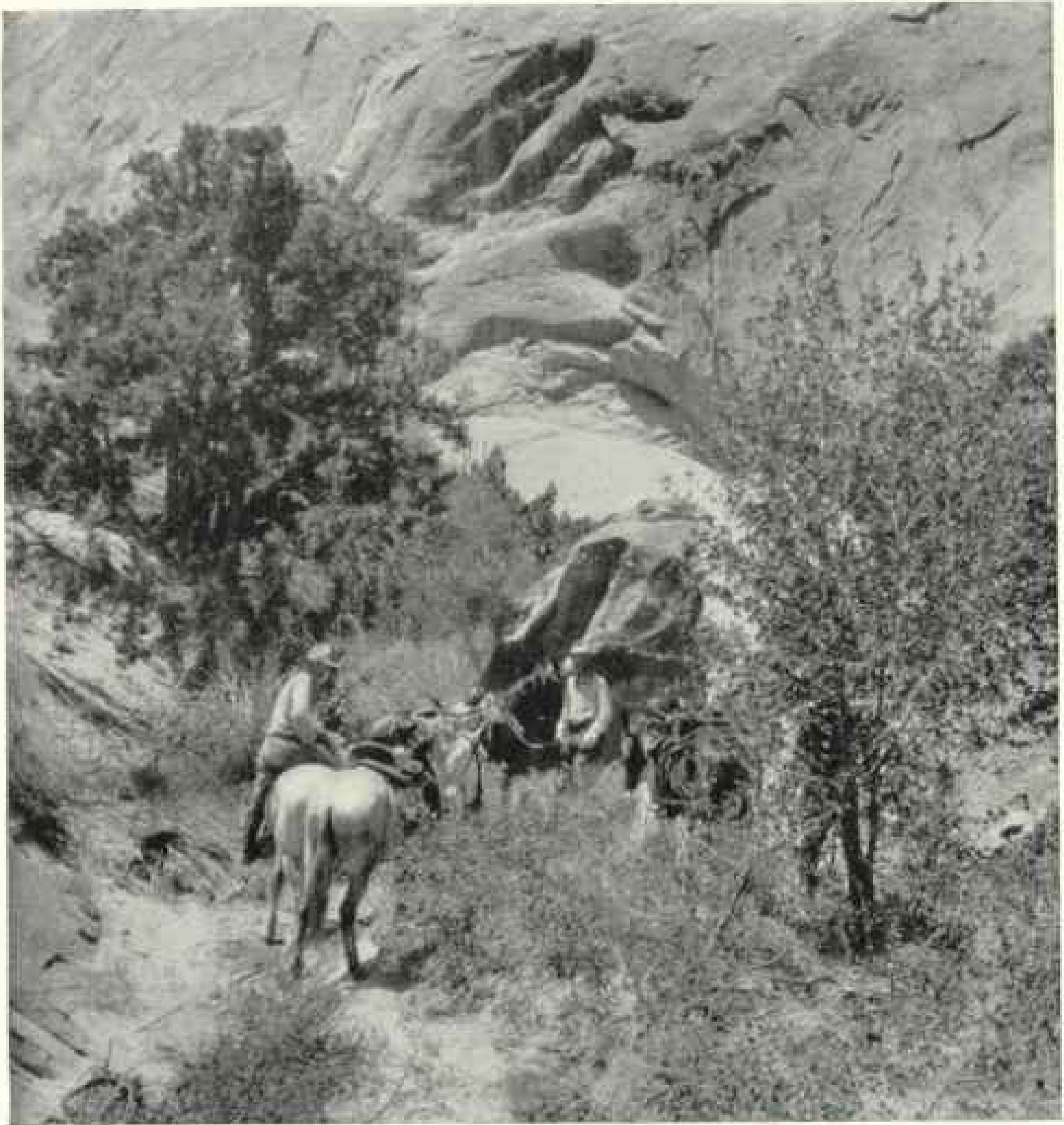
To John Wetherill, of Kayenta, Arizona, who discovered the Rainbow Natural Bridge in 1909, and who has been my guide for three successive years, is also due the discovery of a feasible route to the Rainbow Natural Bridge, the object of our expedition of 1922, namely, the "circumnavigation" of Navajo Mountain and the location *en route* of cliff ruins and prehistoric home sites, the ancient habitations of basket-makers as well as pottery-makers on this continent. Of these latter

we found a great number, many of which at some future time might well become the objects of careful excavation and examination.

Our outfit consisted of seven men and 28 horses and mules. John Wetherill, of Kayenta, Arizona, and Ezekiel Johnson, of Blanding, Utah, acted as guides for Earl H. Morris and the writer; Al and Jess Smith attended to the animals. At one time we had two Indians with us, but we sent one home shortly after we started out, as he proved of no value. We kept the other, even less useful, as he had been injured and we felt it our duty either to get him home to his own people or within reach of proper medical care.

Two days devoted to scouting from our camp, which we named "Sagito," meaning water in the rocks, near the southwestern point of Navajo Mountain, resulted in our finding a route that skirted its western flank.

Two of the mountain's buttresses, steep and trailless, were to be crossed as well as three canyons lying in their depths. These feats accomplished, we arrived at a deep cut, immediately south of No Name Mesa, which we named Half Dome Canyon.



WHERE HORSES AND MULES WERE KEPT WHILE THE ROCKS IN REDBUD PASS WERE BEING BLASTED

Note the redbud tree in the right center, after which the pass was named. From its very tough wood serviceable crowbars were made. The Indians used to fashion their bows from the wood of this tree.

This cut it was necessary for us to follow longitudinally. We struck a very old, disused Indian trail. I call it a trail because in a few places we found stones placed by human hands, at some time in the dim past, on top of rocks where Nature would not have placed them; otherwise there was no trace of path or trail.

We climbed out of Half Dome Canyon in a northeasterly direction to reach what we named The Saddle, a ridge of cream-

colored limestone connecting Navajo Mountain with the terra-cotta colored No Name Mesa.

This was an endurance test of the most distressing sort for man and beast, to be followed by one equally as trying, with all hands afoot, in order to get down on the other side of The Saddle into what we named Cliff Canyon.

That descent, over rolling rocks and sliding sands, around boulders and roots,



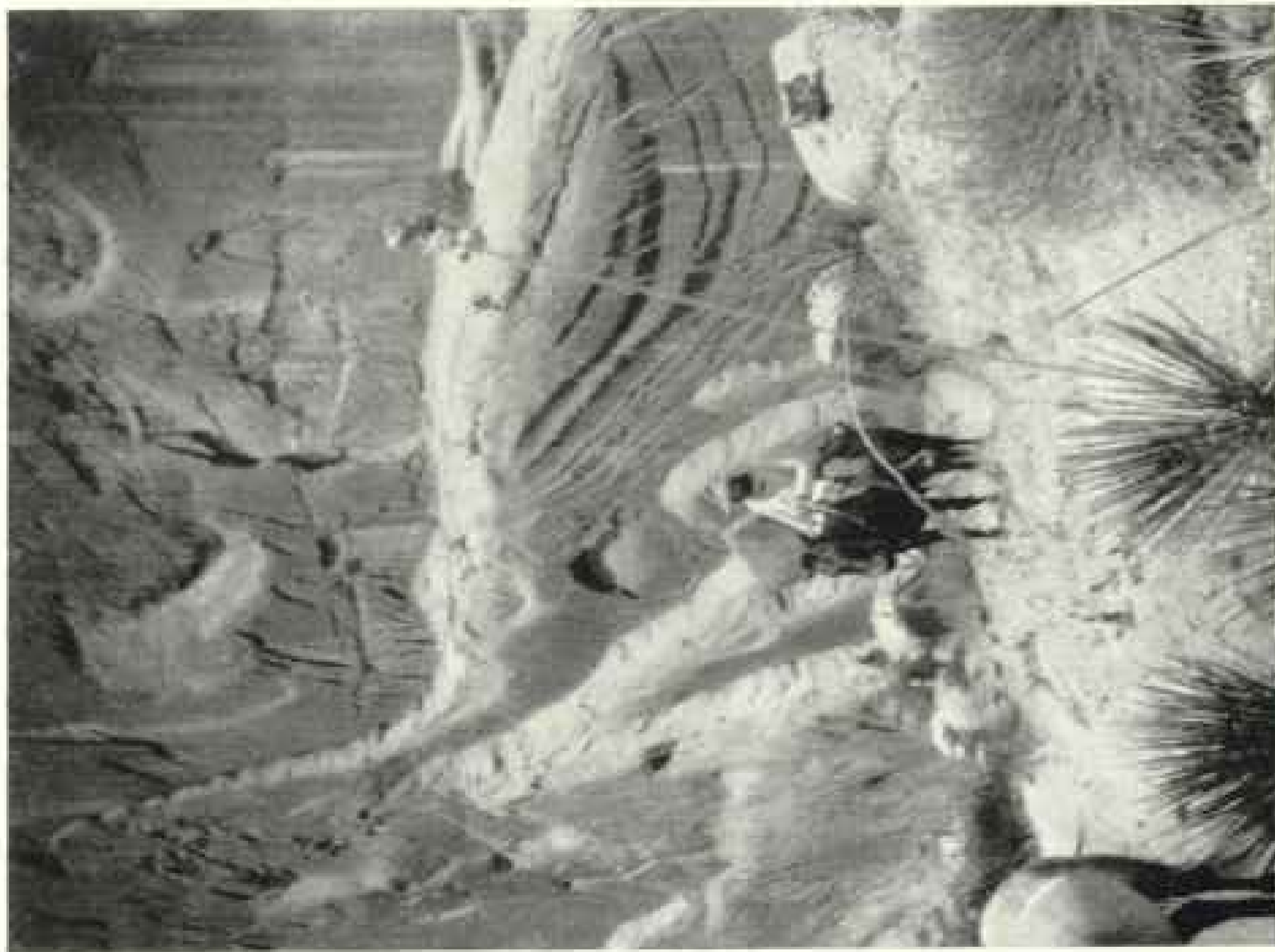
THE WESTERLY ENTRANCE TO REDDUD PASS

Note the weather-beaten, haraurod, yet luxuriant, desert cedar.



REDDUD PASS, LOOKING EAST

This defile had to be widened with pick and sledge for the pack animals.



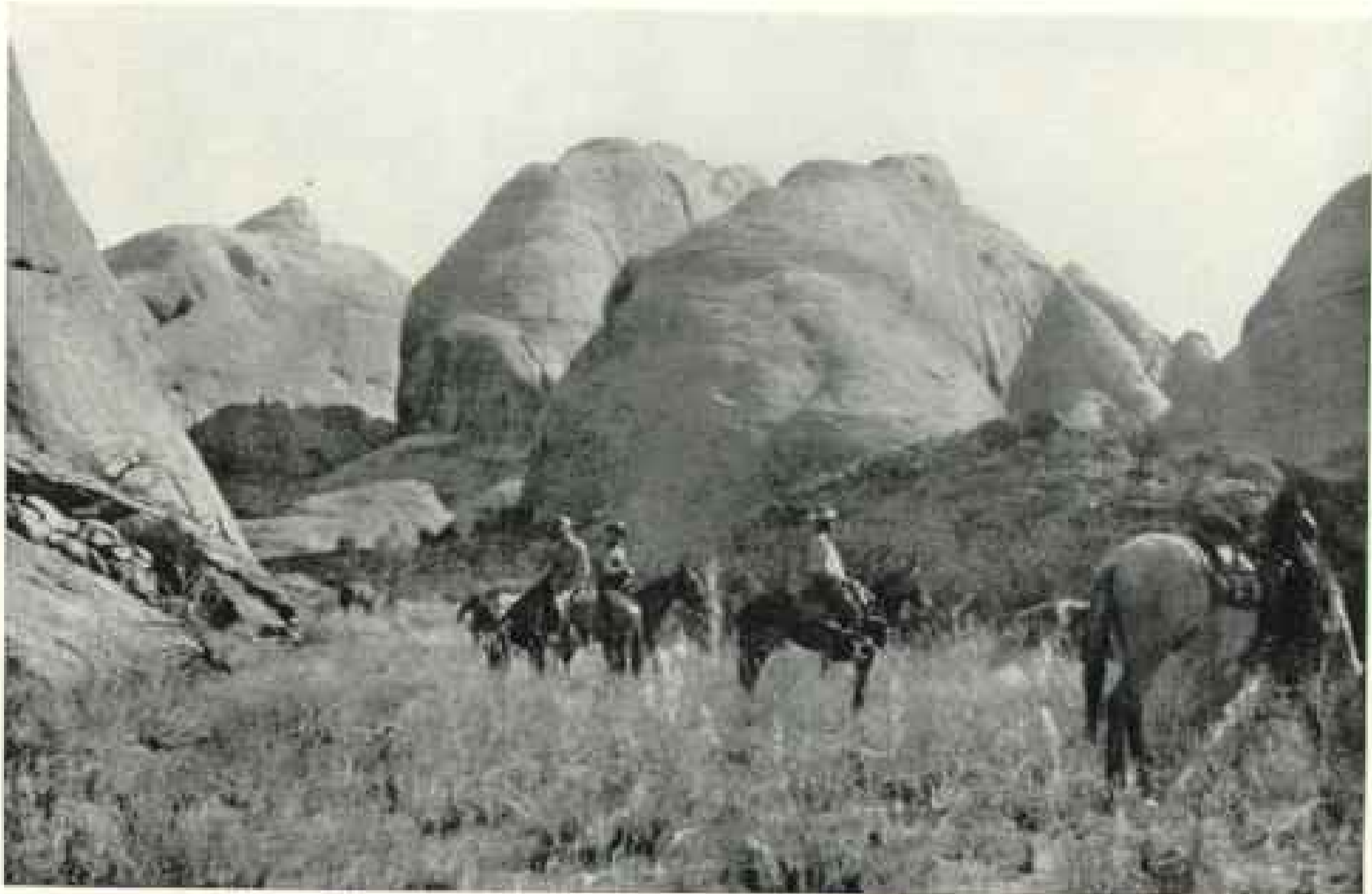
REDBUD PASS HAS ALL THE CHARACTERISTICS OF A FAIRY GARDEN

The trees are twisted, snarled, and split asunder. The bushes, especially the silver scale, are of a glittering whiteness. The century-old yucca plants, having 10-foot-high fruit stalks, added to the fantastic rock structure, give a supernatural aspect to this corner of the Bad lands.



ASCENT OF REDBUD PASS FROM THE WEST

The dark purple shadows, so welcome in the July sun at noon, create sharp and weird contrasts against the salmon-pink sunlit places. After negotiating this pass the Rainbow Natural Bridge was reached without the necessity of dismounting.

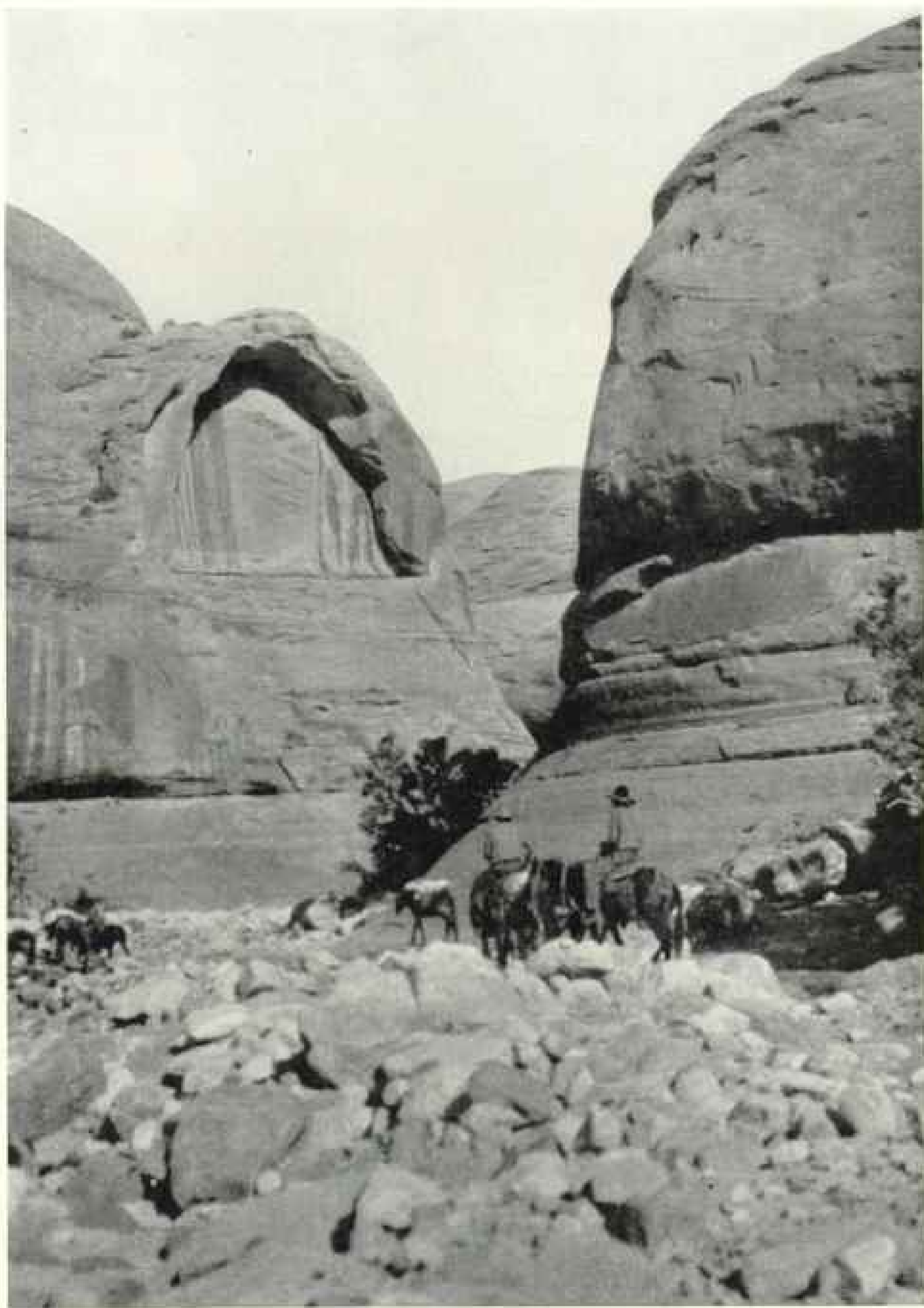


THE END OF REDBUD PASS NEAR ITS JUNCTION WITH BRIDGE CANYON
The rock forms, bald and soilless, are characteristic of this region.



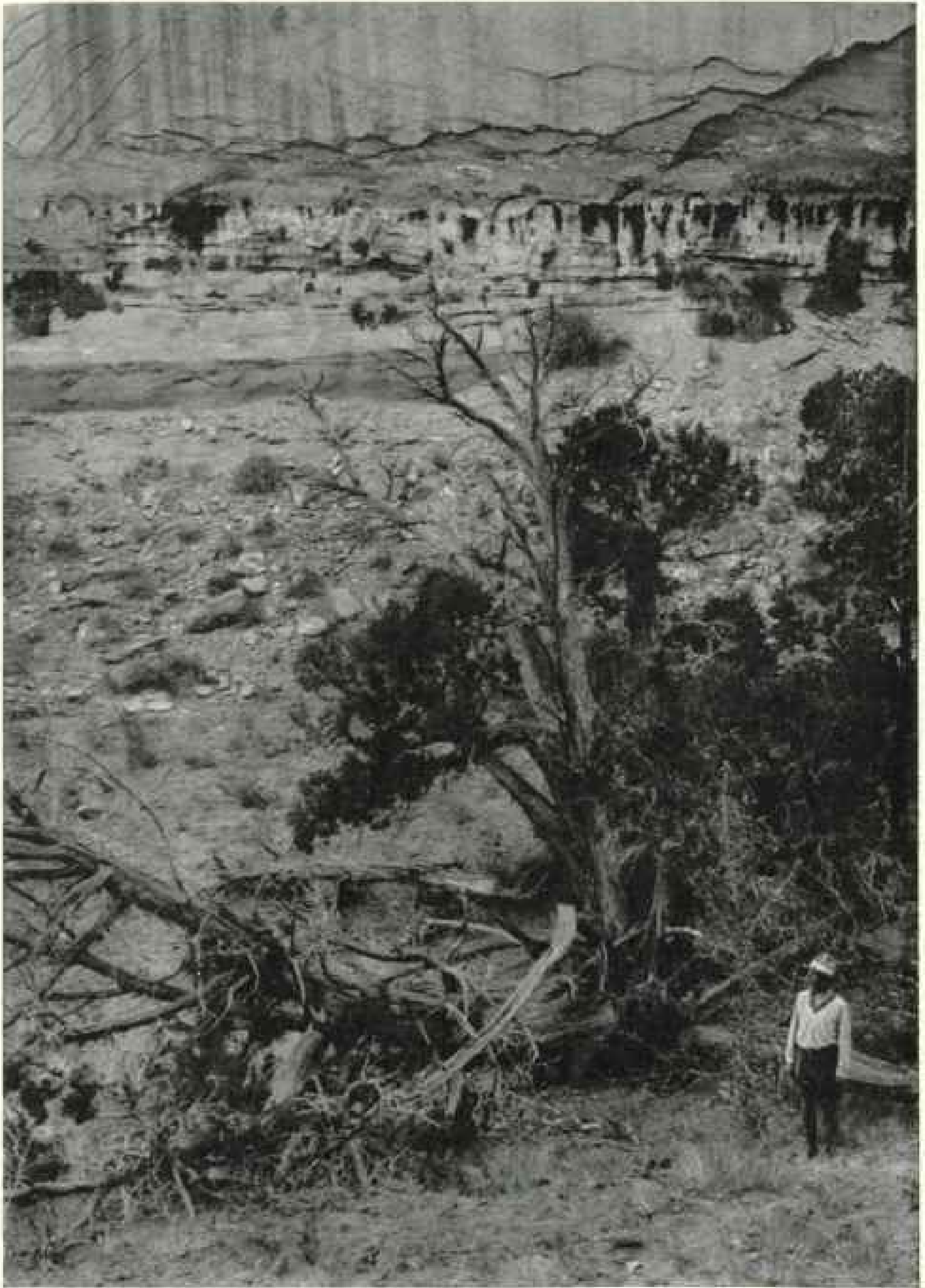
CLIMBING DOWN THE TRAIL IN REDBUD PASS

It took four days to blast a way with dynamite, black powder, and T. N. T. through one of the three vertical rock ledges, which had to be broken up, the crevasse filled and "leveled."



