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India—Yesterday, Today, and Tomorrow

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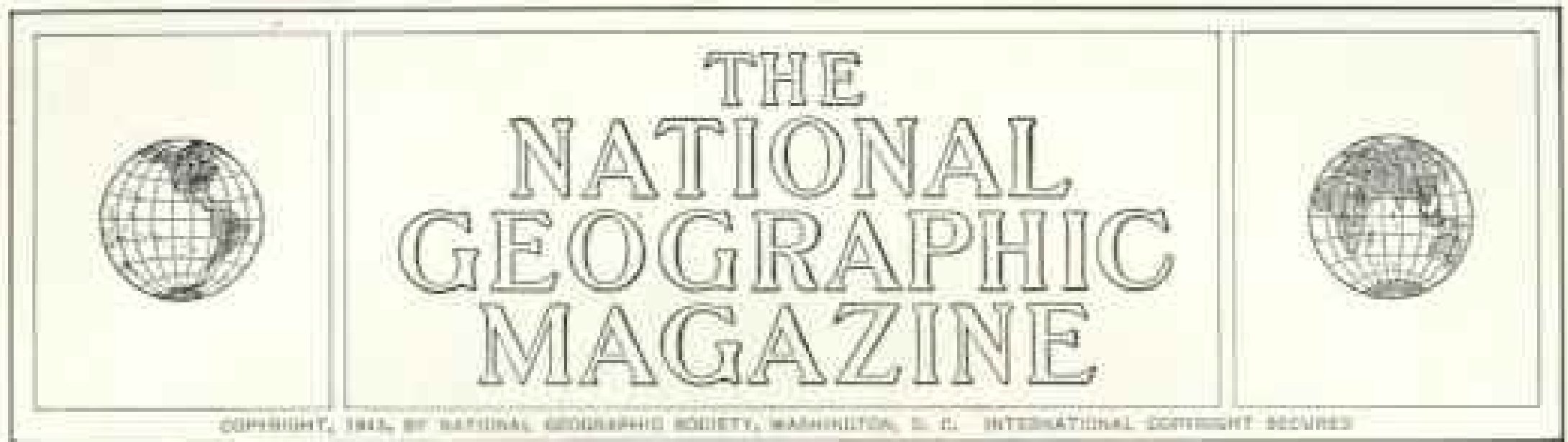
JOHN LeROY CHRISTIAN

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India—Yesterday, Today, and Tomorrow

BY LORD HALIFAX

British Ambassador to the United States; formerly Viceroy of India

IN ATTEMPTING to give a picture of India, her peoples and some of her problems, it is difficult to avoid questions in dispute today. So far, however, as I have to touch upon such questions, I shall try to treat them factually, to give the picture as I see it, and leave my readers to draw their own conclusions.

To write about India is like writing about Europe. The area of India is over a million and a half square miles and her population nearly 400 million, speaking about 20 major languages. One out of every five persons in the world is an Indian.

An area nearly as large as Europe without Russia, about the same as that of the United States east of the Rockies; a population nearly three times that of the whole of this country!

Facts and figures are dull things, except to experts; yet if we are to visualize India today we must have a few of these big facts and figures in our minds.

But figures by themselves give little idea of the immensity and variety of the country; the historic cities, with their temples and crowded bazaars; the 650,000 villages, in which 89 percent of the population live; the towering mountains, wide rivers, and thick jungles, still the home of elephants, tigers, monkeys, and a host of other wild creatures.

A Land of Many Faiths

Figures again hardly convey the diversity of the country's inhabitants; for in India you find, as it were, a cross-section of civilization. At one end are the highly educated heirs of a cultural tradition older than any in the West; and at the other, primitive people, still living in almost aboriginal conditions.

Nor can we learn much from figures of the depth of religious feeling or the manifold forms of religious thought. Without any exaggeration it may be said that for India this is still an age of faith. Religion remains the framework and mold of daily life.

The forms and method of its expression may perplex the European or the American; sometimes it will be distasteful; and yet visitors can hardly fail, despite themselves, to be stirred by a visit to Benares, the holy Hindu city on the Ganges; or by the sight of the myriad mosques and temples and shrines that cover the land; or by the hosts of pilgrims and holy men, whom they will meet upon the roads and railways; or by the simple determination of the ordinary Indian to find in his everyday acts a religious symbolism.

This general pervasiveness of the religious sense is translated into wide differences of religious creed. Few of the great religions of the world are unrepresented. India is at once the home of Hinduism, and contains more followers of Mohammed than any other country. It has a Christian Church which according to tradition was founded by St. Thomas the Apostle.

Some of its cults, like those of the Parsis, Sikhs and Jains, are less well known, but have their definite place in the many-colored tapestry that is the life of India. There are Indian Roman Catholics and Indian Protestants, Indian Jews and Indian Buddhists; and, to all, religion has a meaning and a reality which many Western peoples have come near losing altogether.

The form of the political picture is no less tangled. About 39 percent of the whole country, an area of 716,000 square miles, is in-



Staff Photographer Maxford Owen Williams

Ambling Elephants Bear Indian Spiritual Leaders to the Sacred Ganges

They are on their way to Allahabad's Kumbh Mela, religious festival held every twelve years. Millions of visitors crowd the sands where the Ganges and Jumna unite. Foreign spectators sometimes hire elephants to raise them above the teeming crowds. All-time attendance record was set in 1930 at 4,000,000.

cluded in what are known as the Indian States. Some of these States, of which there are 562, are very large—Hyderabad, for example, being rather bigger than Kansas and having a population greater than that of any State in the Union (map, pages 392-3).

Many of them are very old, and nearly all existed before the British ever set foot in India. Most of them were never conquered, but of their own free will entered into treaty relations with the British.

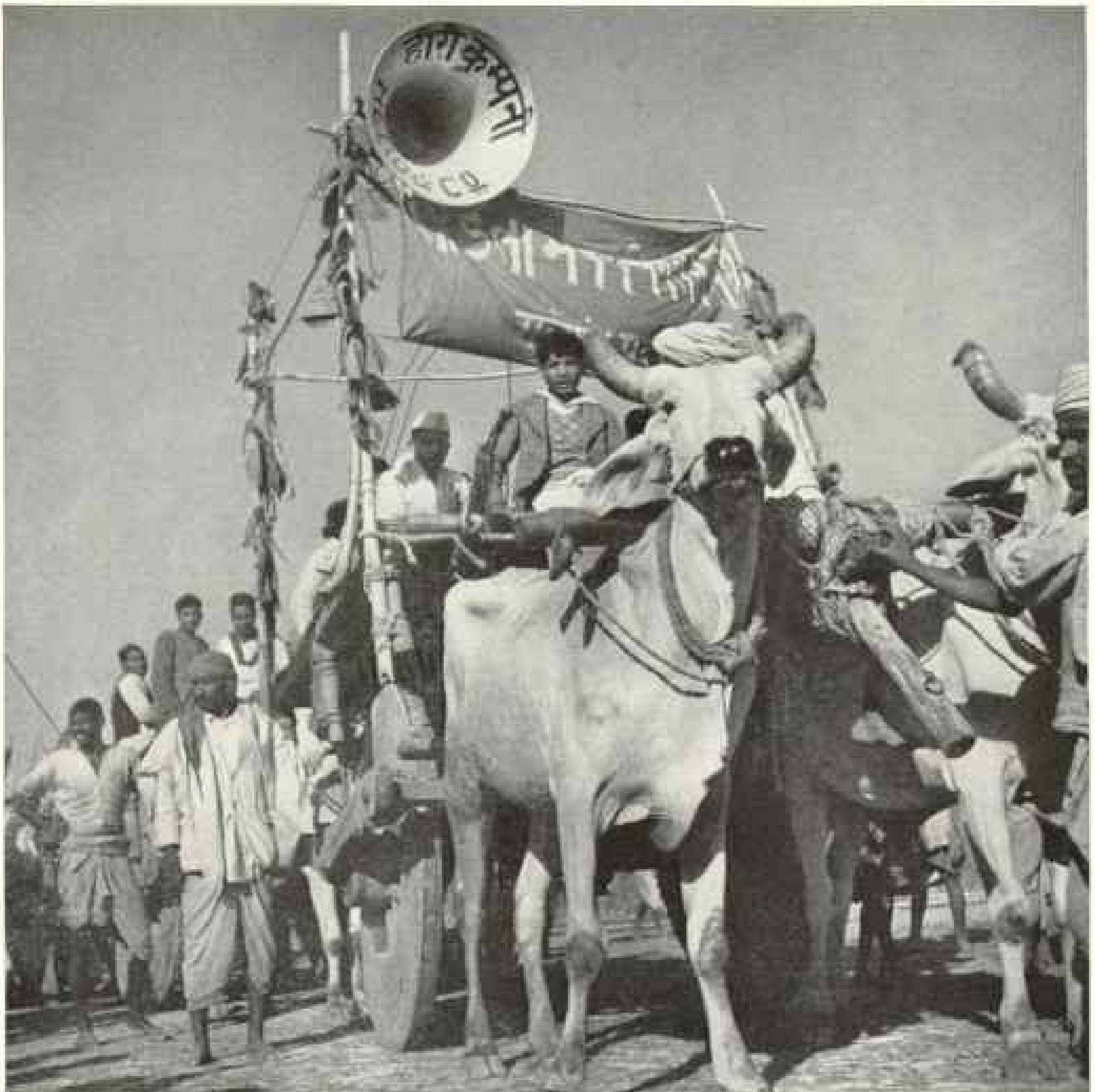
It is an added complication of India's problems that the 93,189,000 people who live in the States are not British subjects and owe allegiance only to their own rulers. The re-