THE DIVIDE IN REDBUD PASS

To the left is the cleft through which a trail was blasted. Behind the bush in the right-hand center began a series of dried-out, sand-filled potholes. Fortunately, the ninth and lowest of them contained still water, which we could reach with rope and bucket. Without this water, trail-making might have been greatly delayed.



THOUGH ALMOST TORN INTO SHREDS, THIS DESERT CEDAR LIVES ON IN REDBUD PASS

had its thrills, for a caravan of 28 animals must be kept moving at a fairly even and rapid tempo or chaos reigns.

Sliding loads, kicking, biting, and crowding animals, and dust-clouds completely obliterated all thoughts of weariness, dizziness, and danger. It required complete concentration to take us down some 2,500 feet, over a sheer and apparently impassable slope.

It was late in the afternoon when we reached the bottom of Cliff Canyon, so named by us because of the sheer cliffs which lined it.

The heat was "July-esque." The streamlet at its bottom was dry. Our animals had had no water since early in the morning and there was practically no grazing on the way-side.

My half-gallon canvas water-bag was less than half full; no one of us had ever been here before; we did not know when water would be reached. To turn back was impossible, confronting us was the unknown!

The canyon was parched and thirsty-looking. Even the cacti, those reservoirs of moisture, looked shriveled and shrunken. I had been pondering as to the best use for the little water left in my bag; my companions had none whatever. Would it be sufficient to moisten the noses and mouths of our animals next morning, so that they might be able to drag on, if need be, without load?

Such lugubrious reflections kept tormenting me for hours, when suddenly, at about sundown, a silvery shimmer, far ahead, a catching and reflecting of the



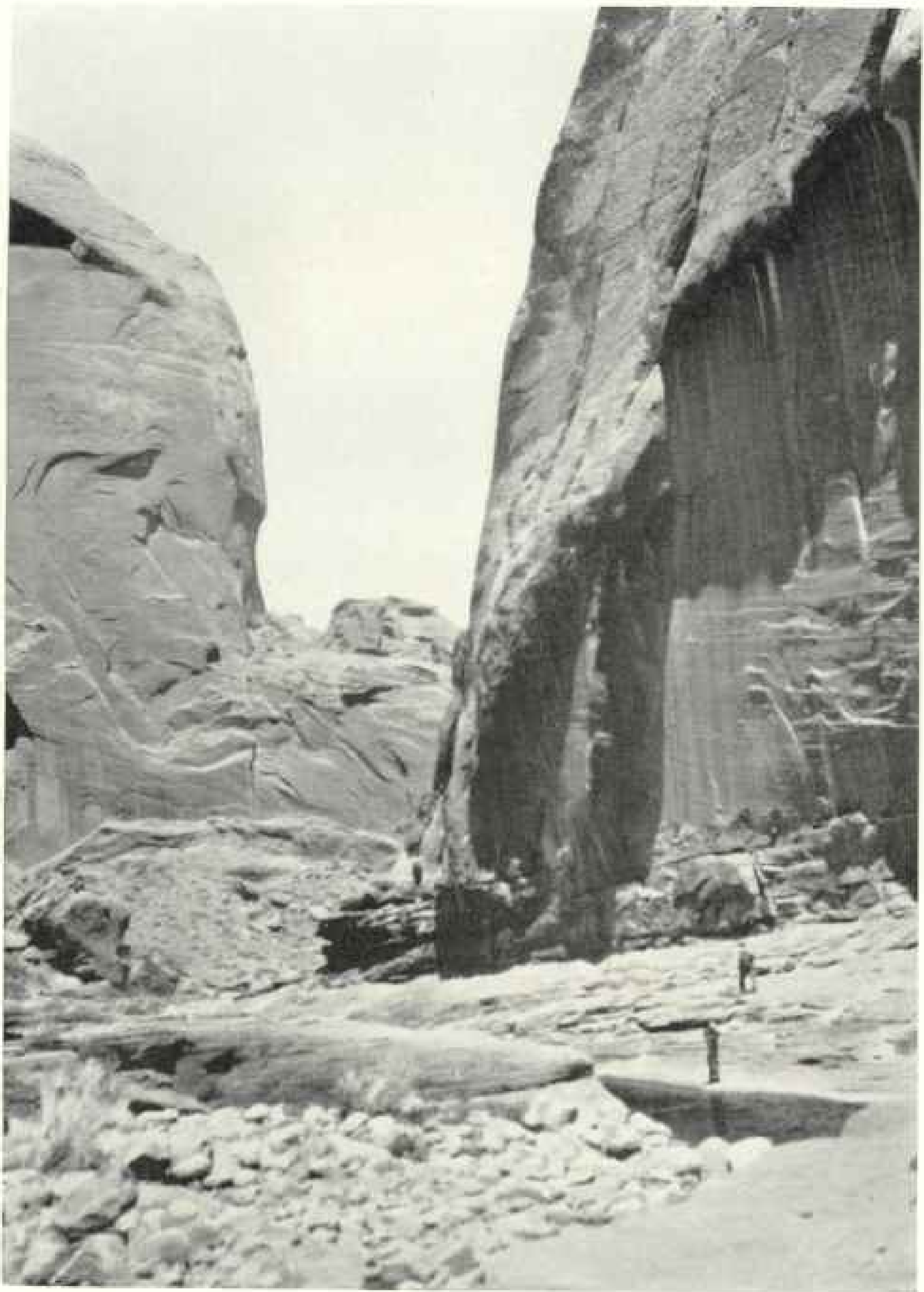
REMAINS OF AN ANCIENT POT IMBEDDED IN ADOBE IN BLACK-BOARD CLIFF RUINS BETWEEN NAVAJO MOUNTAIN AND GOLDENROD CANYON

departing sun-rays, heralded the presence of water. "To," which in Navajo means water, and "shineago," which means food, were on our parched and chapped lips.

We knew we could pitch a camp here and that from it we could reconnoiter farther for a passage east through some cleft in the sheer rock cliffs which we had to put behind us if we wanted to succeed.

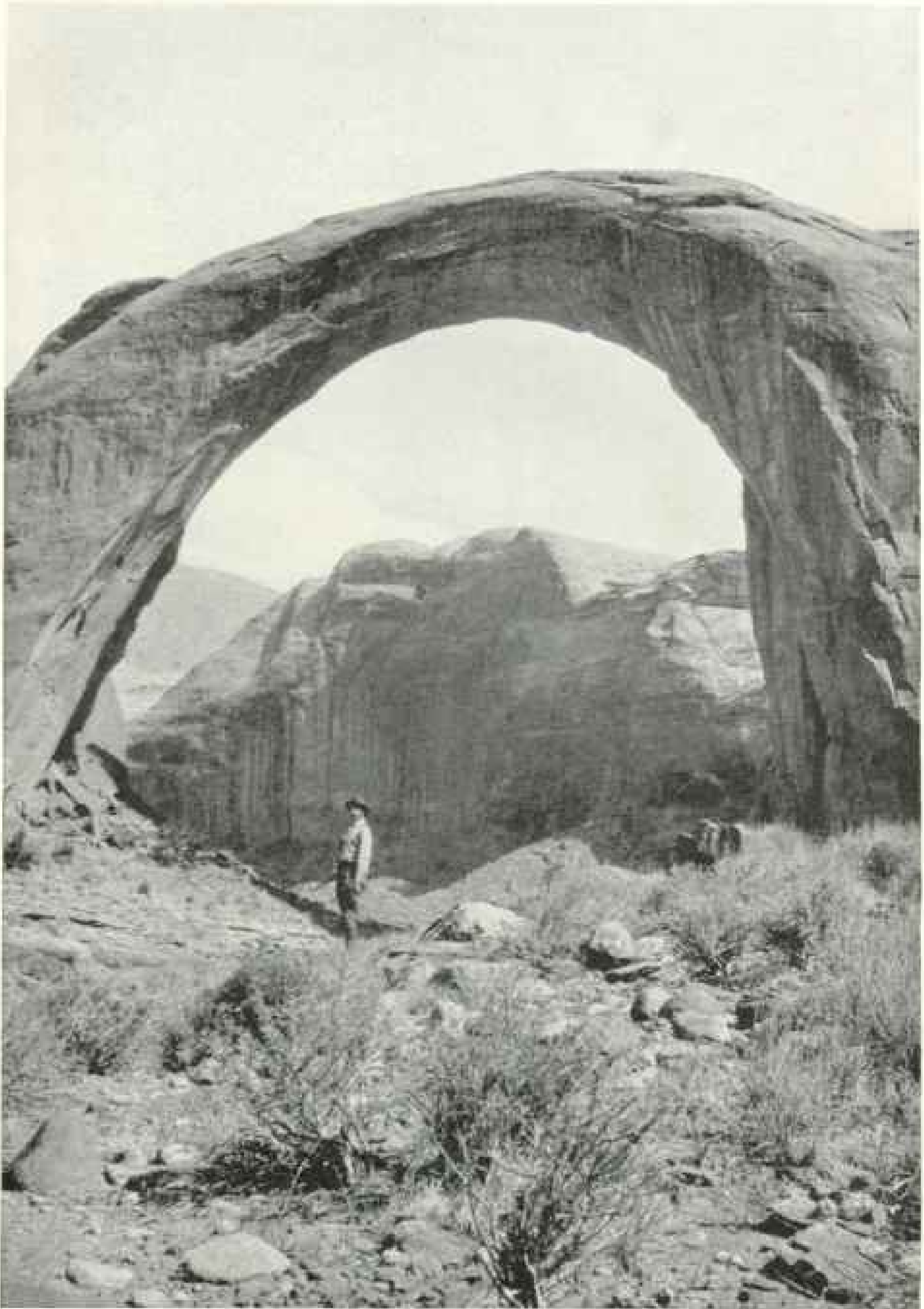
BRAWINGS IN COLOR LEFT BY THE BASKET-MAKERS

Next morning we shifted our camp a mile or so farther down Cliff Canyon into a small grove of cedars and piñons. We named it Painted Rock Camp because of drawings in three colors—red, yellow,



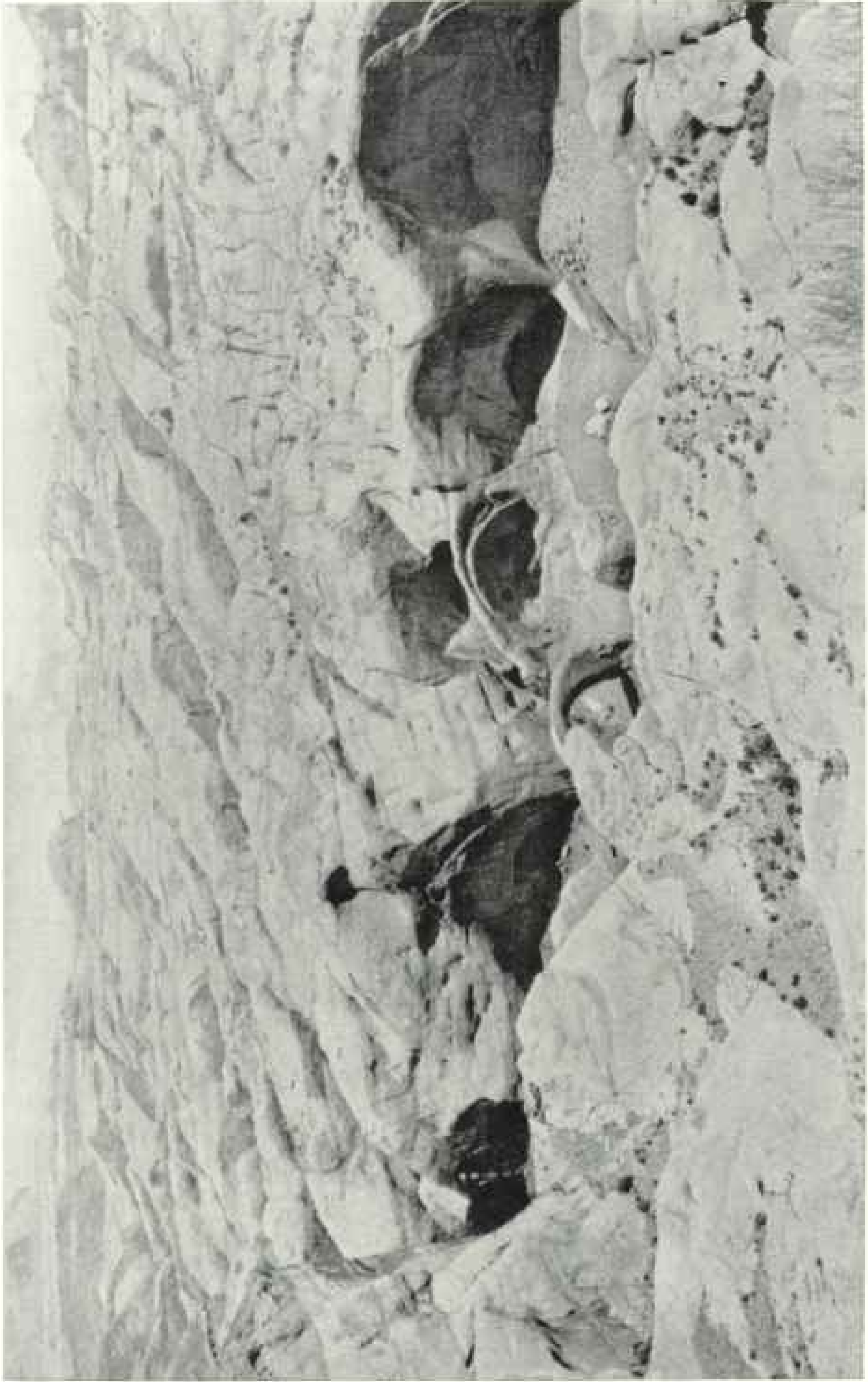
A POOL IN BRIDGE CANYON

Its waters teem with catfish, which probably worked up from the Big Colorado River.



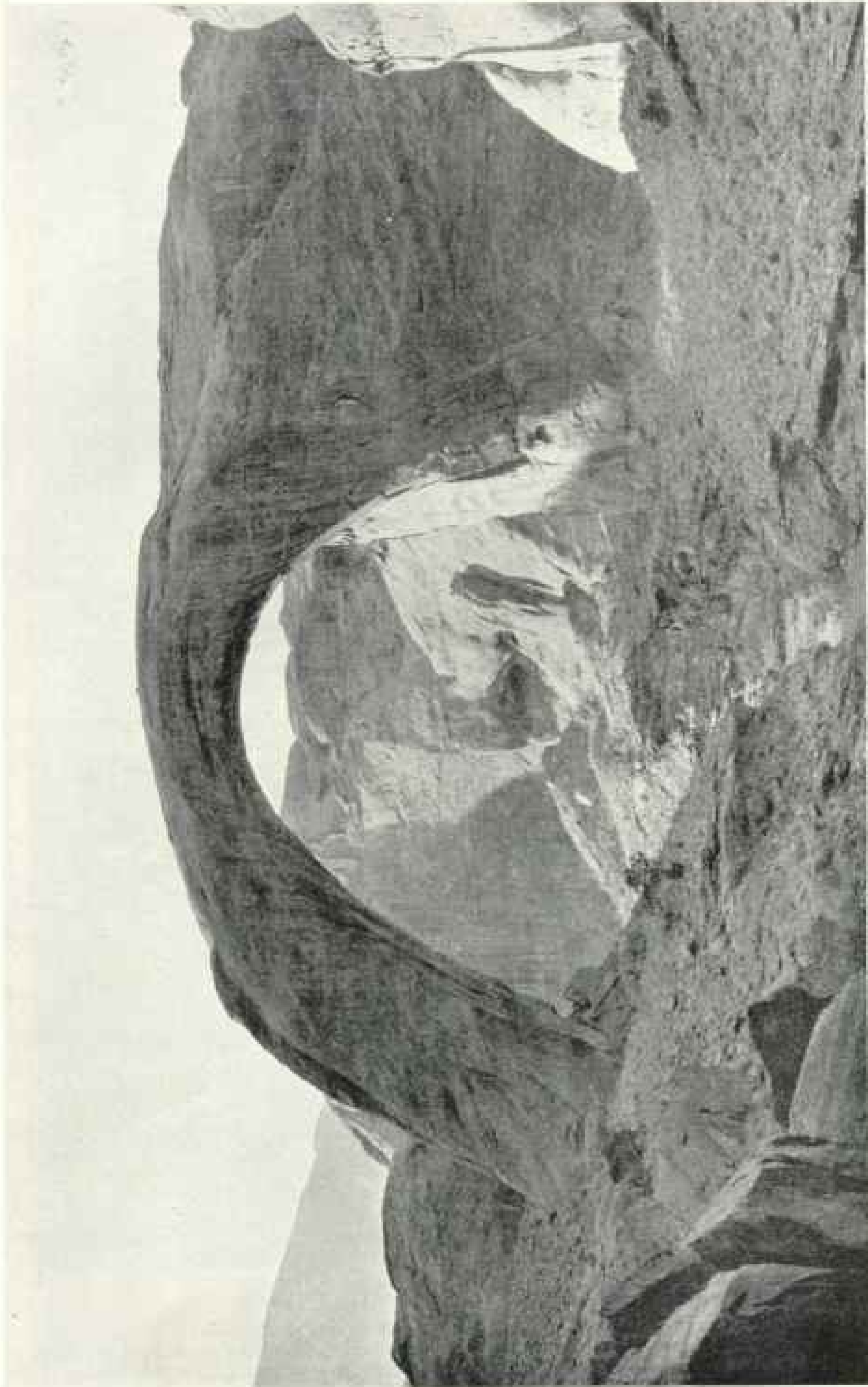
LOOKING SOUTH AT RAINBOW NATURAL BRIDGE

Its arch is 274 feet wide and 308 feet high. In the distance looms Navajo Mountain.



A VIEW OF RAINBOW NATURAL BRIDGE FROM THE TOP OF THE CANYON WALL.

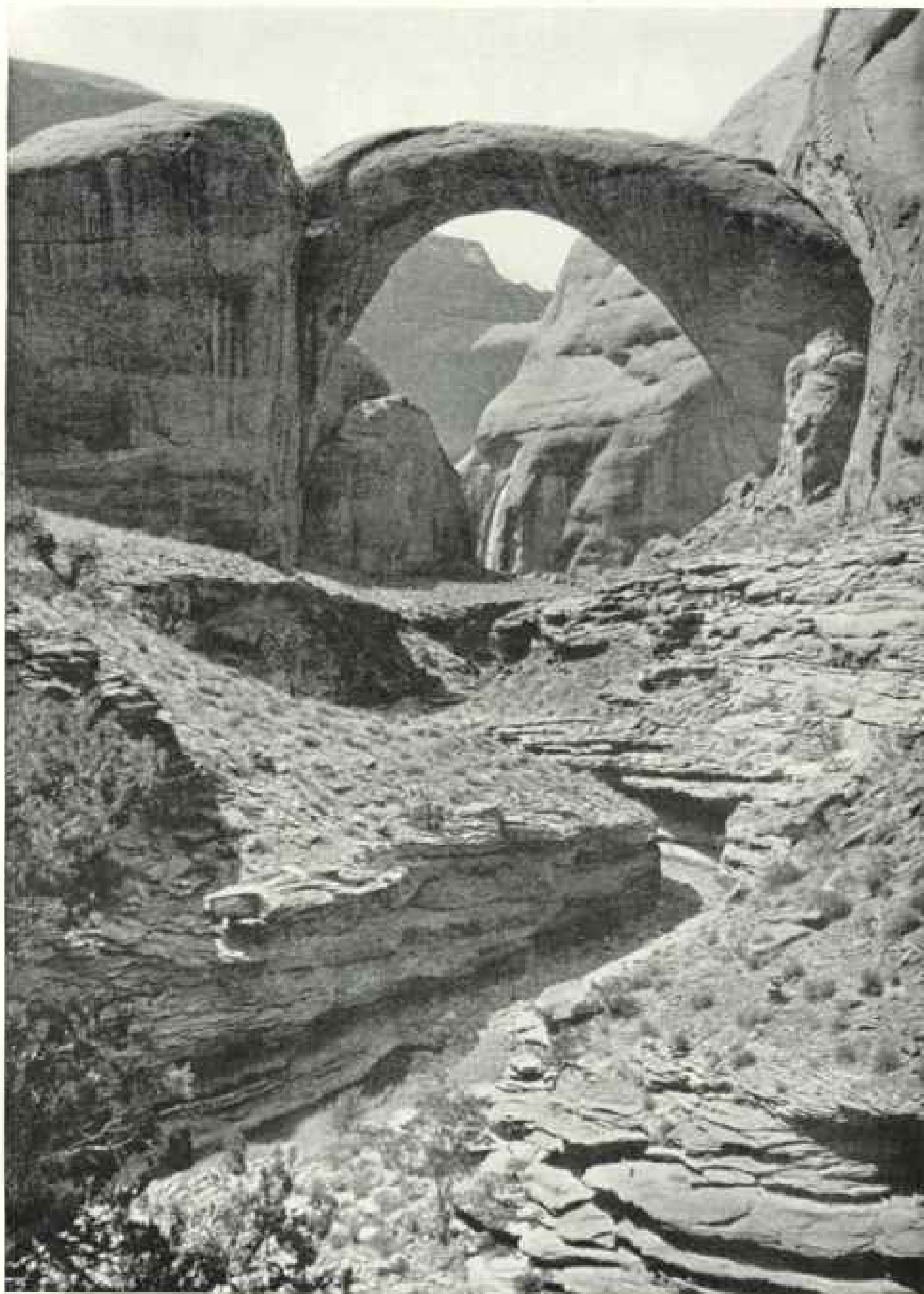
Note the tree standing at the right-hand pier of the arch and the distance between the rocks flanking it—nearly a quarter of a mile (see also page 218).



Photograph by Dr. George Duck

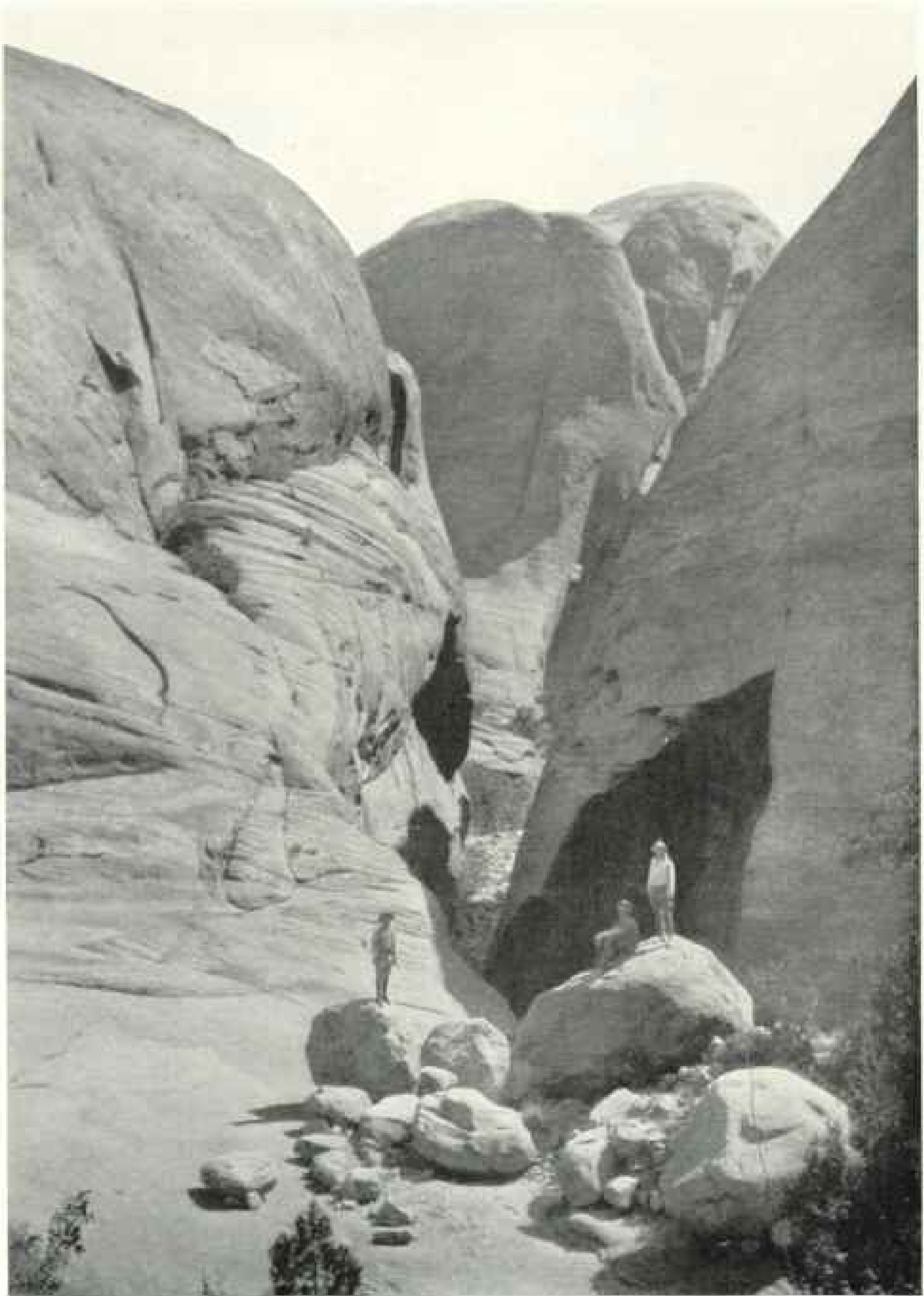
RAINBOW NATURAL BRIDGE FROM THE NORTH

Its arch partly spans a canyon which extends from Navajo Mountain northward toward the Colorado River.



RAINBOW NATURAL BRIDGE, LOOKING NORTH

The arch on the right seems imbedded in the rocks, whereas it stands entirely free, as shown in the illustration on the opposite page. The distance between the two rock masses on the right, one this side of the arch and the other beyond, is nearly a quarter of a mile (see page 216).



NASJA CANYON, NORTH OF SURPRISE VALLEY

This canyon, emptying into the San Juan River many miles to the north, had never been penetrated beyond three or four miles of its boulder-strewn bed. Not far from here the party was stopped by rock walls, for the waters had found a subterranean passage.



ON THE TRAIL EAST OF BEAVER CREEK



GRAZING IN SURPRISE VALLEY, NASJA CREEK

Note the wooden stirrups, which are most restful when one is eight or ten hours in the saddle.



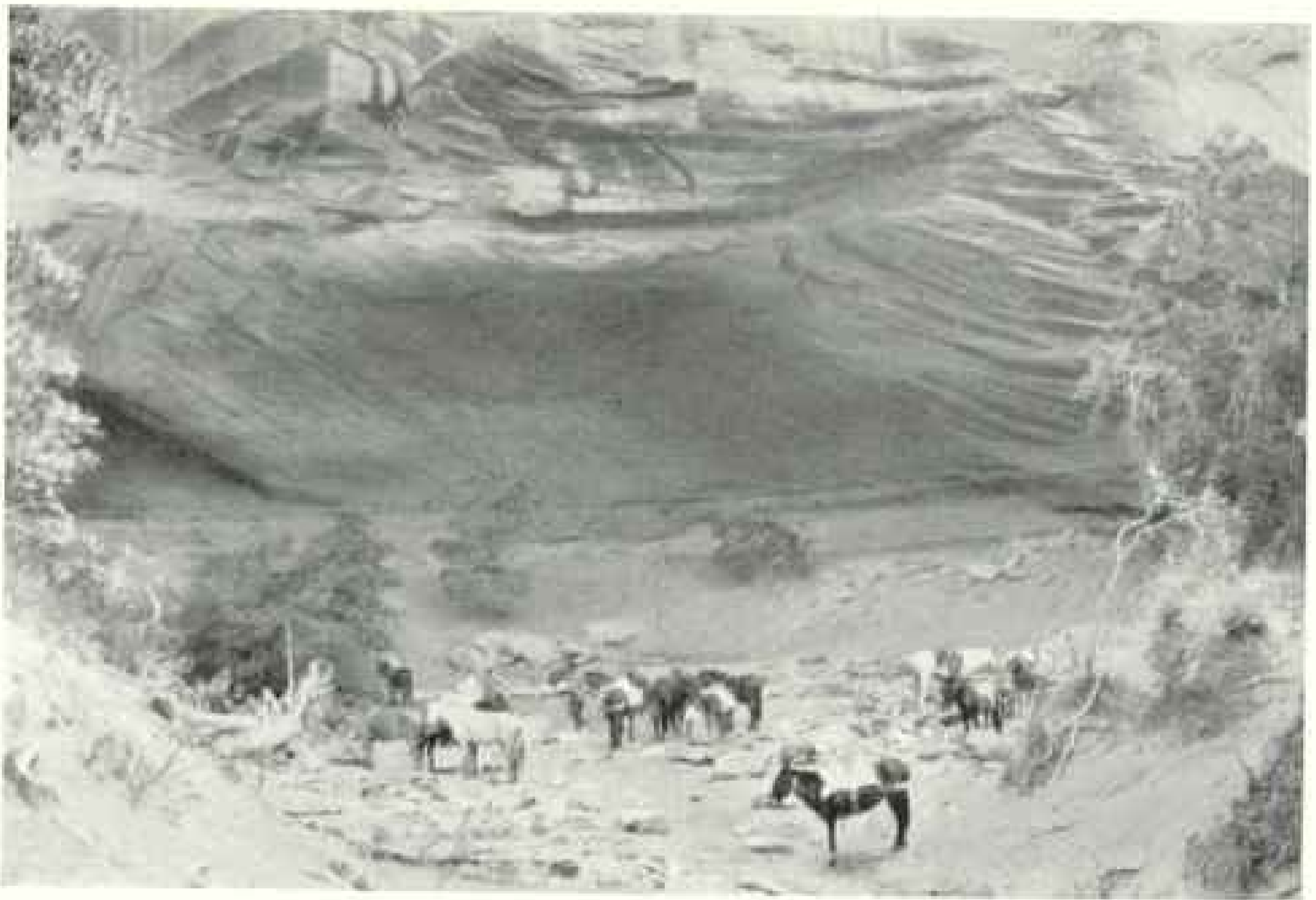
A WELCOME WATERPOOL BETWEEN PIUTE AND NAVAJO CANYONS



DIGGING FOR WATER AT ROUGH TRAIL CAMP
Note the easterly slope of Piute Canyon in the distance.

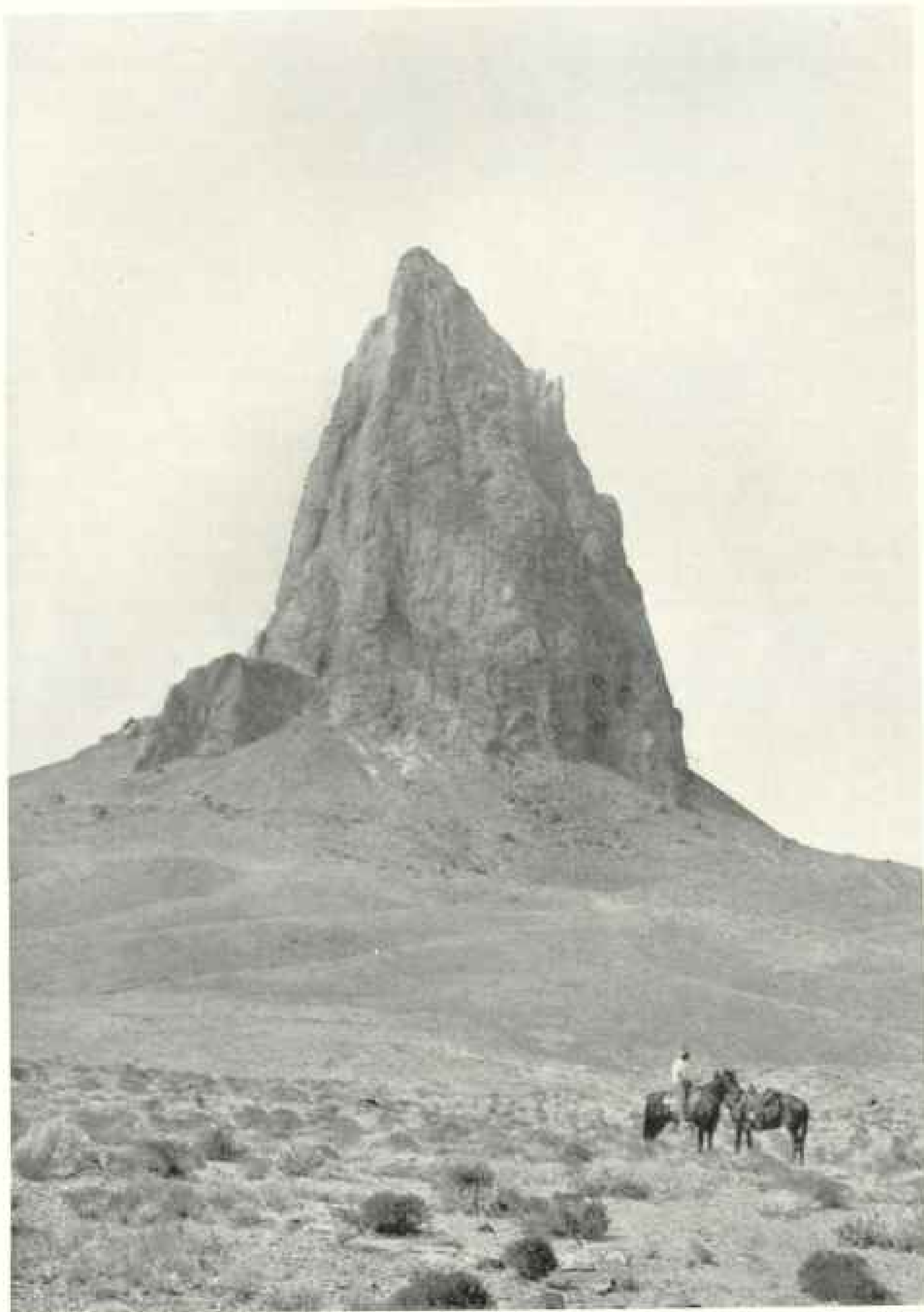


STANDING ON THE DIVIDE BETWEEN THE CLIFF CANYON AND BRIDGE CANYON SYSTEMS



A THIRSTY PACK-TRAIN IN ZANE GREY CAVE

This is the beginning of Zane Grey Canyon, named in honor of the author by the Bernheimer Expedition. This canyon enters Piute Canyon, to the east. The cave was practically dry, but upon digging a trench eight feet deep and ten feet long, sufficient water was obtained for the animals.



Photograph by Dr. George Dock

AGATHA NEEDLE, NORTHERN ARIZONA, 1,225 FEET ABOVE THE LEVEL OF THE DESERT
This majestic pinnacle rises to the north of Kayenta and is a giant's sign-post directing the tourist back to civilization.

and black—on the rock face near by, above a cliff-ruin site. The type of drawings indicated that it was the former home of basket-maker aborigines, who, by the way, belonged to an era preceding the pottery-makers.

Here we had splendid water for drinking, rock pools for bathing, and our animals had very fair grazing—an important element in our calculations, for we were sorely in need of the feed of the wayside to conserve our 1,500 pounds of oats, which we brought from Kayenta, where we did our outfitting (see map, page 198).

On June 30 we commenced reconnoitering to the east. The most hardy of our little band went to find an opening through the easterly cliffs, while Johnson and I went downstream to ascertain where it would lead and to verify our suspicion that our Cliff Canyon Brook emptied into Forbidding Canyon.

Our suspicions were well founded. Two miles downstream we reached the notorious Forbidding Canyon, which promptly exhibited all its characteristics, so well known to us (see text, page 198). Its course soon became impassable for animals and a bit farther almost so for man, unless provided with rope.

A SKELETON FOUND IN CHARCOAL CAVE

At a cave, which we named Charcoal Cave because of its many fireplaces, we turned back, after digging for remains in the refuse piles. In these piles we only found wooden implements and sandals made of yucca fiber, but on another visit Mr. Morris dug up the complete skeleton of a boy.

Alongside of the skeleton, Mr. Morris found 499 beads of hematite iron, the loosened parts of a necklace, and five arrows and lance-heads fashioned of petrified wood. This cave, which measured about 400 feet in width by 250 feet in depth, seems a promising field for the remains of the basket-makers.

In the meantime, two days' search on the part of our other men resulted in the discovery of a very likely opening in the easterly canyon wall, and we resolved to dig or blast our way through this. It was necessary for us to take this course, as there was no other way out. Our supply of dynamite, T. N. T., and black powder we hoped would be sufficient.

This meant that, besides trail-making, it would be necessary for us to widen the cleft in two places to allow our animals to squeeze through. That, however, was the lesser of the problems ahead of us. The major operation was the blasting of one of the three vertical adjoining colossal rock masses and filling in the forty-foot hole beyond, in order to allow safe passage to our loaded animals.

For nine days we were camped at Painted Rock, two miles distant. Six days were consumed in making a trail over a distance of one mile, four of which were taken up in blasting a way through some 400 feet.

REDBUD PASS LEADS TO SUCCESS

July 9 was a red-letter day. Our trail, which was made with so much care, was finally finished and all of us rode over it. We named it Redbud Pass because we there discovered large numbers of redbud trees, whose strong and tough wood supplied us with material for crowbars. We reached Bridge Canyon and the Rainbow Natural Bridge without the necessity of dismounting and dragging our animals after us.

The feat was accomplished and it only remained for us to get our outfit through. This we did three days later, thus locating the "Northwest Passage," as I often referred to it, and completing the "circumnavigation" of Navajo Mountain.

To attempt to refer to the many other incidents in our Rough Rider journey or to elaborate details—amusing, daring, scientific, or mundane—would lead too far. Mere reference to the perilous ascent of No Name Mesa by some of our men, not including myself, excursions in Forbidding Canyon, and explorations in Nasja and Beaver canyons, must also suffice.

The circling of Navajo Mountain, an intimate contact with hundreds of square miles of continental United States never before visited by white man, photographing and mapping the district, as well as the location of a great number of prehistoric sites and ruins, were the goals long visualized and ultimately achieved by the 1922 expedition.

Credit for this feat is due to the woodcraft of all of our men and the good generalship of our head guide, John Wetherill.

NATIONAL GEOGRAPHIC SOCIETY

GEOGRAPHIC ADMINISTRATION BUILDINGS
SIXTEENTH AND M STREETS NORTHWEST, WASHINGTON, D. C.

GILBERT GROSVENOR, President
JOHN OLIVER LA GORCE, Vice-President
JOHN JOY EDSON, Treasurer
BOYD TAYLOR, Assistant Treasurer
FREDERICK V. COVILLE, Chairman Committee on Research

HENRY WHITE, Vice-President
O. P. AUSTIN, Secretary
GEO. W. HUTCHISON, Associate Secretary
EDWIN P. GROSVENOR, General Counsel

EXECUTIVE STAFF OF THE NATIONAL GEOGRAPHIC MAGAZINE

GILBERT GROSVENOR, EDITOR

JOHN OLIVER LA GORCE, Associate Editor
WILLIAM J. SHOWALTER, Assistant Editor
RALPH A. GRAVES, Assistant Editor
FRANKLIN L. FISHER, Chief of Illustrations Division
J. R. HILDEBRAND, Chief of School Service

BOARD OF TRUSTEES

CHARLES J. BELL, President American Security and Trust Company	WILLIAM HOWARD TAFT Chief Justice of the United States	ALEXANDER GRAHAM BELL, Inventor of the telephone Died August 2, 1922
JOHN JOY EDSON Chairman of the Board, Wash- ington Loan & Trust Company	GRANT SQUIRES Military Intelligence Division, General Staff, New York	J. HOWARD CORE Prof. Emeritus Mathematics, The George Washington University
DAVID FAIRCHILD In Charge of Agricultural Ex- plorations, U. S. Department of Agriculture	C. M. CHESTER Rear Admiral U. S. Navy, For- merly Supt. U. S. Naval Ob- servatory	A. W. GRIELY Arctic Explorer, Major General U. S. Army
C. HART MERRIAM Member National Academy of Sciences	FREDERICK V. COVILLE Botanist, U. S. Department of Agriculture	GILBERT GROSVENOR Editor of National Geographic Magazine
O. P. AUSTIN Statistician	RUDOLPH KAUFFMANN Managing Editor The Evening Star	GEORGE OTIS SMITH Director, U. S. Geological Survey
GEORGE R. PUTNAM Commissioner U. S. Bureau of Lighthouses	T. L. MACDONALD M. D., F. A. C. S.	O. H. TITTMANN Formerly Superintendent U. S. Coast and Geodetic Survey
GEORGE SHIRAS, 2d Formerly Member U. S. Con- gress, Faunal Naturalist, and Wild-game Photographer	S. N. D. NORTH Formerly Director U. S. Bureau of Census	HENRY WHITE Member American Peace Com- mission, Formerly U. S. Am- bassador to France, Italy, etc.
IL. LESTER JONES Director U. S. Coast and Geo- detic Survey	JOHN OLIVER LA GORCE Associate Editor National Geo- graphic Magazine	STEPHEN T. MATHUR Director National Park Service

ORGANIZED FOR "THE INCREASE AND DIFFUSION OF GEOGRAPHIC KNOWLEDGE"

TO carry out the purposes for which it was founded thirty-four years ago, the National Geographic Society publishes this Magazine. All receipts are invested in the Magazine itself or expended directly to promote geographic knowledge.

ARTICLES and photographs are desired. For material which the Magazine can use, previous remuneration is made. Contributions should be accompanied by an addressed return envelope and postage.

IMMEDIATELY after the terrific eruption of the world's largest crater, Mt. Katmai, in Alaska, a National Geographic Society expedition was sent to make observations of this remarkable phenomenon. Four expeditions have followed and the extraordinary scientific data resultant given to the world. In this vicinity an eighth wonder of the world was discovered and explored—"The Valley of Ten Thousand Smokes," a vast area of steaming, spouting fountains. As a result of The Society's discoveries this area has been created a National Monument by proclamation of the President of the United States.

AT an expense of over \$50,000 The Society sent a notable series of expeditions into Peru to investigate the ruins of the Inca race. Their

discoveries form a large share of our knowledge of a civilization which was waning when Pizarro first set foot in Peru.

THE Society also had the honor of subscribing a substantial sum to the historic expedition of Admiral Peary, who discovered the North Pole.

NOT long ago The Society granted \$25,000, and in addition \$75,000 was given by individual members through The Society to the Federal Government when the congressional appropriation for the purchase was insufficient, and the finest of the giant sequoia trees of California were thereby saved for the American people and incorporated into a National Park.

THE Society is conducting extensive explorations and excavations in northwestern New Mexico, which was one of the most densely populated areas in North America before Columbus came, a region where prehistoric peoples lived in vast communal dwellings whose ruins are ranked second to none of ancient times in point of architecture, and whose customs, ceremonies and name have been engulfed in an oblivion more complete than any other people who left traces comparable to theirs.

TIFFANY & Co.

JEWELERS SILVERSMITHS AND STATIONERS

FOUR SCORE AND SIX YEARS
OF UNVARYING QUALITY

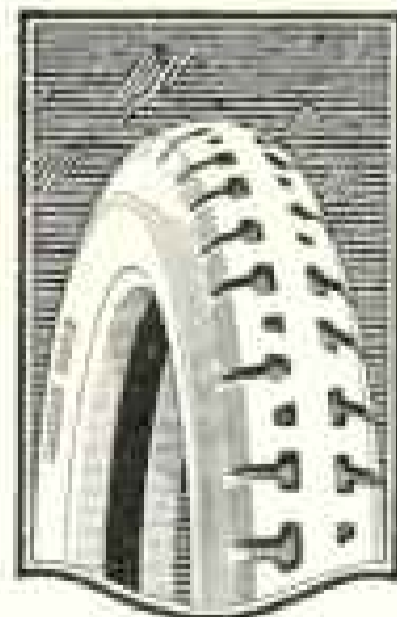
PURCHASES MAY BE MADE BY MAIL

FIFTH AVENUE & 37TH STREET
NEW YORK



MASON CORDS

DUSK, and the soft radiance of late afternoon at Coconut Grove. Everywhere is evidenced that inimitable good taste born of a sincere desire for the finest. How natural then that many of those luxuriant cars, parked nearby, are Mason Cord equipped. For after all, do they not give to each owner that continued satisfaction - that comforting assurance of *true value*.