maining 61 percent of India, with a population of rather over 295 million, comprises what is known as British India, and is divided into eleven Provinces.

The English Came to Trade

The story of the British association with India is a curious piece of history. From 1609, when the first English trading station was opened at Surat, to the proclamation of Queen Victoria as Empress of India in 1877, the extension of British influence was gradual, largely accidental, and often quite involuntary.

The English did not come to conquer; they came to trade.



Staff Photographer Maynard Owen Williams

A Bullock-drawn Loud-speaker Pours Forth New and Blatant Notes to the Kumbh Mela

When Jupiter and the Sun meet under the zodiacal sign of Aquarius (Kumbh)—once every twelve years—millions of Hindus, Sikhs, and others gather on the winter-dry sands at Allahabad. For generations such a religious festival has been held. Not until 1942 did a public-address system add its clamor to the glamour of this gathering. The signs, in Devanagari characters, are in the Hindi language (page 395).

For the first 150 years after their arrival, their relations with India were exactly the same as those of the United States with India, or of Great Britain with South America, today. They were purely commercial; and the records of the East India Company, a private company which represented the British in India for two and a half centuries, are full of injunctions to the men on the spot to avoid entanglement in the country's quarrels and to stick to their own business, which was trade.

But the pressure of events became too much for any such exclusively commercial policy.

The Company's servants found it more and more difficult to avoid being involved in Indian disputes; and, largely because the Company was a solid rock in the turbulent waters submerging the disintegrating empire of the Moguls, the British found themselves forced to assume an ever larger measure of responsibility.

The successors of Akbar, the greatest of the Moguls and the contemporary of Henry IV of France, of Philip II of Spain and of our own Queen Elizabeth, became increasingly incapable of holding together his mighty empire; and as this dissolved in lawlessness, the



Arno

Judging from the Smiles, You *Can* Do Business with Indians

Somewhere in India, four American soldiers cheerfully bargain with a fruit vendor for small, sweet Indian bananas.

only possible successor to take its place was the East India Company, working under the shadow of the British Crown.

Not till later did the British realize what had happened, or what tremendous new responsibilities they had assumed.

As the years passed British policy was crystallized in four main purposes. The first was to give India security. The second was to give her unity. The third was to raise her general social and economic level. And the fourth and last was to develop her political life. We have always believed that, with the accomplishment of these purposes, our work in India would be done.

More than 100 years ago, Lord Macaulay, when introducing Western education in India, wrote: "It may be that the public mind of India may expand under our system until it has outgrown that system; that by good government we may educate our subjects into a capacity for better government; that, having become instructed in European knowledge, they may in some future age demand European institutions. Whether such a day will ever come I know not. But never will I attempt to avert it or to retard it. Whenever it comes, it will be the proudest day in English history."

It is relevant to examine in what degree success has been achieved in carrying out these four purposes. Security from external attack must obviously come first.

India's Natural Defenses

India has magnificent natural defenses. On the north and northwest she is protected from the rest of Asia by a vast region of mountains, known in the aggregate as the Himalayas and containing the highest peaks in the world. This is a barrier nearly as formidable as the Pacific Ocean and, except at a few points, impassable by armies of any size.