Branches in Principal Cities

THE MASON TIRE & RUBBER COMPANY, KENT, OHIO



SERVANTS OF SCIENCE

SCIENCE works unceasingly in the interest of mankind. Yet, often its benefits are not clearly evident in every-day existence.

For example, in the manufacture of such familiar household products as epsom salt, bicarbonate of soda, cod liver oil and the like, science has developed products that are pure and far more efficacious than the ordinary commercial articles. The superiority of the scientific household product is of supreme importance to the user. But unless there is some name that you can recognize as guaranteeing scientific quality, there is no certain way for you to profit by what science has done.

In Squibb Household Products you reap the benefit of more than sixty years of scientific association and experience. For more than sixty years the physician and the surgeon have depended upon the Squibb Laboratories for products used exclusively by the medical profession. In the higher development of chemical science as applied to medical science, the House of Squibb has taken an important part. The Squibb organization and the Squibb Laboratories are, in very truth, the servants of science.

Through the manufacture of Squibb Household Products the Squibb Laboratories have become your servants, too. The products they offer you are unequalled for purity and for efficacy. There is no substitute for the satisfaction that they give.

There is a drug store near you where Squibb Household Products are for sale. It will be to your advantage to make your purchases there.

Squibb's Boric Acid
 Squibb's Castor Oil
 Squibb's Bicarbonate of Soda
 Squibb's Magnesia Dental Cream
 Squibb's Dental Prophylactic
 Squibb's Cold Cream
 Squibb's Stearate of Zinc
 Squibb's Nursery Powder for the Baby
 Squibb's Flexible Collodion
 Squibb's Glycerine Suppositories
 Squibb's Cod Liver Oil

Sold by reliable druggists everywhere, in original sealed packages.



SQUIBB

THE "PRICELESS INGREDIENT" OF EVERY PRODUCT IS THE HONOR AND INTEGRITY OF ITS MAKER.

General Offices: 80 Beckman Street, New York City
 Laboratories: Brooklyn, N. Y.; New Brunswick, N. J.



Miss Keller has attained international fame for her mastery of handiwork. Though blind, deaf, and dumb, she now "sees" and "hears" through touch. She punishes fluently. She has devoted her life to the helping of others similarly afflicted.

Miss Keller touring in the Catskills

—A painting by the Countess Elisabeth Zichy

"I knew we were in the Catskills by the atmosphere"

By Helen Keller

"I am delighted with my Marmon. To my touch the workmanship seems perfect.

"Borne along on deep, springy cushions, I find a long drive in it lulling and alluring. I do not have to hold on to keep my balance. In other cars I am keenly conscious of curves, but in my Marmon I hardly know when we turn a sharp corner.

"Recently we drove over Catskill roads, but I hardly felt any difference from pavements. I knew we were in the mountains by the atmosphere and the odors peculiar to high altitudes. Riding in a Marmon is just like sailing—the same smooth, vibrationless motion.

"I can hardly say enough in praise of this

wonderful automobile. It gives me so much enjoyment."

• • • • •

Miss Keller is one of the many who prefer Marmons. To her its chief appeal is super-comfort and ease of riding. Like other Marmon owners, she also seeks dependability and economy.

The Marmon plan of nation-wide standardized service shows that the average monthly cost for mechanical maintenance of 1922-23 cars serviced at Marmon service stations is \$4.71 per car per month.

The Marmon itself is proving its own superiority, based on actual service, not on claims; based on the evidence of owners, not on vague generalities.

M A R M O N
The Foremost Fine Car

The
Essence of Modern Business
 —Correct Time

CLOSE figuring on Time is so much a matter of course these days that it is hard to realize what life would be without it.

The business man takes it for granted that his mail will be on his desk every morning.

He looks at a railroad time table—telegraphs an appointment half way across the Continent—and keeps it to the dot.

And it all depends on *uniform time-keeping* by the more than 400,000 Railroad Watches in the pockets of the responsible railroad men of America.

Perfecting the watch of today has engaged many scientific minds. To mention any one Company might seem invidious.

But the peculiar *pride* of the Railroad Man in his *Elgin Watch* is worthy of remark.

All the more so, since this pride is shared by other Elgin Watch owners, in all walks and occupations of life.

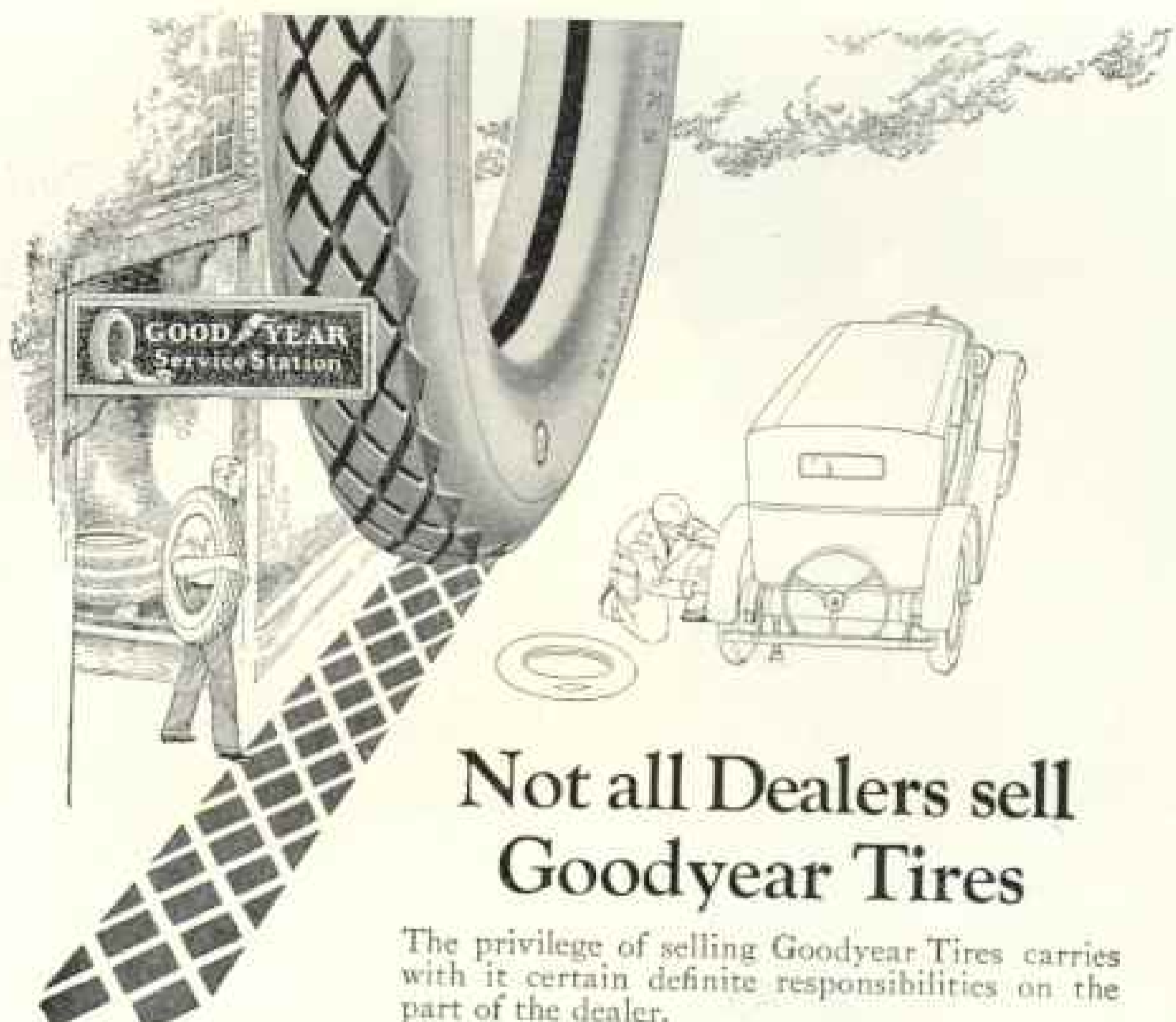
• • • • •
"Father Time"—one of Elgin's popular Railroad movements, here shown cased up with Winding Indicator Dial. • • • • • Twenty-one jewels; adjusted to temperature, isochronism and five positions. Material, construction, adjustments and service fully covered by Elgin Guarantee. • • Made in Elgin, U. S. A.



W.S. Dreyer



Elgin Watches



Seek out the Goodyear Service Station Dealer near you. He sells and recommends Goodyear Tires and backs them up with standard Goodyear Service

Not all Dealers sell Goodyear Tires

The privilege of selling Goodyear Tires carries with it certain definite responsibilities on the part of the dealer.

He pledges himself, for example, to give you service that will help you get from Goodyear Tires all the mileage built into them at the factory.

He prefers to sell Goodyear Tires because he knows he can sell them to more people, and thus be compensated for lower profits on each sale.

Not all dealers see the wisdom of doing business on this basis; consequently not all dealers sell Goodyear Tires.

But Goodyear Dealers implicitly believe, as we do, that the foundation of a permanent and successful business is satisfied customers.

Dealing with them, you are sure of a quality product of exceptional and demonstrated value, supported by a service that will save you money.

Goodyear Means Good Wear

GOODYEAR

Copyright 1933, by The Goodyear Tire & Rubber Co., Inc.



TRUST YOUR OWN THOUGHTS OF PACKARD

Packard's place in your own mind is the best possible proof that it deserves your high opinion.

Packard calls to your mind a picture of something socially desirable—a picture of the finest possible processes of manufacture, the most perfect possible performance.

That is precisely the attitude of mind of those all about you—of almost everyone who buys a Packard, anywhere.

The prior claims of the car—its

right to first consideration—its unarguable superiority—are accepted as facts.

The Packard has always received and always justified this deep and abiding confidence.

In the Single-Six it is verifying in a particularly brilliant and impressive manner, the universal conviction of its value.

You are safe in trusting your own thoughts about Packard because those thoughts are the thoughts of a nation.

Five-Passenger Touring, \$2185; Seven-Passenger Touring, \$2985; Runabout, \$2100; Sport Model, \$2000; Coupe, \$3175; Five-Passenger Sedan, \$2275; Seven-Passenger Sedan, \$3595; Five-Passenger Sedan Limousine, \$5385; Seven-Passenger Sedan Limousine, \$5075; at Detroit

ASK THE MAN WHO OWNS ONE

Standard Keyboard



Examine this keyboard carefully. Key for key, you will find it an exact duplicate of the keyboard on the big typewriters. Nothing new to learn, and nothing to unlearn when you start to write on the

Remington Portable

This Standard Keyboard is only one of many outstanding merits which have combined to make the Remington Portable the universal machine for personal writing.

And yet, with all these advantages, the complete machine is so small that it fits in a case only four inches high. Much in little is what everybody gets who buys a Remington Portable—with the well-known Remington Quality included for good measure.

Take any user's advice and buy a Remington Portable.

Write for our illustrated "For You, For Everybody". Address Dept. 65

REMINGTON TYPEWRITER COMPANY
374 Broadway New York

*Paragon Ribbons for Remington Portable Typewriters
Made by us. 50 cents each, \$5.00 a dozen*

*Sold by
over 2,500 dealers
and Remington
branch offices
everywhere*





Summer Cruise to North Cape

Including Iceland and the "Midnight Sun"
(3rd Raymond-Whitcomb North Cape Cruise)

The exceedingly gratifying success of last year's Raymond-Whitcomb North Cape Cruise prompts us to announce another equally alluring Cruise to this individual field for *comfortable Summer travel*. The inclusion of Gothenburg with its brilliant Tercentennial Exposition is an additional attraction on this year's trip



The 1923 Cruise sails from New York, June 23 on the well known Royal Mail S.S. "Araucaya". The varied program includes Iceland, the great North Cape, the beautiful Norwegian Fjords, Trondhjem, Bergen, Copenhagen. In fact, all the principal and worth-while points of interest in picturesque and unique Northern Europe. The increasing popularity of this Summer Travel Event makes early reservations desirable. Booklet, rates and ship's plan may be had upon request

1923 Europe Tours

Famous Raymond-Whitcomb Tours throughout the Winter and Spring, so arranged as to take advantage of one of Europe's most delightful seasons. Our 1923 Europe program has never been exceeded in interesting variety and essential comprehensiveness. France, Italy, Spain, Switzerland, Holland, Belgium, Arabian Nights, Africa and the British Isles. Departures Feb. 24, Mar. 10, 24, 31, April 3, 7, 17, 21, 28, May 1, 5, 15, June 2. Limited membership, makes early registration desirable



California

and the Hawaiian Islands

An attractive series of Tours. Well diversified programs and routes. Departures Feb. 7, 12, 21, 26, 28, Mar. 5, 14, April 4, 18. Limited parties necessitate prompt reservations

South America Cruise

Sailing from New York on the superb new S.S. "Reliance" Feb. 3

Mediterranean Cruise

Sailing from New York on the famous S.S. "Rotterdam" Feb. 10

Other Tours to Mexico, Japan-China, South America, Florida and Cuba

For Booklets and complete information apply to the nearest Raymond-Whitcomb office or to the Executive Offices, Boston

THE BEST IN TRAVEL

Raymond & Whitcomb Co.

New York
225 Fifth Avenue

Philadelphia
1338 Walnut St.

Chicago
111 So. Dearborn St.

San Francisco
657 Market St.

Los Angeles
305 Title Ins. Bldg.

Executive Offices, Beacon Street at Park, Boston



*PARRACOMBE HILL**

"Oh, Larry, do you think we can get down this wet hill without a smash?"

"Of course we can, dear; I've put her in second, and with Kelly Cords under us we can't slip."

THERE is no more sickening sensation than to feel your car sliding after you have applied the brakes. The driver who rides on Kelly-Springfield Kant-Slip Cord tires does so with the comfortable assurance that he can depend not only upon their mileage but upon their surefootedness. It costs no more to buy a Kelly.

**Drawing by Laurence Fellows, Devonshire, England.*



THE NEW HUDSON SEDAN \$2095 Freight and Tax Extra

For Those Who Want The Finest 7-Passenger Closed Car

Particular attention is called to the price of the Hudson Sedan—\$2095—for two reasons.

We offer the Sedan as the very finest closed car that can be built. It is the product of one of America's oldest builders of costly bodies. The workmen have never been hurried. Painstaking care is expressed in every detail. Quantity production, as understood in motor car building, is not possible with such traditions and organization. But the costly though worth-while way of manufacture under such conditions has been greatly minimized by the fact that the entire effort of this builder is exclusively devoted to the Hudson Sedan. Thus we obtain the richness and fineness of the most exclusive

custom-built bodies and at the cost of quantity output.

No car at its price that has a body of approachable attractions in richness and luxury is so well regarded for performance and reliability. For you know the Hudson Super-Six, by official mark, is one of the world's truly great motor cars. And with the new improved Super-Six motor it is a smoother, more enduring car than the 120,000 earlier models which during the past seven years gave it such wide fame.

And where you find a car of comparable appeal in body and in automobile performance you will also find the cost is from \$1,000 to \$1,500 greater than for the Hudson Super-Six, seven-passenger Sedan.

Speedster - \$1425 7-Pass. Phaeton - \$1475 Coach - \$1525 Sedan - \$2095

Freight From Detroit and Tax Extra

HUDSON

The Famous Super-Six

Are you the Lucky One in Five?



Not if you neglect your teeth

All too few persons practice the strictest oral hygiene. Far too many are infected with Pyorrhea, and through neglect, lose their teeth and suffer from broken health. For statistics show that four out of every five past forty, and thousands younger, are subject to this disease.

At the first sign of Pyorrhea, Nature gives her danger signal—tender gums which bleed easily when the teeth are brushed.

Fortunate is he who heeds that friendly warning; his teeth may be spared, while he who neglects that admonition may pay the extreme penalty.

Heed Nature's Warning

At the first sign of tender, bleeding gums, go to your dentist for teeth and gum inspection and start using Forhan's For the Gums at once.

Forhan's For the Gums is the scientific formula of R. J. Forhan, D. D. S. If used consistently and used in time, it will prevent Pyorrhea or check its course.

In addition to its efficacy in the treatment of Pyorrhea, Forhan's For the Gums is an excellent dentifrice. It contains nothing but the most beneficial ingredients that keep teeth white and clean, and the gums firm and healthy.

Remember, statistics are all against you. Science proves that four out of every five have Pyorrhea after forty. For that reason it is good health insurance to start using Forhan's For the Gums today. It is pleasant to the taste.

Forhan's For the Gums is sold by druggists everywhere. 35c and 60c.

Forhan's FOR THE GUMS

More than a tooth paste — it checks Pyorrhea

Formula of R. J. Forhan, D. D. S.
Forhan Company, New York
Forhan's, Limited, Montreal





About Summer Vacations

BY A PHYSICIAN

MY business is to know something about *people* as well as medicine. My practice is in a large eastern city where men work hard and women do, too; for housekeeping is hard work whether the woman does it herself or has a coterie of servants to manage.

Every year, about the end of May, I am called in by many people who say they are run down and need a tonic. Perhaps I give them a little tonic, but I give most of them more advice than tonic.

That advice is, "Take a good vacation this summer—get a real change, the greater the change the better—have you ever been to Southern California?"

"Well, but you don't mean to go there *in the summer*, doctor—it's so warm there"—this from people who have never been there.

The fact is, it is *cool* there in summer, and this is shown very clearly by these U. S. Weather Bureau Figures — averages from 44 years' readings in a great central city of that section:

Average mean temperature, 44 Junes 66°
 Average mean temperature, 44 Julys 70°
 Average mean temperature, 44 Augusts 71°
 Average mean temperature, 44 Septembers 69°

Then I emphasize—because this is the *great value* in it—the absolute, complete and fascinating change that they will find there to absorb them and remake them into freshened, newly interested human beings.

And then, to lure them on, I tell them these things, which are facts:

There's a "little trip abroad within your own United States" awaiting you this summer if you

make this trip. Practically every type of scenery that the world affords within a radius of only a few hundred miles from the great central city mentioned before.

And nearly all points reached by more than 4,000 miles of paved motor roads or by trolley or train.

A great desert like Sahara, rich wheat fields, groves of oranges and figs, old missions, palm-lined ocean beaches, snow-capped mountains, western "cowboy" plains, mining towns, enormous redwood forests, great waterfalls and cliffs, ocean islands like Capri in Italy—the imposing landscapes, sea views and the variety that caused 160 moving picture producing companies to locate there—are there also for you to profit by.

Golf at its best—scores of famous courses. Swimming, sailing, fishing, horseback riding, hiking, dancing in fine hotels, or merely lazy rest in some mountain retreat. All these attractions are within your reach.

But best of all, a marvelous outdoors and a fine, pure air that children, especially, thrive on.

These are the things I tell them—for their own benefit and fun. Several have told me that this is the best kind of "medical advice" they ever had.

Perhaps it is in your case if you work hard through the year.

If you are interested in this physician's story and would like more information about Southern California as a summer playground, ask any railroad ticket agent, or mail coupon below. There are far greater possibilities than one small page can relate. Mail coupon now.

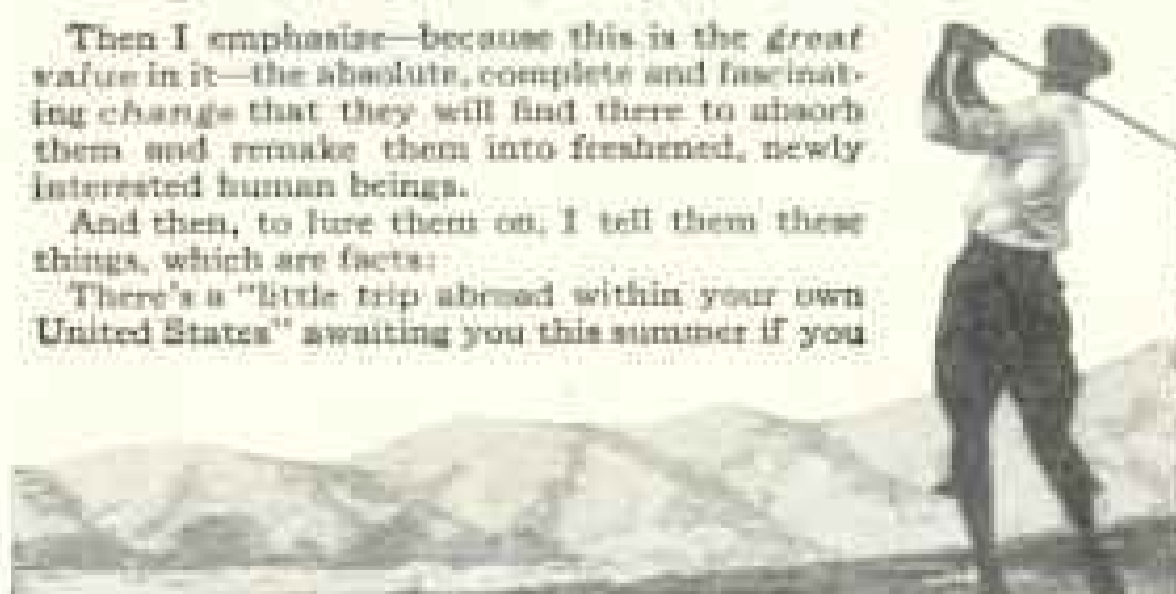
All-Year Club of Southern California

All-Year Club of Southern California,
 Dept. M-1002, Chamber of Commerce Bldg.,
 Los Angeles, Calif.

Please send me full information about the summer and year around vacation possibilities in Southern California.

Name.....

Address.....





DODGE BROTHERS "TYPE A" SEDAN

Dodge Brothers "Type A" Sedan is admired the world over for the solid beauty of its coach work.

Inside and out, in every line and fixture, it reflects that integrity of workmanship which you have come to associate with the name Dodge Brothers.

Mohair velvet upholstery, nicked window regulators, etched dome light, heater, windshield wiper, sun visor, weather-stripped doors and windows, cord tires and steel disc wheels, are a few points of equipment which indicate the sterling quality of the car throughout.

The price of the "Type A" Sedan is \$1440 C. & D. Detroit



The Short Route to the ORIENT from Seattle.

Sailings Every 12 Days



IF you are one of the thousands engaged in commerce with the Far East, one of the growing number who has visioned the lucrative possibilities it offers, then you should find out today about the Speed Route from Seattle that has cut 1230 miles from the trip. Find out now about this great time-saving route and the magnificent "President" ships, the

President Madison
President Jackson
President Jefferson
President McKinley
President Grant

which go from the great terminal port of Seattle to Yokohama in only 11 steaming days!