The eastern frontier, between India and Burma, is nearly as difficult, as the Japanese have lately discovered, and consists of a stretch of wild and hilly country covered with dense jungle. In the south, of course, are the Indian Ocean and the Bay of Bengal.

Until quite recently few people would have disputed the old axiom that there are only two ways by which invaders may enter India. They may come by the passes which breach the Himalayas in the northwest. Or they may come by sea.

The first was the historic route followed by Alexander the Great in 327 B. C., and later by successive waves of Parthians, Huns, and



BRITISH OFFICIAL

Not a Subway Jam, but Strap-hanging Stockbrokers Trying to Keep a Footing

During frenzied market hours, these members of the Bombay Share and Stock Brokers' Association stand on a narrow ledge a bit above their customers. They hold on to straps attached to metal bars lest they be swept off their feet. "Seats" on this exchange sell for about \$6,000.

Mohammedans, culminating in the invasion of Baber, the first of the Moguls.

The second route was used by none of India's great conquerors; but it was followed by the Portuguese, the Dutch, the French, and the British, in those attempts to open up the Indian market which inevitably involved them in the country's politics.

At the beginning of the 19th century Britain was firmly tethered to her territorial responsibilities in India, and for the next 140 years the country enjoyed a complete immunity from invasion.

The British Navy secured her long coastline; the northwestern gateway, through which the old invaders had passed, was firmly held; and not until last year, when the Japanese overran Burma, was India ever seriously menaced by invasion.*

For about the same length of time India has enjoyed a degree of internal peace probably unprecedented in her history. Memories are short, and we have traveled far from the times when war was the rule, and peace was the exception; when enormous standing armies drained the resources of the country; when, one after another, warlike races, like the Rajputs, Mahrattas, or Sikhs,

would establish a brief and bloody dominion over their neighbors, until in turn they were dispossessed by some stronger power.

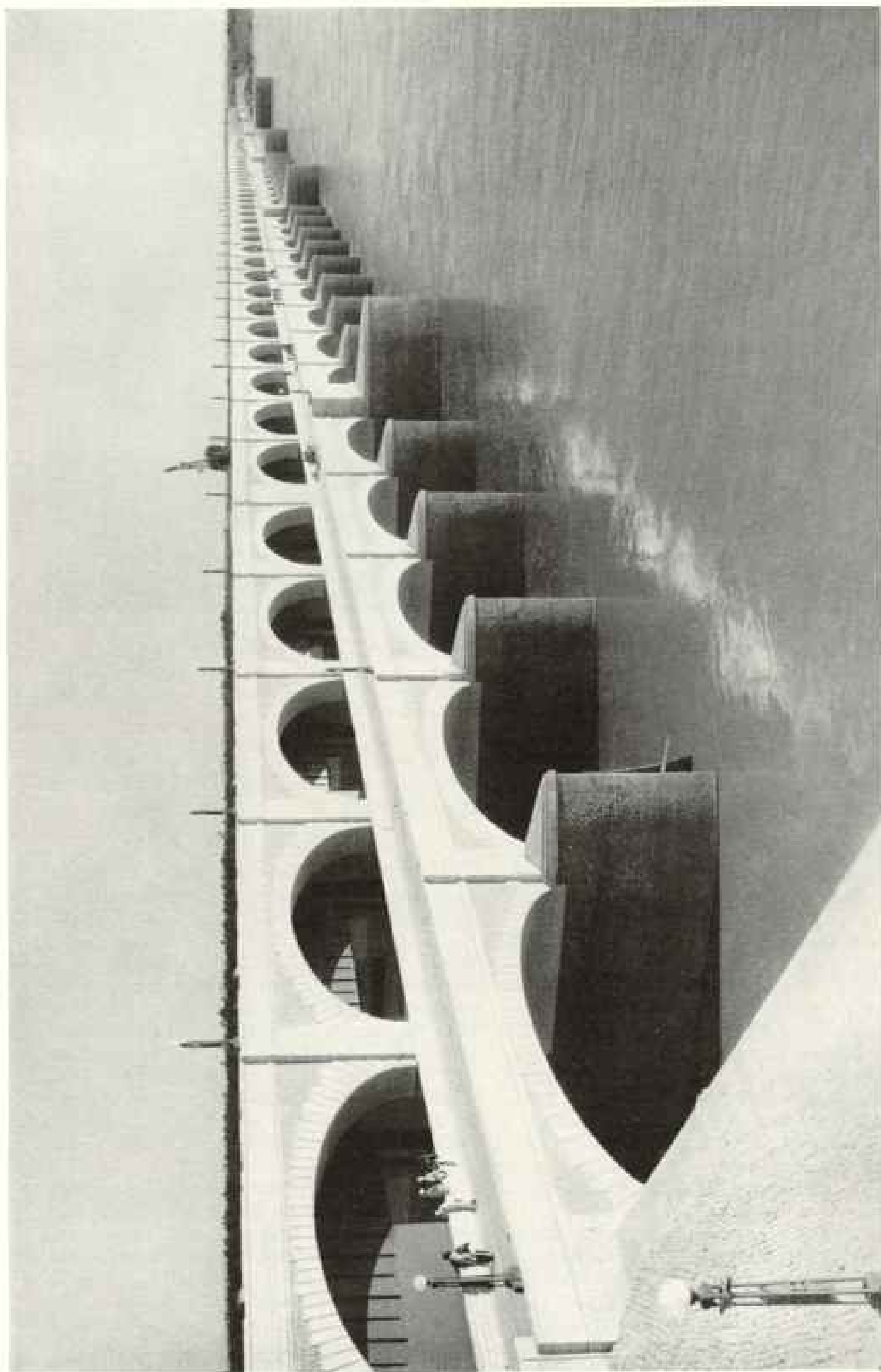
Unity Under British Rule

With British rule these fierce outbreaks have passed into the limbo of forgotten things; and India has acquired a unity such as she has never known before in her history, even during the palmy days of the Moguls. But she has only acquired it through a process of slow and painful growth. Under the cover of a common government and many common institutions, the embers of disunion still smolder, and can all too easily be fanned to flame.

The danger of creating a political vacuum by the withdrawal of one type of authority before another equally reliable is able to replace it is obvious enough.

And the only alternative to British control is the evolution of an Indian harmony, based on the toleration, restraint, and mutual respect of the several elements concerned. For this is the essential cement of any society that seeks both strength and freedom.

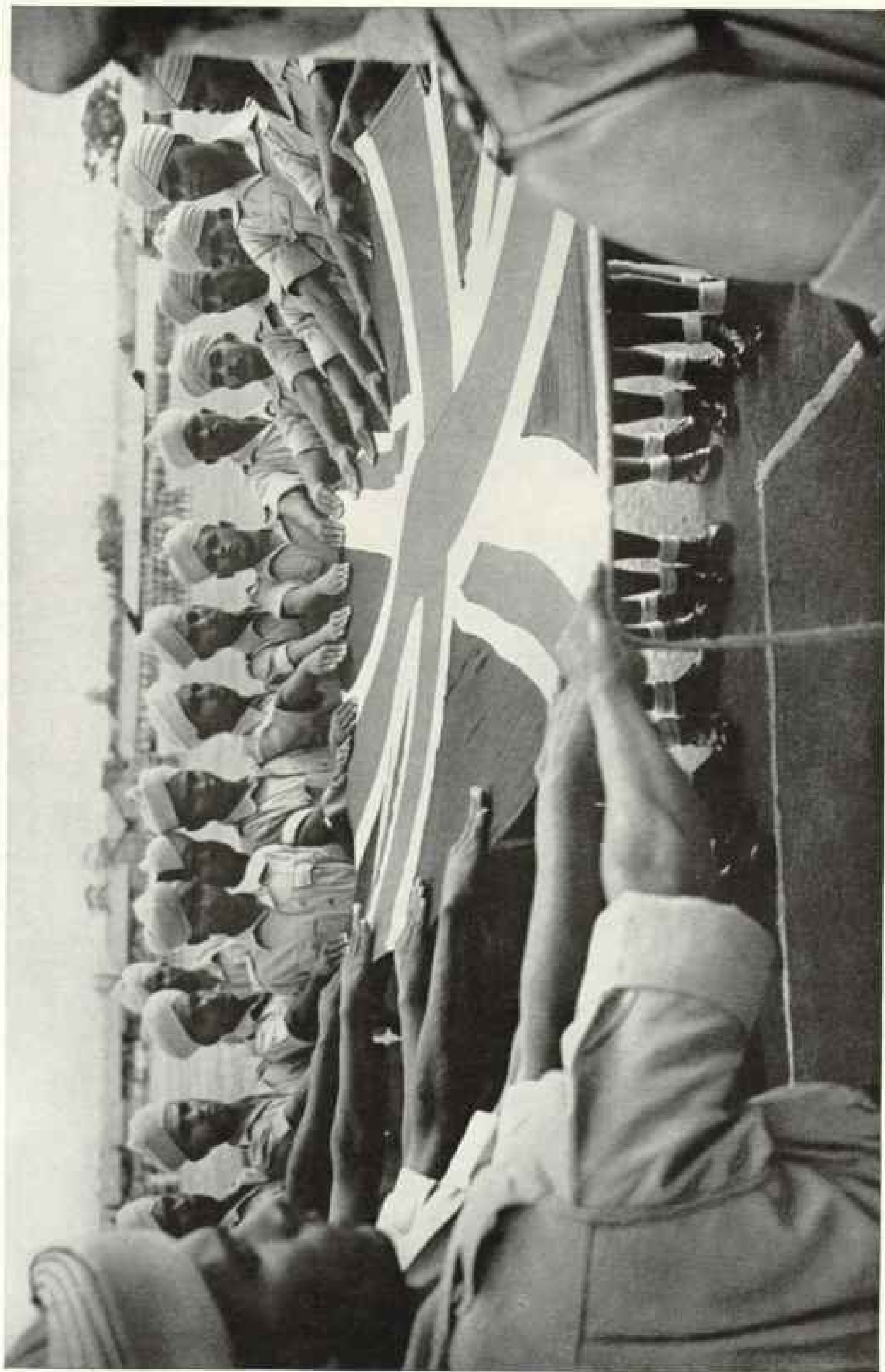
* See "Burma: Where India and China Meet," by John LeRoy Christian, page 459 in this issue of the NATIONAL GEOGRAPHIC MAGAZINE.