Write for Booklet

Send the information blank below for a complete description of your ships. You incur no obligation. You will be delighted and proud, as you gaze on the photographs of commodious staterooms equipped with every luxury, as you read of the exacting standards of cuisine and service! The ships are owned by the U. S. Government and operated by Admiral Oriental Line, agent for the Government.

Send the information blank now!

INFORMATION BLANK To U.S. Shipping Board

Information Office 1552 Washington, D. C.

Please send without obligation the U. S. Government Booklet giving travel facts. I am considering a trip to The Orient , to Europe , to South America . I would travel 1st class , 2nd , 3rd .

My Name _____

Address _____

For information address local agents or

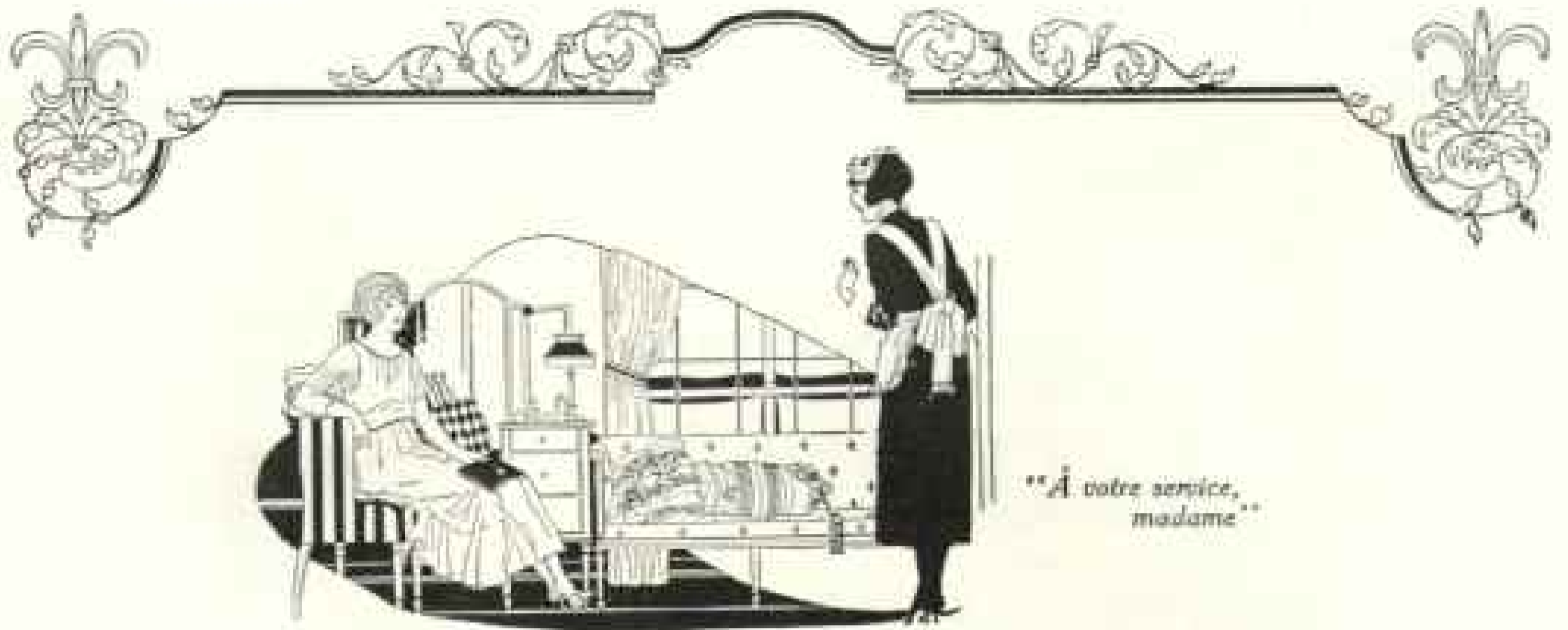
The Admiral Oriental Line

L. C. Smith Bldg., Seattle, Wash.
653 Market St., San Francisco, Cal.

112 West Adams St., Chicago, Ill.
17 State St., New York City

Managing Operators for

UNITED STATES SHIPPING BOARD



"À votre service,
madame"

Enjoy the utmost in Luxury, Service and Cuisine

THE art of extracting joy out of living is not an exclusive monopoly of the French. But it is an art in which they excel. French chefs and French servants set standards for the world and French cuisine is incomparable.

On the giant express liners *Paris* and *France*, the French genius for catering to personal comfort finds full expression. The staterooms and suites are large, luxurious and the *demier cri* in furnishing, decoration and equipment. Competence and courtesy govern the selection of stewards and *femmes de chambre*, and French chefs sustain the high traditions of their art.

Whether you are bound for England, France or elsewhere in Europe, the French Line offers a quick passage under the most delightful auspices. You may enjoy a daily succession of social pleasures, or you may indulge in perfect rest and relaxation, making you fit and ready for strenuous sight-seeing, a nerve-racking business tour or the equally severe test of an exacting social season.

The same is true of your trip home. You are an honored and privileged guest for whose comfort and entertainment the French Line staff is ready and willing to extend every courtesy and service.

Regular sailings from New York for Plymouth (England) and Havre by the giant express steamers de luxe

PARIS • FRANCE • LAFAYETTE

Details of rates for all classes of accommodations together with interesting descriptive information regarding foreign travel and where to go and what to see in France sent on request.

To Europe in Comfort at Small Expense

For more leisurely crossings at small expense, with all the comforts of ocean travel, the French Line inaugurated the one cabin class idea—large, modern steamers with slightly less elaborate staterooms—with rates that are attractive to travelers who wish to keep down expense. French Line cuisine and service.

Regular sailings from New York to Havre by the large and comfortable steamers

ROUSSILLON
ROCHAMBEAU
LA BOURDONNAIS
CHICAGO

From New Orleans to Havre, Steamers:

NIAGARA and
DE LA SALLE



French Line

Compagnie Générale Transatlantique
19 State Street, New York

Offices and Agencies in Principal Cities of Europe and the United States

for Economical Transportation

CHEVROLET



First Aid For Doctors

The doctor needs an all-weather car of high quality but low in cost and economical to operate.

Here it is.

Chevrolet Utility Coupé

\$680 f. o. b. Flint, Michigan

Has a Fisher Body with extra wide doors, large plate glass windows with Turnstedt window regulators, cloth upholstery, comfortable, roomy single seat, and a mammoth rear compartment for instruments, sickroom supplies and luggage.

It is easy to handle, dependable every day in the year, and has ample power to contend with bad road conditions.

See Chevrolet First.

CHEVROLET MOTOR COMPANY

Division of General Motors Corporation

DETROIT, MICH.

Prices f. o. b. Flint, Michigan

There are now more than 10,000 Chevrolet dealers and service stations throughout the world

SUPERIOR Two Passenger Roadster . . .	\$510
SUPERIOR Five Passenger Touring . . .	525
SUPERIOR Two Passenger Utility Coupé . . .	680
SUPERIOR Four Passenger Sedanette . . .	850
SUPERIOR Five Passenger Sedan . . .	860
SUPERIOR Light Delivery . . .	510

Applications will be considered from high-grade dealers in territory not adequately covered

How Much Should Your Dollar Earn?

Those dollars you have worked so hard for and laid by—how much should they earn for you?

Seventeen years ago Roger W. Babson discovered that a definite law governs securities and their earning power—a law that enables you to figure in advance whether the price of your securities will be higher or lower—whether the companies back of them will be stronger or weaker—whether they will earn more or less.

Babson's REPORTS

These principles have been worked out into what has come to be known as the Babson Method—a plan that is followed today by more than 10,000 of the keenest executives; a plan that enables them to enjoy half again or twice the usual return without the risk, worry, or loss of time involved in ordinary investment and speculation.

This is the method followed now by men investing hundreds of thousands but the principle applies to every single thousand dollars of investment.

Write for Booklet

You will find the whole story—principles and all—in the booklet, "Getting the Most From Your Money."

Tear out the MEMO—now—and hand it to your secretary when you dictate the morning's mail. No obligation.

Tear Out Memo



Clip off here

Memo for Your Secretary

Write Babson Statistical Organization, Wellesley Hills, 67, Mass., as follows: Please send me Booklet B12, "Getting the Most From Your Money," and recent report, gratis.



6% Well Secured

THE sound first mortgage bonds safeguarded under the Straus Plan afford the conservative investor the attractive interest rate of 6%, backed by ample earnings and values. The bonds are in \$1000, \$500 and \$100 denominations, maturing serially in two to about fifteen years. Write for literature, and specify

BOOKLET B-1308

S. W. STRAUS & CO.

Established 1891 - Office in Forty Cities - Incorporated

STRAUS BUILDING
305 Fifth Avenue
at 45th St.
NEW YORK

STRAUS BUILDING
6 North Clark Street
at Madison St.
CHICAGO

79 Post Street, SAN FRANCISCO

41 Years Without Loss To Any Investor

© 1923—S. W. S. & Co.



FIRST MORTGAGE PROTECTION FOR YOUR SAVINGS

Every dollar you entrust to this old, conservative company is protected by the best security in the world—first mortgage on improved property. For 24 years we have paid 6% on Two-Year Time Certificates, issued for \$100 or more, and 5% on Certificates payable on demand, issued for \$25 or more.

Write for Booklet,
"6% and Safety"

The Calvert Mortgage Company
877 Calvert Building BALTIMORE, MD.

CALIFORNIA STYLE HOMES

are inexpensive to build and easy to sell. Write today for

STILLWELL PLAN BOOKS

containing pictures, floor-plans, and estimates of cost of building these attractive homes.



"Representative California Homes"
20 houses, 7 to 10 rooms—\$1

"The New Colonials"
60 houses, 6 to 10 rooms—\$1

SPECIAL OFFER. "West Coast Bungalows"
Send \$2.50 for any three of these books and get Garage Folder FREE. "Little Bungalows"
35 houses, 3-4-5 rooms—\$1

Money back if not satisfied

E. W. STILLWELL & CO., Architects, 925 Cal. Bldg., Los Angeles



For 16 Years
INTERNATIONAL Motor Trucks
 Have Made Transportation History

WHILE others have come and disappeared again, International Motor Trucks have advanced steadily to a position among the few leaders in truck sales. Year after year their sound reputation has been passed on from old to new owners. Their popularity is conceded by users. Fleet orders and repeat orders, based on utility and low operating cost, are forcing production to new records.

Unusual economies go with investment in International Motor Trucks—economies in first cost, performance, and upkeep—the logical result of this Company's 90-year manufacturing experience. Prospective buyers will find, in this full line of trucks, sizes and styles to meet the most exacting hauling problems.

Among the many exceptional elements in the International system of motor truck design, manufacture, distribution, and servicing, we shall touch here only on the matter of International after-sale service.

The Company is fortunate in the possession of a unique

field organization, capped by 93 branch houses strategically located in principal cities. These have been functioning for years in the interests of the Company's varied activities. Each maintains a completely equipped motor truck service station, in charge of highly trained specialists and road engineers whose single purpose is to safeguard the performance of International Motor Trucks.

These extensive facilities, linked with the service of thousands of truck dealers, enable us to maintain our Free Inspection Service Policy. This exclusive feature protects all International Trucks with a 4-times-yearly free inspection by factory trained road engineers. It is of tremendous cash value to owners whose trucks must be kept in continuous hard use.

International Motor Trucks are built in 12 sizes, ranging from the 2000-lb. Speed Truck to the heavy-duty unit of 10,000 lbs. capacity. Special bodies available for every purpose. Mail all requests for information to this address:

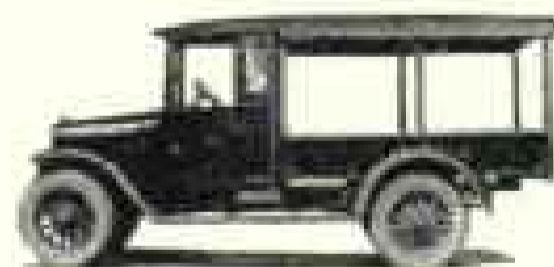
These illustrations show popular types of bodies available with the Speed Truck chassis. Similar styles provided also for all larger models.



Model S International Speed Truck with open express body and enclosed cab. Three-quarter or semi-enclosed cab can be supplied.



Panel stake body with three-quarter enclosed cab. Enclosed or semi-enclosed cab can be supplied with this type of body.



Open express body with full length bin and three-quarter enclosed cab. Enclosed cab and side and rear screens available if desired.

INTERNATIONAL HARVESTER COMPANY

CHICAGO OF AMERICA USA
 (INCORPORATED)

International Motor Truck Dealers' Contracts Are Still Available at a Few Points



The music of all the world is in the Victor Record Catalog

If all the performances of great music given throughout the world were combined in one mammoth program, they would not even then approximate the music listed for your enjoyment in the Victor Record Catalog. You yourself select the music you wish to hear by the artists you wish to hear.

New Victor Records on sale by all dealers in Victor products on the 1st of each month. Victrolas \$25 to \$1500.



Victrola

Important: Look for these trade-marks. Under the lid. On the label.
Victor Talking Machine Company, Camden, New Jersey

SOUP MAKES THE WHOLE MEAL TASTE BETTER

Campbell's chefs
invite you—



—to this rich treat!

It's good to sit down to a steaming plateful of this smooth, hearty Ox Tail Soup. The very first spoonful tells you it has been made by chefs of highest skill. Tender sliced ox tail joints in a thick soup, in which are blended luscious tomatoes, plump barley, golden turnips, Chantenay carrots, choice celery, fresh parsley, a touch of leek, and tasty ox tail broth. Let it simmer a few minutes in the saucepan to bring out its full, delicious flavor. This is the strengthening, invigorating kind of soup that adds real nourishment to any meal. Enjoy Campbell's Ox Tail tonight!

Campbell's name has a mighty fame—
You hear it night and noon.
But you'll know it best by this simple test:
Just lift your steaming spoon!



21 kinds

12 cents a can

Campbell's SOUPS

LOOK FOR THE RED AND WHITE LABEL



Whatever else may fail

Linking city, village and farm, crossing mountain and wilderness, the telephone system challenges Nature in her strongholds and battles her fiercest moods.

Out on his lonely "beat" the telephone trouble-hunter braves the blizzard on snow-shoes, body bent against the wind, but eyes intent upon the wires.

North, south, east, west—in winter and summer, in forest and desert—the telephone workers guard the highways of communication. Traveling afoot where there are no roads, crawling sometimes on hands and knees, riding on burros, or motor-

cycles, or trucks, they "get there" as they can.

When Nature rages to that point where few things can stand against her, when property is destroyed and towns cut off, the telephone is needed more than ever. No cost is too much, no sacrifice too great, to keep the wires open. If telephone poles come down with the storm, no matter how distant they may be, no matter how difficult to reach, somehow a way is found, somehow—in blizzard, hurricane, or flood—the service is restored.

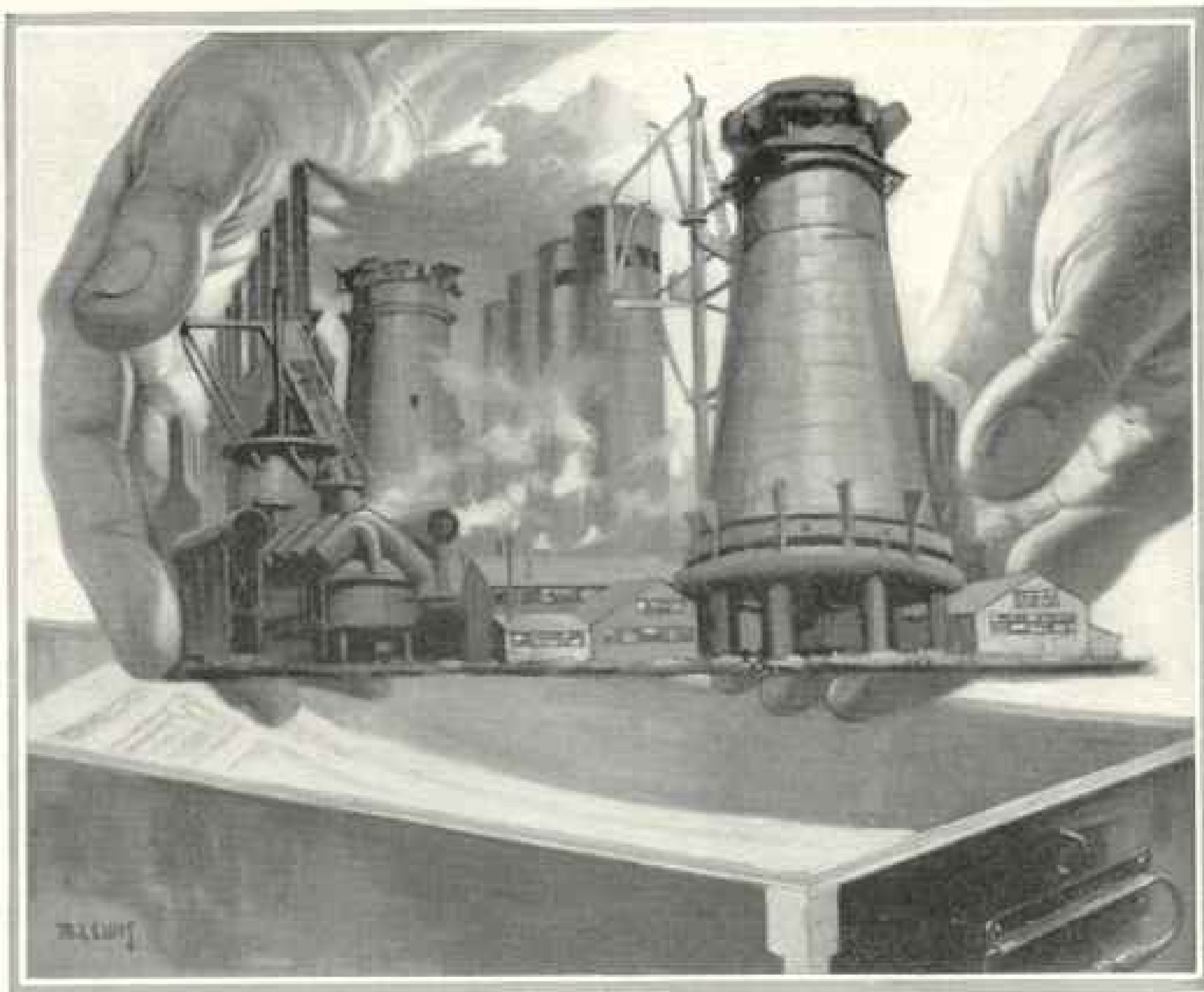
Whatever else may fail, the telephone service must not fail, if human effort can prevent it. This is the spirit of the Bell System.

" BELL SYSTEM "

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy, One System, Universal Service, and all directed toward Better Service





Invest in Bonds

— they are backed by actual values

WHEN a great industry with established earning power borrows money by issuing bonds, it pledges actual properties of known value as security for the amount borrowed.

Buyers of such bonds participate in a well secured loan for

a definite number of years at a definitely stated rate of interest.

The security back of every bond offered by The National City Company has been carefully studied and analyzed.

The latest list of such issues will be sent on request.



The National City Company

National City Bank Building, New York

Offices in more than 50 leading cities throughout the World.

BONDS · SHORT TERM NOTES · ACCEPTANCES



Photographing Five Miles

Kodak Lens Plant, where the Kodak Anastigmat is fashioned, has added another chapter to lens achievement in the successful manufacture of the largest lens known to aerial photography.

This lens, built for the United States Air Service and based on Kodak Anastigmat formulae, has a speed of $f.5$, a focal length of 36 inches and mounted is about half the size of a nail keg. It weighs about forty-five pounds.

Because of its extreme focal length and the sharp-cutting qualities which distinguish any product of the Kodak Lens Plant, this powerful lens makes satisfactory terrain photographs from a height of five miles, at which altitude the plane is virtually invisible from below.

To compare the Kodak Anastigmat $f.7.7$ Vest Pocket Kodak equipment with this giant lens is to realize the versatility and resources of the organization that produced both.

The **KODAK**
ANASTIGMATS

f.7.7 *f.8.3* and *f.4.5*

Eastman Kodak Company
Rochester, N. Y.

The Kodak City



FRANKLIN
NEW BODY STYLES
NOW ON DISPLAY





3-Point Superiority

1. The Famous Diamond-Grid—the diagonally braced frame of a Philco plate. Built like a bridge. Can't buckle—can't warp—can't short-circuit. Double latticed to lock active material (power-producing chemical) on the plates. Longer life. Higher efficiency.

2. The Philco Slotted Rubber Retainer—a slotted sheet of hard rubber. Retains the solids on the plates but gives free passage to the current and electrolyte. Prevents plate disintegration. Prolongs battery life 41 per cent.

3. The Quarter-Sawed Hard-Wood Separator—made only from giant trees 1,000 years old; quarter-sawed to produce alternating hard and soft grains. Hard grains for perfect insulation of plates. Soft grains for perfect circulation of acid and current—quick delivery of power. Another big reason why Philco is the battery for your car.

LOOK FOR THIS SIGN

of Philco Service. Over 3,000 stations—all over the United States. There is one near you. Write for address, if necessary.

**PHILADELPHIA
DIAMOND
GRID
BATTERY**

With the PHILCO Slotted Retainer

He tried to beat winter with an ordinary battery!

But after THIS he bought a man-size Philco—the long-life, high-powered battery that whirls the stiffest engine—gives you quick, sure-fire ignition—protects you from the humiliations and perils of battery failure.

Veteran car owners realize—thousands from bitter, hand-cranking experiences—that starting cold, oil-clogged motors—firing sluggish slow-vaporizing gasoline—keeping headlights blazing hour after hour—is no job for weak or under-powered batteries.

That's why thousands upon thousands of motorists today are demanding Philco Slotted-Retainer Batteries with the famous Diamond-Grid Plates. They know the Philco Battery has the tremendous reserve power needed for trouble-free driving in winter—the rugged, shock-proof construction that stands overcharging in summer.

Why risk the uncertainties of ordinary batteries? Why continue exposing yourself and family to the embarrassments and dangers of battery failure? A long-life, power-packed Philco—guaranteed for five years—now costs you no more than just an ordinary battery.

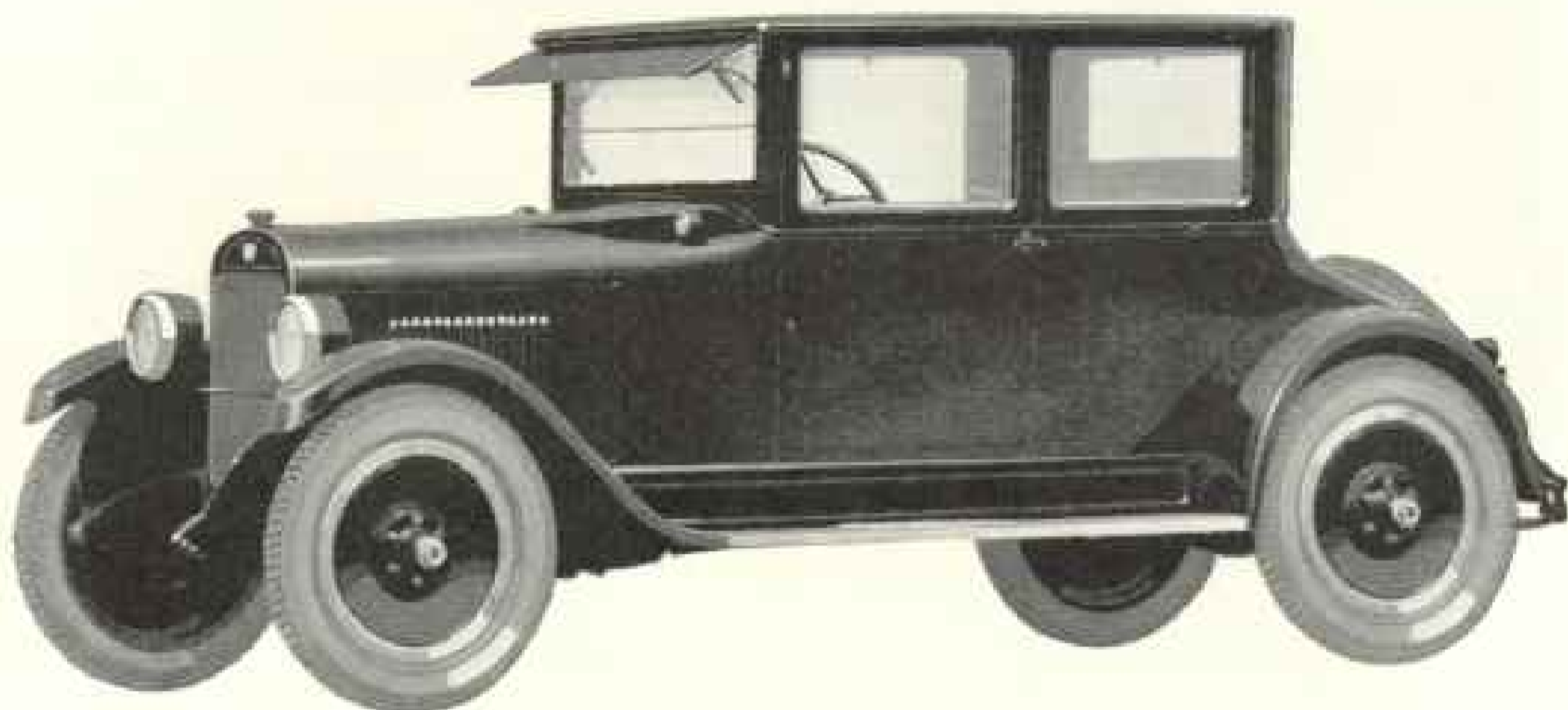
See your nearest Philco Service Station at once! He has a right-size Philco Battery for your particular car.

Philadelphia Storage Battery Co., Philadelphia

The famous Philco Slotted-Retainer Battery is standard for electric passenger cars and trucks, street locomotives and whatever you use batteries for. Write Philco to save money.

PHILCO
SLOTTED-RETAINER
BATTERIES

with the famous shock-resisting Diamond-Grid Plates



Every unit in the good Maxwell has been immensely bettered since the new and powerful manufacturing organization began its work two years ago.

Because of that fact, the good Maxwell is pushing steadily ahead toward complete and positive domination of its own price field.

It is outselling under closest comparison with other cars—not merely because it is so much more beautiful, but because of the easily proven greater goodness underneath the beauty.

The new organization has not merely made the motor the great power plant it is, but has applied the same policy of progressive improvement to every operating part that contributes to fine performance and long life.

Cord tires, non-skid front and rear; disc steel wheels, demountable at rim and at hub; drum type lamps; Alenite lubrication; motor-driven electric horn; unusually long springs; new type water-tight windshield. Prices F. O. B. Detroit, revenue tax to be added: Sedan, \$1335; Four-Passenger Coupe, \$1235; Club Coupe, \$985; Sport Touring Car, \$985; Sport Roadster, \$960; Touring, \$885; Roadster, \$885.

MAXWELL MOTOR CORPORATION, DETROIT, MICHIGAN
MAXWELL MOTOR COMPANY OF CANADA, LTD., WINDSOR, ONTARIO

The Good

MAXWELL



Walter Camp's New Way to Keep Fit

Walter Camp, Yale's celebrated football coach, has been teaching men and women everywhere how to keep fit—"on edge"—full of bounding health and youthful vitality—and how to enjoy doing it. Walter Camp says that a civilized indoor man is a "captive animal," just as much as a tiger in a cage. But the tiger instinctively knows how to take the kind of exercise he needs to keep fit—he stretches, turns and twists his "trunk muscles"—the very same muscles that tend to become weak and flabby in indoor men and women. With Mr. Camp's permission the "Daily Dozen" exercises have now been set to spirited music on phonograph records. They supply exactly the right movements to put these vitally important "trunk muscles" into the pink of condition, and keep them there. These twelve remarkable exercises, done to music, with a voice on the record calling out the commands, are all you need to keep your whole body in splendid condition—and they take only 15 minutes a day.

Five Days' Free Trial

You cannot fully appreciate the real joy of doing the "Daily Dozen" to music until you try it. So we want to send you, absolutely free for five days, the five full-size, ten-inch, double-disc records, playable on any disc machine, containing the complete Daily Dozen Exercises, and the book of 60 actual photographs showing clearly every movement. A beautiful record-album comes free with the set.

No need to send any money. Simply mail the coupon below. Enjoy the records for five days, and if for any reason you are not satisfied, return them and you owe nothing. But if you decide to keep the records, you can pay for them at the easy rate of only \$1.50 down, and \$1 a month for four months until the sum of \$4.50 is paid. Thousands of people have paid \$15 for the same system.

Simply mail the coupon and see for yourself, at our expense, the new, easy, pleasant way to keep fit. It will add years to your life—and make you happier by keeping you in glowing health. Mail the coupon today. Address Health Builders, Inc., Dept. 792, Garden City, New York.

FIVE DAY TRIAL COUPON

HEALTH BUILDERS, Inc.

Dept. 792, Garden City, N. Y.

Please send me for five days' Free Trial at your expense the Complete Health Builder Series containing Walter Camp's entire Daily Dozen on five double-disc ten-inch records; the book containing the 60 actual photographs; and the beautiful record-album. If for any reason I am not satisfied with the system, I may return it to you and will owe you nothing. But if I decide to keep it, I will send you \$1.50 in five days (as the first payment) and three to pay \$1 a month for four months until the total of \$4.50 is paid.

Name (Please Write Plainly)

Address

City State

If you prefer to take advantage of our cash price send only \$1 down. Orders from outside the United States are payable cash in full with order.



Pleasant Evenings at Home

Keep the family together in the evenings—have them look for their pleasure at home. Many enjoyable hours can be spent with a

Bausch & Lomb HOME BALOPTICON

This Balopticon, of new design, is a high-grade, well-built projection machine, for the projection of opaque objects, such as photographs, post cards, or pages of books. It is attached to any ordinary lamp socket, and can be operated by anyone.

A favorite use among the children

is in having pages of "best-time stories," or similar books, with their clever pictures, thrown on the screen. The book is in no way damaged.

There are many other ways for the Home Balopticon to provide genuine pleasure, at small public gatherings as well as in the home.

Write for the Home Balopticon booklet containing many suggestions for entertainment with this machine.

BAUSCH & LOMB OPTICAL COMPANY

602 St. Paul Street, Rochester, N. Y.

New York Washington Chicago
San Francisco London

Leading American makers of Stereo-Prism Binoculars, Telescopes, Spectacles, Lenses, Periscopes, Apparatus, Instruments, Microscopes, Magnifiers, Anamorphic Lenses and other High-Grade Optical Products.



"Johnny! Don't ever say that again!"

Has your boy or girl occasionally shocked you with a too worldly-wise comment—or surprised you with a wrong understanding of something he or she should have known? Apparently, your guidance has been futile; your child just seems to drift along, learning no more and no better than what companions teach.

TO CORRECT THE EVIL MAKE HIM READ ST. NICHOLAS

By inventing less than the cost of your morning paper, you can let your boy lead himself rightly. Give him a year's subscription to St. Nicholas—the best-loved magazine of America's youth. For 50 years, it has been written and edited for boys and girls up to 15 years of age. In addition to fiction by the best authors of juvenile stories, St. Nicholas has articles on travel, sport, science, topics of the day, and prize contents—all written with a powerful appeal. In St. Nicholas to read regularly, a boy or girl finds the counterbalance to such harmful influences as cannot be guarded against. Order St. Nicholas to-day; youth does not wait.

Send check or money-order for \$4 to St. Nicholas Subscription Department, T-24, 251 Fourth Ave., New York.

ST NICHOLAS for Boys and Girls

"Mention The Geographic—It identifies you"



TYPED WORDS ARE WINGED WORDS!

In the building of the bridge, words—surely as steel—have their part.

In every field of life—the boy's study, the man's work, the woman's social activities—words play a leading rôle.

Let them be winged words—typed on the responsive keys of the Underwood Portable. Then they

are words easily written and pleasurable to read—words that are forceful, accurate and clear.

Because it is built by the makers of the world's Standard Typewriter, because it embodies features that are exclusively Underwood, this Portable makes it possible for anyone to do *Underwood Typewriting* anywhere.

PRICE \$50

in the United States.

The Portable is obtainable at Underwood offices in all principal cities, or direct by mail.

Caution:

*Weight 27½ lbs.
Height 47½ inches.*



*Send for
"Giving Wings to Words"
an illustrated booklet fully
describing the features of the
Underwood Standard Portable.*

*"The Machine
You Will Eventually
Carry."*

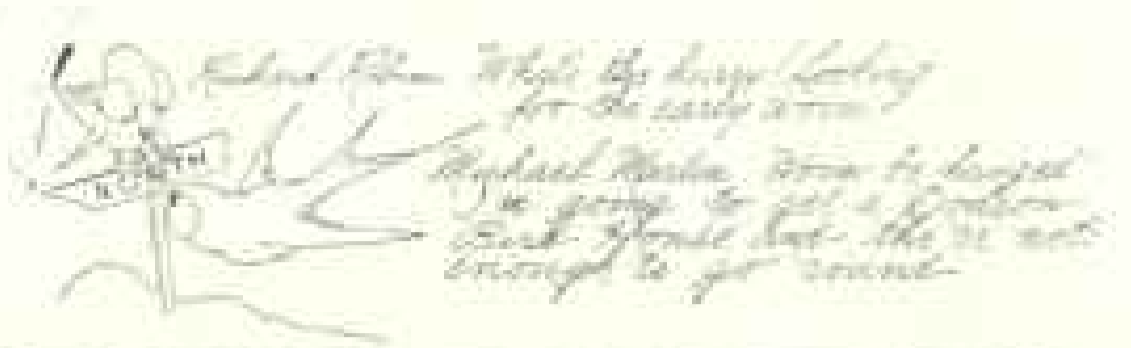
UNDERWOOD TYPEWRITER COMPANY, INC., UNDERWOOD BUILDING, N. Y.

UNDERWOOD PORTABLE



Wren House

A 4-compartment house, satisfying the wren's habit of changing nests for each succeeding brood. Of selected fir with roof of cypress. To hang, 18 inches high, 12 in. diam. Price \$6.00.



Richard Allen "While the birds are looking for the early spring" Richard Allen "Wren to be hung" is going to get a Golden Bird House but the wren not enough to get round"

Dodson Bird Houses

OVER THE VELVET OF YOUR LAWN THIS SEASON—among your trees—in your garden—welcome the song birds! . . . Put up the Dodson Bird Houses. Quaint green and white signs of hospitality. Thereby will you escape those ravages of cut worms, grasshoppers, beetles. The song birds work merrily, protecting trees and gardens. The silver-toned wren who lives on six hundred caterpillars and bugs a day—the busy martins with their appetite for mosquitoes—the flycatcher, blue bird, flicker—they all pay rent for the lodgings you offer! . . . Now, good citizen, it is time to put up your houses. Beautiful estates, or the smallest places, know Dodson Bird Houses. Let Mr. Dodson advise you. Enjoy the blessings these scientifically-fashioned little houses bring you!



Purple Martin House

Cottage style, for martins to colonize, 18 rooms. This house is made of white pine, properly seasoned, painted in green and white. 25-27-31 inches. Price \$18.00. Other styles to \$25.00.



Great Crested Flycatcher

Strikingly original, this house may be placed on a pole, or hung. Of white pine. Size 15-11-8 inches. Price \$3.50. With copper roof, \$4.25.



Famous Dodson Sparrow Trap guaranteed to remove this pest, \$4.00.

FREE: Mr. Dodson's fascinating booklet—*Your Bird Friends and How to Win Them*—will be gladly sent you upon request. Fifty years loving study of the birds has concentrated it. Things about the work of our song birds well worth knowing!



High School Course in Two Years

This simplified, complete High School Course—specially prepared for home study by leading professors—meets all requirements for entrance to college and the leading professions.

30 Other Courses Whether you need High School training or specialized instruction in any trade or profession the American School can help you. Check and mail coupon for Free Bulletin.

American School
Drexel Ave. and 58th Street
Dept. H-2169
Chicago

- American School, Dept. H-2169, Drexel Ave. and 58th St., Chicago
- Send me full information on the subject checked and how you will help me win success.
- | | |
|--|---|
| <ul style="list-style-type: none"> Architect Building Contractor Automobile Engineer Automobile Repairman Civil Engineer Structural Engineer Business Manager Cert. Public Accountant Accountant and Auditor Bookkeeper Draftsman and Designer Electrical Engineer Electric Light & Power General Education Vocational Guidance Business Law | <ul style="list-style-type: none"> Lawyer Machine Shop Practice Photoplay Writer Mechanical Engineer Shop Superintendent Employment Manager Steam Engineer Foremanship Sanitary Engineer Surveyor (and Mapping) Telephone Engineer Telegraph Engineer High School Graduate Fire Insurance Expert Wireless Radio Undecided |
|--|---|

Name.....
Address.....

A Garden Full of Gladioli

for \$2.00



The Gladiolus is one of the most satisfactory flowers grown, and there is no reason why every family cannot enjoy this grand flower—it is as easy to grow as the potato.

Bloom from July to frost if you plant a few bulbs each month from April to July.

For Two Dollars we will send 50 Bulbs of our Grand Prize mixture, which covers every conceivable shade in the Gladiolus kingdom.

Each year we sell thousands of these bulbs and have received numerous testimonials as to their merits.

Order Your Bulbs Now, so as to have them to plant when you begin making your garden.

English cultural directions with every package

Mail this advertisement with check, money order, cash, or stamps, and secure this splendid collection, sent prepaid to any part in the U. S. east of the Mississippi. For points West and Canada, kindly add 25c. to cover cost of delivery.

Use 25c. Additional Seed Annual 1924 or 1925

Stump & Walter Co.

30 and 32 Barclay Street New York

"Mention the Geographic—It identifies you."



Good Buildings Deserve Good Hardware



GOOD Hardware, like good plumbing and good heating, adds permanently to the investment value of a building.

And Good Hardware is a joy to live with—never a nuisance.

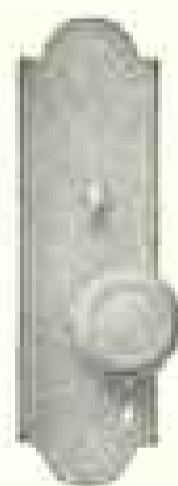
The difference in cost between Good Hardware and cheap is only a fraction of a percent of the cost of a building. The difference in the way it works, the way it looks and the way it lasts is the real difference.

If you are interested in building, write for booklet, "Good Buildings Deserve Good Hardware."

P. & F. CORBIN

SINCE 1840

The American Hardware Corporation, Successor
NEW BRITAIN :: CONNECTICUT
NEW YORK CHICAGO PHILADELPHIA





The luxury and convenience of built-in accessories

Whether your home is elaborate or unpretentious, the keynote to real luxury and comfort will be found in the appointments of the bath.

Fairfacts China Accessories are built in the bathroom walls. They will endure as long as the structure itself, without staining or cracking. Their bright, fresh appearance, as the years go on, will be a perennial tribute to your judgment in making sure that genuine Fairfacts China Accessories were installed when you built your home.

Fairfacts Fixtures cover every need of the bath, Soap Holders, Towel Racks, Paper Holders, Tooth Brush and Tumbler Holders, Shelves and Electric Radiators, etc.

May we send you our booklet, "The Perfect Bathroom."

THE FAIRFACTS COMPANY, INC.
Manufacturers

234 West 14th Street, New York City

Fairfacts Fixtures

BUILT IN YOUR BATHROOM WALLS



Wall Deep

The beauty of your new home should go deeper than a charming exterior. Build it of Natco Hollow Tile and its beauty will be wall-deep. It will resist the cold of winter and the heat of summer with equal faithfulness. Its upkeep cost will be low and its repair bills low. Let us explain. Write for free book of Natco Homes today.



NATIONAL FIRE-PROOFING
COMPANY

322 FULFON BUILDING PITTSBURGH, PA.

NATCO

HOLLOW TILE

Flowers from Childs



LET your garden reflect your personality. Plant it with the unusual! Among the many unusual flowers we offer, none surpass in originality and decorative value these:

4 Unique Seed Novelties
Chinese Waxflowers, radiant crimson... 25c pkt
Giant Koechin, famous decorative plant... 25c pkt
Blue Lace Flower, like Queen Anne's Lace 50c pkt
Jerusalem Cherry, red or golden berries 10c pkt
One packet of each (70c value) for 25c.

You should also know Childs' Gladioli, unequalled in exquisite colorings, large size, and great substance.

12 Superb Gladioli Bulbs
Splendid mixture of Pyramidalis Hybrids, a full harmony of color. 12 sure-to-bloom bulbs..... 25c.

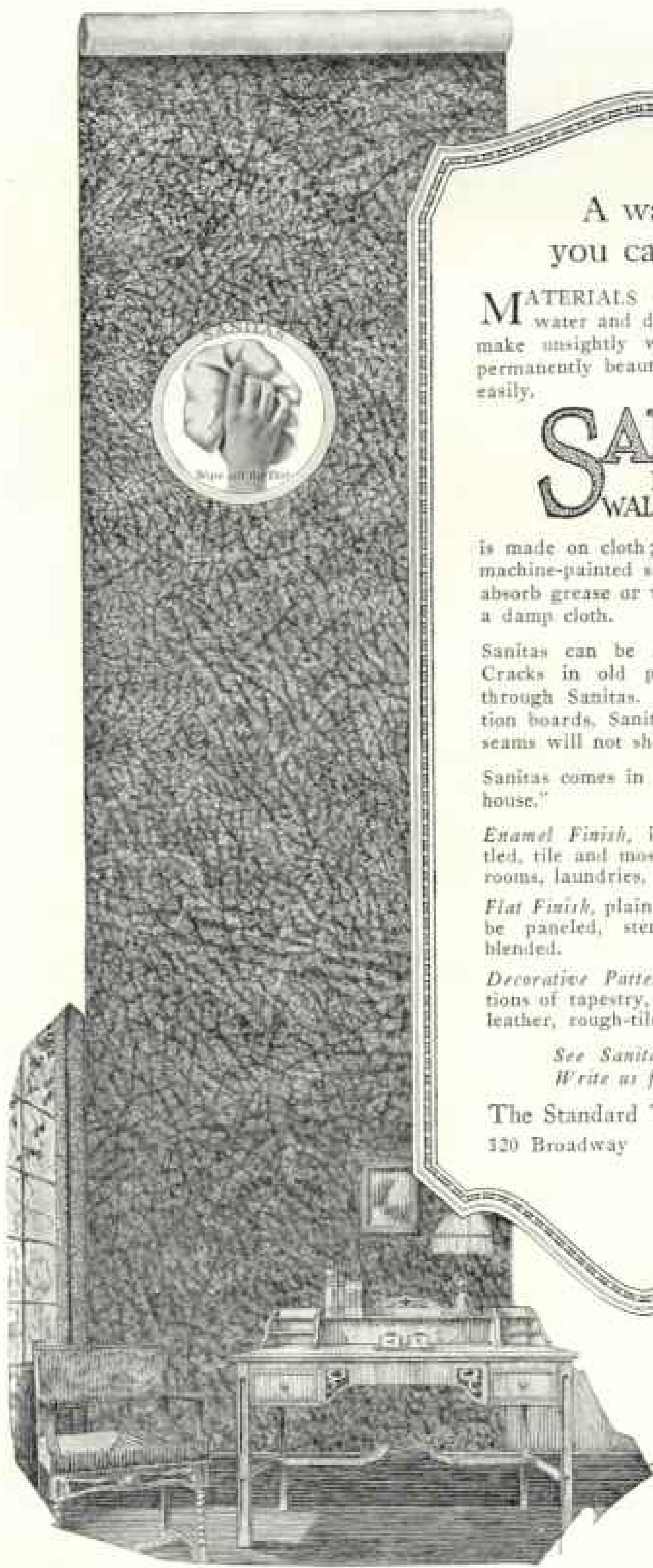
SPECIAL OFFER—Send 50c for both offers and we will add superb named Dahlias too..... **FREE!**

Childs' Catalog—The Guide to Greater Garden Delights **FREE!**

During our half-century of serving American Home-gardeners, it has been our privilege to introduce many unique and rare plants. We are constantly striving to find other north-while material for your gardens. Our catalog offers everything for old-fashioned gardens, Potential or Herbaceous borders, Shrub backgrounds, Rockeries, or any other situation. Send for it promptly to be able to get Special Premium offer for early orders. Mention this paper.