H. Nathan

Built by British Engineers, the Lloyd Barrage across the Indus Will Turn a Desert as Big as New Jersey into a Garden

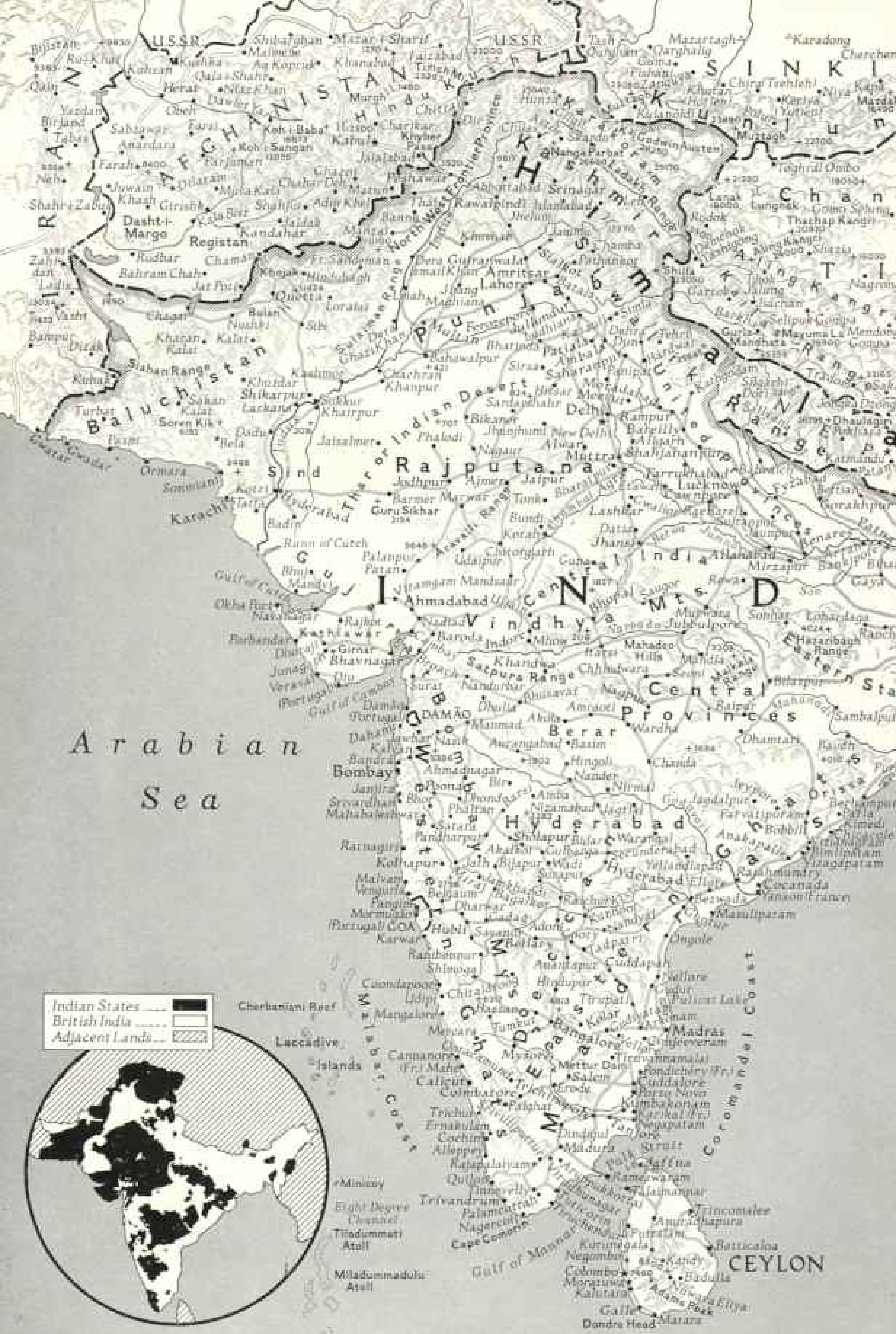
This huge irrigation project will utilize 54,000 miles of water channels. Main distributors are to be seven huge canals. Their waters are expected to irrigate enough land to produce a million tons of wheat, 600,000 bales of cotton, and 450,000 tons of rice a year (page 394).