John Lewis Childs, Inc., Floral Park, New York

Don't Forget Your Garden



A wall covering
you can keep clean

MATERIALS that show finger marks, or water and dirt stains, are unsanitary and make unsightly walls. No wall covering is permanently beautiful unless it can be cleaned easily.

SANITAS

MODERN
WALL COVERING

is made on cloth; does not crack or tear. Its machine-painted surface does not fade, will not absorb grease or water, can be kept clean with a damp cloth.

Sanitas can be applied to any flat surface. Cracks in old plaster walls will not show through Sanitas. On walls made of composition boards, Sanitas eliminates panel strips, as seams will not show.

Sanitas comes in "styles for every room in the house."

Enamel Finish, in plain colors, striped, mottled, tile and mosaic effects, for kitchens, bathrooms, laundries, etc.

Flat Finish, plain colors, for flat tones that can be paneled, stenciled, frescoed, stippled or blended.

Decorative Patterns, floral designs, reproductions of tapestry, grass-cloth, chambray, burlap, leather, rough-tile and stucco.

See Sanitas at your decorator's.

Write us for samples and booklet.

The Standard Textile Products Company,
120 Broadway Dept. 26 New York





WINTER VACATION VOYAGES



Sail away to summer days and starlit nights—to the lands of color and romance that edge the Mediterranean or to thirteen of the gorgeous foreign lands that dot the Caribbean.

MEDITERRANEAN

ADRIATIC (24,541 tons)

From New York

January 6 February 24

A transatlantic liner, famous for de luxe quarters, cuisine and service. You visit Egypt, Italy, the Riviera. (Greece and the Holy Land, if you wish). Ample time for delightful shore excursions.

Accommodations at very moderate rates.

WEST INDIES

By White Star Liner

MEGANTIC

(20,000 tons disp.)

Specially constructed for cruising

From New York

Jan. 15 Feb. 17 Mar. 22

28 days of delight among the interesting and diverting countries beneath the Southern Cross—includes Panama Canal and La Guaira, South America. Rates as low as \$9 per day. No passports.

WHITE STAR LINE

Inquire for details

No. 1 Broadway, New York

Inquire for details

DUES

Annual membership in U. S., \$1.00; annual membership abroad, \$1.00; Canada, \$1.50; Life membership, \$100. Please make remittances payable to the National Geographic Society, and if at distance remit by New York draft, postal or express order.

RECOMMENDATION FOR MEMBERSHIP

IN THE

NATIONAL GEOGRAPHIC SOCIETY

The Membership Fee Includes Subscription to the National Geographic Magazine

PLEASE DETACH AND FILL IN BLANK BELOW AND SEND TO THE SECRETARY

192

*To the Secretary, National Geographic Society,
Sixteenth and M Streets Northwest, Washington, D. C.*

I nominate

Occupation

(This information is important for the records.)

Address

for membership in the Society

.....
.....
.....
Name and Address of Nominating Member



PATTON'S Velumina

The Oil Flat Wall Paint

PORE-PROOF



Clean Walls Are a Business Asset

THAT'S why Patton's Velumina is so frequently used in offices and public buildings. This oil flat wall paint is pore-proof. Dirt, dust and grime cannot penetrate its hardy film. Stains can be easily washed away without marring the surface.

Velumina comes in white and sixteen attractive colors, giving a wide choice of tones suitable for decorating any type of room. You will find walls of Velumina in the finest type of homes. Interior decorators recommend it because it gives that artistic, glossless, velvety finish that is so much to be desired. It also aids cor-

rect diffusion of light. You will find it in hospitals, schools, libraries — all places where sanitary walls are essential.

In addition to Velumina, the Pittsburgh Plate Glass Company manufactures many other high-grade products known for high quality and perfect service. No matter what you require in the way of glass or paint and varnish products, the Pittsburgh Plate Glass Company manufactures something that will meet your requirements exactly. Handled by quality dealers everywhere.

*A good brush is as essential
as good paint.*



Write for "Proof" Booklet



OUR PAINT AND VARNISH ADVISORY BOARD will gladly consult with any manufacturer facing a paint or finishing problem and render recommendations without obligation. Booklet on request.

PITTSBURGH PLATE GLASS CO.

GLASS

Manufacturers

PAINT

Paint and Varnish Factories

Milwaukee Wis. - Newark, N.J.

Send the Coupon for free estimate

Chamberlin Metal Weather Strip Co., Detroit, Mich.

Tell me the cost of equipping my building with Chamberlin Metal Weather Strips (check whether home, factory, office building, church, school).

Give number of outside doors.....
windows.....

Name.....

Address.....

City and State.....

Eng. Dept. A-2

Save Fuel Keep Warm End Draughts

You will be surprised at the small cost of equipping your home or business building with Chamberlin Metal Weather Strips.

And they add so much to comfort, cleanliness and good household economy. They save 25% to 40% of fuel costs. Keep dirt, dust, soot and smoke from sifting in. That ends one of the most tedious tasks of housework.

Why Heat Your Building 36 Times Every Day?

Tests show the influx of cold air at unprotected windows and doors fills the average building 36 times daily. Why fight this with fuel?

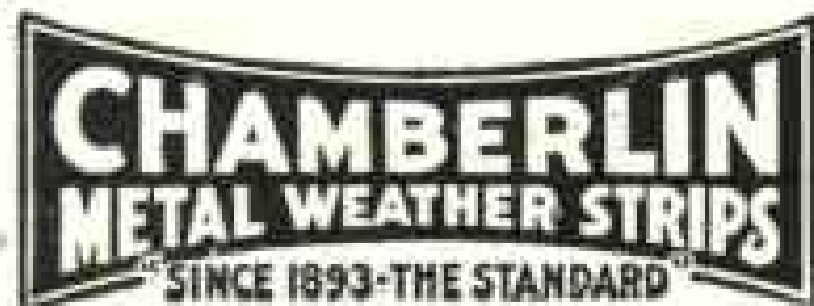
How much more simple to bar it out as thousands of good home managers do, with Chamberlin Metal Weather Strips.

At 12,000,000 windows and doors Chamberlin Metal Weather Strips permanently end fuel waste and discomforts resulting from draughts. They make homes dust-proof. Protect hangings, furnishings and decorations. End rattling doors and windows.

Healthier homes result. Children are safe from cold air currents. No cold spots. You are not driven from the bright, cheerful window by chill draughts.

Free Chamberlin Strips are used on 85% of all weather stripped buildings, including homes, banks, schools, office buildings, churches, stores, hotels and apartments.

They are guaranteed to last as long as the building. Any need for service or attention, no matter how many years hence, is cheerfully done free, by Chamberlin experts. An estimate by our engineering department, on the cost of your equipment, is free. Just send the coupon.



"Mention The Geographic—It identifies you"

\$538

**Buy
this**



5-Room House

You can buy all the material for a complete home direct from the manufacturer and save four profits on the lumber, millwork, hardware, and labor. Write today for Free Aladdin Catalog No. 477.

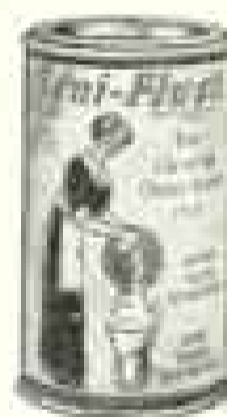
BUY DIRECT—SAVE PROFITS

Prices quoted include all lumber cut to fit, windows, doors, woodwork, glass, paints, hardware, nails, bath, and roofing. Complete drawings and instructions. Many styles to choose from.

Highest grade lumber for all interior woodwork, siding, and outside finish. Send today for money-saving Aladdin Catalog No. 477.

The ALADDIN Co., BAY CITY, MICHIGAN

Also Mills and Offices at Wilmington, North Carolina; Portland, Oregon; and Toronto, Ontario



*It cleans
where
you can
and
cannot
see*

Sprinkle Sani-Flush into the toilet bowl. It removes all discolorations. The porcelain gleams. No scrubbing, no scouring!

Sani-Flush cleans the hidden, unhealthy trap. Destroys all foul odors. Will not harm plumbing connections. Just sprinkle Sani-Flush into the bowl. Follow directions on the can, and flush. Keep Sani-Flush handy in the bathroom.

Buy it at grocery, drug, hardware, plumbing and house-furnishing stores. Price, 25c.

THE HYGIENIC PRODUCTS CO., Canton, Ohio
Foreign Agents: Harold F. Ritchie & Co., Ltd., Toronto, Canada
33 Farringdon Road, London, England; China House,
Sydney, Australia

Sani-Flush

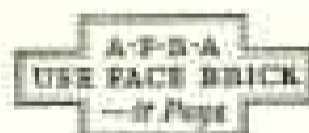
Cleans Closet Bowls Without Scouring



SIX-ROOM HOUSE No. 610
 Designed for Service Dept., American Face Brick Association.
 This is one of the ninety-six designs in "Face
 Brick Bungalow and Small House Plans."

Homes of Lasting Satisfaction

For the home-builder who seeks a house that will be beautiful when completed and grow more charming with age; that will be as staunch in the days of his grandchildren as in his own time; that will require no repairs and but a minimum of upkeep; that will save in insurance rates and fuel bills—in short, for the home-builder who seeks the utmost of beauty and durability at the greatest ultimate economy, Face Brick has an interesting story. It is told in detail in "The Story of Brick." For your copy, address American Face Brick Association, 1737 Peoples Life Bldg., Chicago, Ill.



Send for these booklets:

"The Story of Brick" is an attractive booklet with beautiful illustrations of modern homes, and discusses such matters as Comparative Costs, Basic Requirements in Building, the Extravagance of Cheapness, Financing the Building of a Home, and kindred subjects. A copy will be sent free to any prospective home-builder.

"Face Brick Bungalow and Small House Plans" embrace 96 designs of Face Brick Bungalows and small houses. These houses are unusual and distinctive in design, economical to build, and convenient in floor plan. "Face Brick Bungalow and Small House Plans" are issued in four booklets, showing 3 to 4-room houses, 5-room houses, 6-room houses, and 7 to 8-room houses. The entire set for one dollar; any one of the books, twenty-

five cents. We can supply complete working drawings, specifications and masonry quantity estimates at nominal prices.

"The Home of Beauty" contains fifty designs of Face Brick Houses, mostly two stories, representing a wide variety of architectural styles and interior arrangements. These houses were selected from 350 designs submitted in a nationwide Architectural Competition. Sent for 50 cents. We also distribute complete working drawings, specifications and quantity estimates for these houses at nominal cost.

"Orienting the House" is an illustrated booklet, with a sun dial chart and explanation for placing the house with reference to light and shade. Sent for 10 cents.



AMERICAN
STATIONERY
guaranteed to satisfy

Included among our regular customers are hundreds of world-prominent people—people who do not hesitate to send us sincere expressions of their satisfaction with American Stationery. They are frankly pleased with its sterling quality, its tasteful style, the neat printing, the service that goes with it and the ideal fitness of this particular note-paper for informal, family correspondence and household business uses. We want you to try a package. We guarantee that you will be satisfied.

200 *Sheets-100 Envelopes*
 PRINTED WITH NAME AND ADDRESS for \$1.00

This comprises our "Regular Package" which is made up as follows and mailed postpaid. PAPER: National Bank Bond—clear, white, fine textured, exquisite writing surface. SIZE: Sheet 6 x 7; envelopes to match. INK: Name and address, printed as shown in illustration, in rich, dark blue ink. For orders west of Denver and foreign countries, add 10%. Always remit with order. With the exceptional facilities of our large plant, all orders are filled with amazing speed. We have no agents or branch plants.



All American Stationery is sold by mail from Peru, Indiana, whose we, originators of this type of stationery, have successfully manufactured it for eight years.

The American Stationery Co.
 Dept. 2, Peru, Indiana

COUPON

THE AMERICAN STATIONERY CO.
 DEPT. 2, PERU, INDIANA

Gentlemen: Herewith is \$1.00 for 200 sheets and 100 envelopes of American Stationery to be printed as shown on attached slip. (Note: To avoid errors, write or print copy plainly.)

MONEY READILY REFUNDED IF YOU ARE NOT WHOLLY SATISFIED



ONLY frequent cutting and heavy rolling will produce that smooth, carpet-like effect seen in well-kept lawns. Ideal Power Lawn Mowers do both in one operation at less than one-third the cost when done by hand. An unskilled man or laborer's wages can operate the simple, fool-proof mechanism. He will cut from a half to a full acre an hour, trimming the borders closely and rolling the open spaces to velvety smoothness.



Illustrated descriptive literature will be mailed upon request.

Ideal Power Lawn Mower Co.
 R. E. Olds, Chairman
 422 Kalamazoo St. Lansing, Michigan
 See list, 12-13 Home Street Chicago, 11 E. Warren Street
 Dealers in all Principal Cities

IDEAL
 Power Lawn Mowers

CLARK'S 20th CRUISE, June 27
 TO THE MEDITERRANEAN
 And Europe, by Specially Chartered White Star S. S.

"BALTIC" 23,884 tons

57 day cruise, \$600 upward, including Hotels, Drives, Guides, etc. Visiting Madeira, Cadiz, Seville (Granada), Gibraltar, Algiers, Athens (Corinth Eleusis), Constantinople, Palestine (Galilee, Samaria), Cairo, Naples, Rome, Monaco, Monte Carlo, Havre, Liverpool. Eleven days in Paris and London, \$100 extra. Stop-overs in Europe arranged.

UNIVERSITY-EXTENSION and other good tours to Europe under escort, reasonable rates.

WINTER CRUISE February 2, 1934, S. S. "Baltic"; 63 days, \$600 upward. Optional Nile journeys.

FRANK C. CLARK, TIMES BLDG., N. Y.



THE GLEN SPRINGS

WATKINS GLEN, N. Y.
 ON SENECA LAKE

William E. Leffingwell, President

All advantages of European Spas without strain of ocean trip. Hydrotherapy, electrotherapy, mechanotherapy. Only place in America where Nauheim baths are given with natural calcium chloride brine. Open all year. Booklets on request.



Is your heart hungry for open skies?

Long days of invigorating sunshine, boundless stretches of verdant desert and mountains, and sparkling, dry air add zest to *just living* in Tucson, Arizona.

In Tucson grotesque cactus and blue-green, copper-stained mountains are within a stone's throw of roses and modern bungalows. Deer, quail and wild ducks are bagged but a few hours from smart shops and theaters.

Good Hotels—Reasonable Rentals

Away from jangle and confusion you may still enjoy city conveniences. Open skies, wide horizons, unsurpassed climate will bring new peace of mind and vigor of body. Rents are reasonable; hotels excellent. A modest income suffices.

Before you decide where to go this winter read "Man-Building in the Sunshine-Climate." It tells the story of the revitalizing climate vouched for by thousands who first came for health or pleasure and now remain from choice. Just send the coupon.

TUCSON

Sunshine-Climate Club

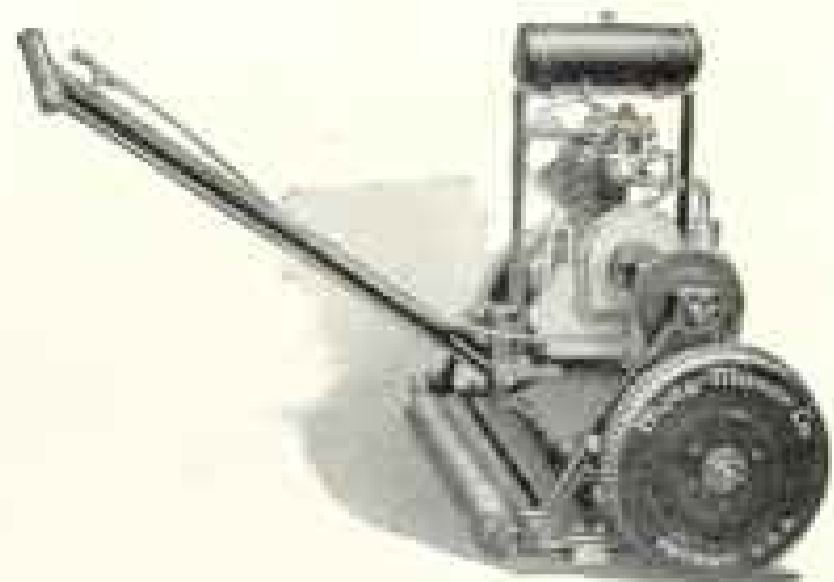
ARIZONA

TUCSON SUNSHINE-CLIMATE CLUB,
153 Old Pueblo Bldg., Tucson, Arizona.

Please send by return mail your free booklet, "Man-Building in the Sunshine-Climate."

Name _____

Address _____



A Real Grass Cutter

This is the new Moto-Mower—a compact, easily operated power lawn mower. No expert mechanics needed to keep it running. Anyone can use it. Turns corners on its own power. This new model Moto-Mower will appeal to every lawn mower user. Send today for latest catalogue.

The Moto-Mower Co.

3344 E. Woodbridge St.

Detroit

Winter and Spring Abroad

Mediterranean North Africa—Europe

Rates, \$538 Up

Small parties enjoying privileges and advantages such as never fall to the lot of the cruise passenger—no annoying extra expenses. Seven tours at frequent intervals from January 1934.

Membership limited. Prompt application necessary for reservation

Descriptive Booklet "G" on request

McCANN'S TOURS, INC.

1328 Broadway

New York City

Debie Motion Picture Cameras

SLOW MOTION—REGULAR SPEED

With or Without Automatic Dissolving Shutter

The Most Practical Camera for Expeditions, Microscopic Studies, and General Use

Catalogue on Request



SEPT HAND MOTION PICTURE AND STILL CAMERA

Takes 250 snapshots or 18 ft. of motion pictures in one loading. Weighs only 4 lbs. Tripod unnecessary. Ideal outfit for travelers and home workers

MOTION PICTURE APPARATUS CO.

118 WEST 44th STREET

NEW YORK CITY

Everything for the Studio and Laboratory

Ownership Management of

Willoughby Corporation

110 W. 32d St., N. Y. City

"Mention the Geographic—It identifies you."

THE SWEETMEATS OF KINGS



By Appointment



to King George V.

BISCUITS: Really confections—these crispy, luscious morsels of such smooth creaminess they fairly melt on your tongue.

With great confidence we offer this famous assortment, made by the unrivalled house of Huntley & Palmer, known thruout the world for their irreproachable products.

Huntley & Palmers
Biscuits

A Biscuit for Everybody's Taste,
If high grade grocers cannot supply you, write—
RIDGWAYS TEA CO., 60 Warren Street, New York
Sole Agents in U. S. A.

SPECIAL OFFER of TESTED SEEDS



If you write now for our 1923 Catalogue we will send the famous HENDERSON Collection of seeds—one Packet each of Eclipse Beet, Viridiflax Spinach, White Tipped Scarlet Radish, Henderson's Invisibile Asters, Henderson's Brilliant Mixture Poppies, Giant Waved Spencer Sweet Peas.

HOW TO GET THEM

Simply state where you saw this advertisement, enclose ten cents for mailing the Catalogue, "Everything for the Garden," and the seeds will be sent without extra charge.

EMPTY ENVELOPE COUNTS FOR CASH

These tested seeds come in a coupon envelope which, emptied and returned, will be accepted as a 10-cent cash payment on any order amounting to \$1.00 or more. Don't delay; write at once.

1923 CATALOGUE NOW READY

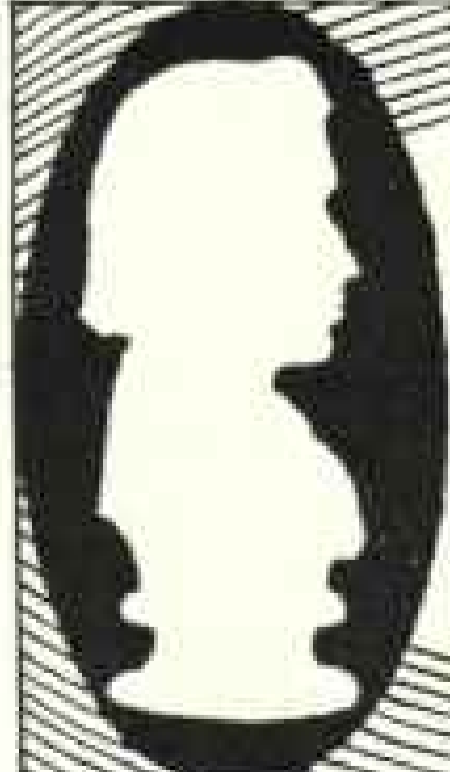
Bigger and better than ever, the most beautiful and complete horticultural publication of the year, a book of

176 Pages

14 color pages. Over 1000 beautiful engravings showing actual results. A mine of valuable garden information. Send today for this helpful guide to a better garden and the special seed collection.

PETER HENDERSON & CO. 35 & 37 GORTLAND ST. NEW YORK CITY

Sheet Music, 15¢
Ask for Century Edition.



STUDENTS, Teachers and Players of Music endorse Century Certified Edition. Century offers you the world's music masterpieces for 15¢ each, beautifully printed on the best of paper and certified to be correct. When you buy "La Traviata," "Love's Response," "Return of Spring," "Starlight Waltz," "Silent Night," "William Tell," "Overture," or any of the other classics, ask your dealer for Century Edition. If he can't supply you, we will.

Ask your dealer to show you Martin's "Ratiments for the Piano," John's "Ratiments for the Violin," and Martin's "Scales and Chords." Used by all modern teachers.

CENTURY MUSIC PUBLISHING CO.
211 W. 40th St., N. Y.

COMPLETE catalog of over 2,500 classical and popular standard compositions free on request.



Globe-Wernicke Sectional Bookcases




A BEAUTIFUL BOOKCASE WELL PLACED

BEAUTIFUL homes reflect careful planning. These bookcases contribute much to the character of your home. Graceful and modern, in all the period designs and handsome woods. Their glass doors really protect the books—and a unique construction enables them to grow as you select more book companions. Globe-Wernicke Sectional Bookcases are all popularly priced. See them almost everywhere!

The Globe-Wernicke Co.

Cincinnati

New York Chicago Boston Detroit Cleveland
Philadelphia Washington New Orleans St. Louis



The Globe-Wernicke Co.
Dept. B5, Cincinnati, O.

Please send me without charge your booklet
of Unusual Decorative Effects for Bookcases.

Name _____

Address _____

Let us help



PORTO RICO

A restful cruise through summer seas. Balmy breezes, Old World cities, Quaint People, Motoring Sports, and exceptional steamer service.

**ALL EXPENSE CRUISE—16 Days \$150
AND UP**

Large 10,000-ton steamers, especially designed and luxuriously fitted for service in the tropics. Wide choice of accommodations ranging from comfortable staterooms at minimum rates to suites with private bath. Rates cover all necessary expenses of meals and stateroom accommodations for entire trip to and around island and return to New York. No passports required. A sailing every Saturday.

Write for attractive booklet giving full information

PORTO RICO LINE, 25 Broadway
New York



GROW CONARD ROSES



Anyone can succeed with Conard Star Roses—guaranteed to bloom or your money back. Varieties for every climate, every purpose, all with the durable Star Tag to label each rose in your garden. Simple directions with every rose. Send now for complete, free catalog (illustrated in colors).

CONARD & Jones Co.
Robt. Pyle, Pres.
Box 8 West Grove, Pa.

Guaranteed to Bloom



SPRING HILLS—A SUMMER CAMP FOR GIRLS

Elevated nineteen hundred feet above the sea, surrounded by the great woods of Michigan's northern peninsula on beautiful Lake Michigan, Spring Hills affords an ideal and healthful camp for your daughter. Horseback riding and land and water sports are provided as well as hikes, extended camping trips, nature study, music, dramatics, dancing, and crafts. All buildings are of the modern bungalow and biesk type.

Faculty composed of university trained people. Councilor positions are filled. Illustrated booklet to interested persons. Applications are now being accepted. Address

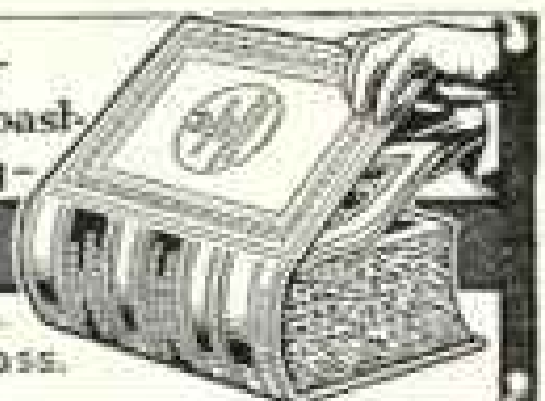
Ida Mighell, Ph. B.

3446 West Monroe Street, Chicago.

Whatever Your Question;—be it the pronunciation of Bolsheviki, the spelling of a puzzling word, the location of Murman Coast—the meaning of blightly, ace, lank, ukulele, etc., this Supreme Authority—

WEBSTER'S NEW INTERNATIONAL DICTIONARY

contains an accurate, final answer. 400,000 Words, 2700 Pages, 6000 Illustrations.
Regular and India-Paper Editions. G. & C. MERRIAM CO., Springfield, Mass.
Write for specimen pages, prices, etc. and FREE Pocket Maps per Nat'l Gun.





Like getting
a suit to fit



Fine Medium
Stub and
Ball pointed



Spencerian Personal Steel Pens

The smoothness and ease of writing with Spencerian Personal Steel Pens are beyond compare because there is, among the many styles, one that fits your hand exactly—that adapts itself to your style of writing.

We want you to know of the fine writing qualities and long life of Spencerian Steel Pens. Send 10 cents for ten different sample pens and that fascinating 32-page book, "What Your Hand Writing Reveals." Then pick your style.

SPENCERIAN PEN CO.
349 Broadway New York City

COOK'S TRAVEL SERVICE *anywhere on the Globe*

EUROPE 1923

"Knowing the new ropes." That's the secret of today's successful European travel. Let "COOK'S" make you comfortable. Inclusive—individual, small party, and family tours arranged; all details attended to, worry eliminated. Many special escorted tours; varying lengths—itineraries—fares. Send for booklet, "Europe—1923."

around the Mediterranean

Another Summer cruise; like the immensely successful one of last season. Sail the enchanted sea of mythology and world history; see its famous, fascinating sights. Gather memories and mementos to delight a lifetime.

Start from New York June 30; on the splendid, new, oil-burning Cunard-Anchor Liner TUSCANIA.
—63 Days.

POPULAR FARES.

THOS. COOK & SON

245 Broadway—561 Fifth Avenue
NEW YORK

Boston, Philadelphia, Chicago,
San Francisco, Los Angeles,
Montreal, Toronto, Vancouver.



A 30-day Gates Tour to Europe costs you only \$425

This sum includes all traveling, living and ordinary sightseeing expenses. An unusual opportunity for those interested in seeing at moderate cost all that the old world offers—the capitals, ancient cities, and famous museums and places where history was made—and under experienced and competent guidance.

Comfort combined with economy

Since 1892 Gates Tours have been planned with the idea of giving their patrons comfort combined with economy. Last year over 500 people took Gates Tours to Europe and proved this to their enthusiastic satisfaction.

Write today for Gates Tours Booklet B-2—sailings from May to September with a range of tours from 30 to 80 days, costing from \$425 to \$1,100. Apply direct to Gates Tours in New York or to Raymond-Whitcomb Co., General Agents in Chicago, Boston, Philadelphia, Detroit, Kansas City, San Francisco, Los Angeles, Toledo, Providence, and Worcester.

GATES TOURS—Founded 1892

"World Travel at Moderate Cost"

225 Fifth Avenue, New York

London, Paris, Rome

The Osceola-Gramatan Inn

A winter haven in Sunny Florida



Set in a beautiful orange grove, this posh inn with private carriage of five every attraction of a southern winter resort without its care. Modern construction, tastefully furnished, catering to people of refinement, particularly families. Completely equipped in whole or in part with full hotel service. Fine golf, swimming, fishing, bathing. Special rates for prolonged stay. Open December 15th.

DAYTONA, FLORIDA

Deaf Can Hear Says Science

New Invention Aids Thousands

Here's good news for all who suffer from deafness. The Dictograph Products Corporation announces the perfection of a remarkable device which has enabled thousands of deaf persons to hear as well as ever. The makers of this wonderful device say it is too much to expect you to believe this so they are going to give you a chance to try it at home. They offer to send it by prepaid parcel post on a ten-day free trial. They do not send it C. O. D.—they require no deposit—there is no obligation.

They send it entirely at their own expense and risk. They are making this extraordinary offer well knowing that the magic of this little instrument will so amaze and delight the user that the chances of its being returned are very slight. Thousands have already accepted this offer and report most gratifying results. There's no longer any need that you should endure the mental and physical strain which comes from a constant effort to hear. Now you can mingle with your friends without that feeling of sensitiveness from which all deaf persons suffer. Now you can take your place in the social and business world to which your talents entitle you and from which your affliction has, in a measure, excluded you. Just send your name and address to the Dictograph Products Corporation, 1374 Candler Building, New York, for descriptive literature and request blank.



Dreer's 1923 Garden Book Is Ready

The most complete catalogue of Seeds and Plants published. A large book of 224 pages, with 8 color plates and hundreds of photo-engravings of Flowers and Vegetables. Invaluable to amateur and professional gardeners for the cultural in-

formation compiled by experts and from Dreer's 35 years' experience. It offers the best Vegetable and Flower Seeds, Lawn Grass, and Agricultural Seeds, Garden Tools and Implements, Fertilizers, Insecticides, etc. Also Plants of all kinds, including the newest and best Roses, Dahlias, Hardy Perennials, Garden and Greenhouse Plants, Inlets, Hardy Climbers, Hardy Shrubs, Water Lilies and Aquatics, Small Fruits, etc.

Write today for a copy and plan this year's garden now. Mailed free if you mention this publication.

HENRY A. DREER, 714-16 Chestnut St., Philadelphia, Pa.

SAVO AIR MOISTENER

Saves Health, Furniture, Pianos, Fuel, Paintings, Plants, etc.

Fill with water, hang on the back of any Radiator out of sight

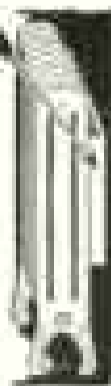
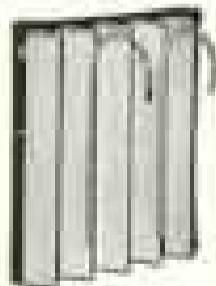
Others for Hot Air Registers

Tens of thousands now in satisfactory use.

Write for FREE Booklet.

SAVO MANUFACTURING COMPANY

Dept. "G," 111 W. Monroe Street, Chicago, Illinois



SAVO FLOWER AND PLANT BOX

Self-Watering and Sub-Irrigating For Windows, Porches, Sun Parlors, Etc.



You can move Savo Steel Boxes indoors or out and have beautiful flowers and plants the year round. Leak-proof and rust-proof. Six sizes. 30 Days' Free Trial. Write for Free Catalog.

SAVO MFG. CO., Dept. "D," 111 W. Monroe St., Chicago

The
Prophy-lactic

Tooth Brush

Used every day—note how
your smile improves





*fresh from the factory

Time — and time alone — ages, cures and mellows the tobacco used in Tuxedo. Nothing can hurry it.

*But after it is blended and packed for smoking, the sooner you smoke it, the better it is.

Tuxedo is now delivered to your dealer in small lots — one dozen tins. The cartons are dated, showing the last day it can be sold.

This insures your getting Tuxedo FRESH From the Factory.

Buy a tin today — try a pipeful — and see how good fresh tobacco can be.

Now 15¢
FRESH
Tuxedo
TOBACCO

Guaranteed by
The American Tobacco Co.
INCORPORATED



"Mention the Geographic — It identifies you."



JUST beyond the bounds of civilization — eighty miles south of Tampa, on the Florida west coast — lies an island, a gem of the seas, "Useppa the Beautiful." And nestled in the midst of this semi-tropical and flower wreathed playground, stand the friendly portals of Tarpon Inn — famed for sport and honest hospitality.

Here truly is where your bathing suit, camera, tennis racket, golf sticks and fishing tackle do double duty.

Tarpon Inn, for instance, is the rendezvous of keen fisher-fellows. Fishing! Drop your troll into the sky-blue waters of Charlotte Harbor — the most famous tarpon waters on the continent — and you set the pace for gripping adventure. The long, lithe flashing silver tarpon is the gamest fish that ever swam. Thrills — O' boy!

Then, there's golf — golf on "The Sportiest Nine Hole Golf Course in Florida." You light your jimmy pipe and smile when you see the rolling, velvety fairways, the unique natural hazards and the great shady palm trees which dot the entire course, for here is a playground that was planned for you to give variety and interest every foot of way. Besides there's always an expert coach in attendance.

Finally, come to Tarpon Inn, Useppa Island, for days of true recreation and sport; for days of splendid comradeship; for days of sincere, honest hospitality; for days crowded with genuine happiness and for days that build added vigor and health. No doubt, the consideration is less in all than it costs to stay at home.

*Send coupon for booklet
and particulars.*

Tarpon Inn

Useppa Island, Lee County
Florida

Tarpon Inn, Useppa Island, Lee County, Florida. Gentlemen:
Please send me illustrated booklet and full particulars.

Name _____

Address _____

The "Where's Where" of Geography

Cumulative Index

of

THE NATIONAL GEOGRAPHIC MAGAZINE

(1899-1922, inclusive)

AN open sesame to The Society's vast wealth of published geographic material, the Index refers instantly by subject, place, author, title, picture, or map to every article in the Geographic Magazine during the last 24 years.

It catalogues your own back numbers, whether few or many, making them available for adult reference or a source of picture and humanizing material for a child's geography lesson.

Just Off the Presses

A boon to travelers and students of foreign lands and affairs, it is an essential tool for editors, writers, lecturers, students, artists, decorators, and foreign traders and, of course, for all libraries and research functions.

200 pages, size of *The Magazine*; cloth, \$1.50; postpaid in U. S. A. Foreign postage, 25 cents

National Geographic Society
Washington, D. C.

FRANK'S TOURS

to

EUROPE

Spring-Summer, 1923

One of the oldest Travel organizations in the world, 48 years of experience with the traveling public and permanent offices in Europe assure our clients many benefits.

Our Tours have no equal—the personal attention we give each Tour guarantees the best of service throughout. Moderate prices and De Luxe Tours. Write for Booklet, with rates. Early reservations have many advantages.

Frank Tourist Co.

489 5th Ave., New York 219 South 15th St., Phila.
Paris London



HARRISON
MEMORIALS
Established 1845

ARTISTICALLY, Harrison Memorials of Barre granite meet every requirement of the most exacting. Fashioned from the best designs, they combine graceful proportion with quality workmanship.

Write for Booklet "C"

HARRISON GRANITE CO., Inc.
200 FIFTH AVENUE NEW YORK

Pinkham *Home Braided* Rugs

Quaint old chests, heirloom candelabra, silhouettes of the great—fit accompaniments to Pinkham Rugs. Braided of new materials, in fast colors, these rugs are found in the finest homes.

No ravellings. Painstakingly sewed. At leading stores, or send samples of your hangings and our artists will, without charge, submit color sketches of special patterns to harmonize.

PINKHAM ASSOCIATES, INC.
19 Marginal Road Portland, Maine.



FREE Catalog tells all about my new Glads!

Every flower lover should have this wonderful gladiolus book, containing a list of Kunderd ruffled, plain petal and Promissus varieties, cultural instructions and special collection offers.

A. E. KUNDERD
Box 62, Goshen, Ind., U. S. A.
The Originator of The Ruffled Gladiolus

Kunderd
Gladioli



THIS MAGAZINE IS FROM OUR PRESSES

JUDD & DETWEILER, INC.

Master Printers

BECKINGTON PLACE AND FLORIDA AVE.

WASHINGTON, D. C.



New Orleans and Mardi-Gras

—the former as alluring as ever, with its Old World atmosphere; the latter more brilliant and spectacular than in any previous season. REX, the Lord of Misrule, will hold sway from February 8 to February 13. Feast your eyes on the gorgeous pageants and masks of the Mystic Crews of MOMUS, COMUS and PROTEUS—the street parades with their wonderful floats—the magnificent play of colors—the showers of tinted confetti.

A ten-day stopover at New Orleans is allowed on all tickets via the

Sunset Route to California Every mile a scene worth while

SUNSET LIMITED

New Orleans San Antonio El Paso Tucson
San Diego Los Angeles San Francisco

Operated daily over a mild, sunny route all the way. Standard Pullman Sleeping, Observation and Dining Cars from New Orleans; Pullman Tourist Sleeping Car from Washington, D. C., to San Francisco.

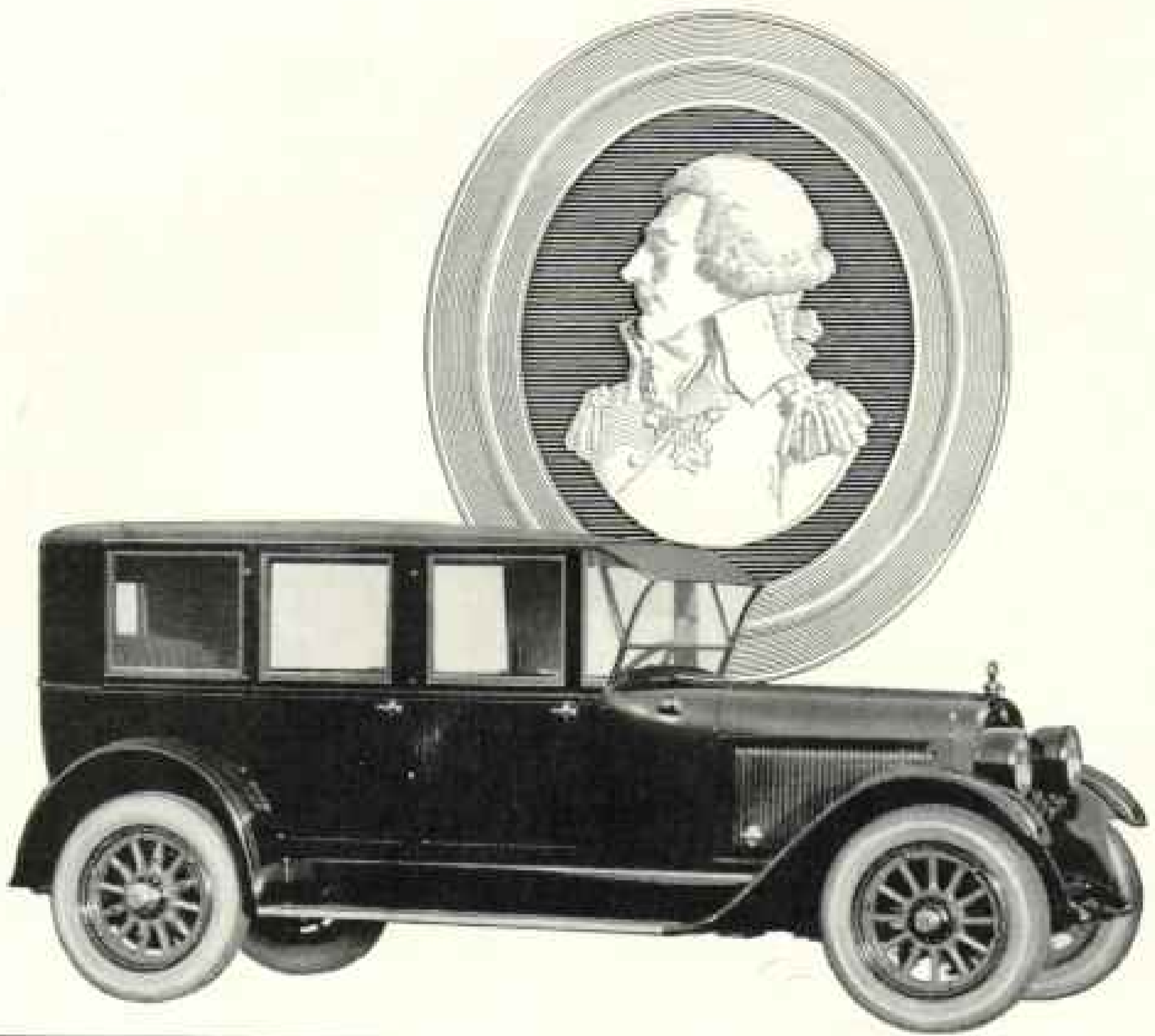
Tri-weekly Sleeping Car between New Orleans and Globe, Arizona, for the 120-Mile Detour by Automobile over the APACHE TRAIL HIGHWAY; also between New Orleans and San Diego via the San Diego & Arizona Railway through the CARRISO GORGE.

For information and literature address

SOUTHERN PACIFIC LINES

New York New Orleans Houston Tucson
165 Broadway Pan-American Bank Bldg. Southern Pacific Bldg. Santa Bldg.
San Francisco, Southern Pacific Bldg.





To own a La Fayette is to experience a motoring satisfaction that, without a La Fayette, can not be equaled.

It is to know that such satisfaction will be continued year upon year.

It is to enjoy that serenity of mind which comes of this knowledge.

LAFAYETTE MOTORS CORPORATION
MILWAUKEE, Wisconsin

LAFAYETTE



Does a man notice his wife's hair?

PROBABLY few women realize how much their looks really matter to their husbands. A woman is apt to be deceived into thinking that he is no longer interested in her loveliness as he was during their courtship. But, make no mistake, there are two times at least when a man surely *does* notice his wife's hair—if it is beautiful or if some condition appears which will eventually destroy its beauty.

If you are troubled with dandruff, or if your hair is too dry, brittle and breaks off; or if it is oily, sticky and lifeless; take care. These conditions cause the hair to lose its attractiveness.

It is not enough just to cleanse the scalp of accumulated dust and other impurities. It must be stimulated as well. Science has never discovered anything better for



this purpose than pine tar. Doctors recommend pine tar as a safe, gentle and effective tonic.

Packer's Tar Soap con-

tains pine tar of the finest quality obtainable, and in addition is combined with just the right amounts of glycerine and vegetable oils. The scalp wakes up when this tonic and soothing soap is applied by the Packer Method. The millions of tiny cells and blood vessels carry their nourishing food to every part of the scalp. The scalp comes back to health, for a *well-nourished* scalp is always a *healthy* scalp.

If you prefer a liquid shampoo, you will find Packer's Liquid Tar Soap (Packer's Shampoo) at most drug counters. This delicately perfumed Packer product has all the dependability that goes with the Packer name. Like the cake it will help you to keep your hair silky, soft and attractive.

THE PACKER MANUFACTURING CO., INC.

Dept. 90-B

120 W. 32nd St., New York City

Canadian Wholesale Distributors: Lyman, Ltd., Montreal,
The Lyman Bros. & Co., Ltd., Toronto

Shampoo with
PACKER'S



Special Sample Offer:

Send 25c for All Three Samples or
10c for any One of them

To introduce all three Packer products, this special offer—a generous sample of all three for 25c, Packer's Tar Soap, Packer's Shampoo, Packer's Charm (which quickly relieves chapped hands and lips and other rough conditions of the skin)—or send 10c for any one sample. At any time we gladly send free a copy of our Manual, "How to Care for the Hair and Scalp," giving detailed information prepared by an eminent skin specialist.



The early savage removed grime by harsh scouring

Civilized people discover how to clean teeth without harsh scouring

"Wash"—Don't Scour Teeth —Warns Modern Science

Your hands are soiled—do you clean them by scraping with sand alone? Savages used to do so. But civilization substituted soap. Then cleansing came more quickly, more thoroughly, and without *hurt*. As the early savage cleaned his hands, you today can take a gritty, soapless dentifrice and scrape clean the delicate enamel of your teeth. How much simpler—and safer—is the civilized method.

COLGATE'S CLEANS TEETH THE RIGHT WAY

"Washes" and Polishes—Doesn't Scratch or Scour
Children use Colgate's willingly and regularly because of its pleasing flavor. Colgate's cleans teeth thoroughly—no safe dentifrice does more. A LARGII tube costs 25c—why pay more?

AN OFFER

- 1—Buy a tube of Ribbon Dental Cream in its cardboard box.
- 2—Attach this coupon to the cardboard box. Slip both into an envelope and mail to Colgate & Co., Dept. 66, Box 641, City Hall Station, New York City.
- 3—We will then send you a generous sample of Colgate's Rapid Shave Cream.

Your

Name.....

Address.....

**CLEANS
TEETH THE
RIGHT WAY**

"Washes" and Polishes
Doesn't Scratch
or Scour



Truth in Advertising Implies Honesty in Manufacture