Charles Fortis from Three Lions

Army-trained Indian Fingers Pledge Loyalty to the British Flag

On the colors of the British Commonwealth turbaned Indian Transport Troops swear their allegiance to the King-Emperor. Indian troops helped free Ethiopia, Syria, and Libya and were in the forefront of the British Eighth Army in Tunisia.



Between the World's Highest Mountains and the Sea, India Sustains One-fifth of All the Human Race

The Indian Peninsula is shaped roughly like a giant triangle. With the Himalayas on the north for a base, it tapers in a curve to Cape Comorin, southernmost extremity.

Three-fifths of the vast area is made up of the 11 Provinces of British India—Bengal, United Provinces, Madras, Bihar, Punjab, Bombay, Central Provinces, Assam, Orissa, Sind, and North-West Frontier. Here nearly 300 million people live. Another 100 million dwell in the 562 Indian States which make up the rest of the Empire. Along the frontiers are wild tribal areas.

The Himalayas extend for 1,500 miles along the northeastern frontier, crossed here and there by ancient trade routes which pass over 18,000-foot heights into eastern Turkistan and Tibet. Below the mountains a series of river valleys stretches from the Bay of Bengal to the Afghan frontier and Arabian Sea. Watered by three huge river systems, this area is the richest and most densely crowded in India. The southern section of the peninsula is tableland.



0 100 200 300 400 500
STATUTE MILES
Roads ——— Railroads ———

Drawn by
H. E. Eastwood
Theodore P. Free
and E. Allen

© Reprinted from *Three Lions*

An Army Recruit at Madras Takes His "Physical"

With about two million volunteers enjoying good food and army training, the Indian Army is playing a major part in the changing life of Asia. In some Madras regiments, Hindus, Sikhs, Moslems, and Christians eat from the same kitchen—a revolutionary procedure (pages 391, 407).

The raising of the social and economic level is perhaps the hardest purpose of all to achieve in any country, particularly in India with its sinister heritage of poverty. The difficulties have been greatly accentuated by the remarkable increase in population. In 1872, when the first regular census was held, the population stood at 206,000,000. In 1931, when I left India, it was 338 million; and in the last twelve years it has again increased by about 50 million.

This staggering rate of growth is one of the crucial facts of modern India. In the old days, before the British appeared on the scene, the figure, so far as it can be reckoned without proper statistics, was probably fairly

constant somewhere between 150 and 165 millions. It remained there because three grim forces kept it there—plague, famine, and war; to which must be added an almost total absence of hygiene.

Under British rule the operation of these checks upon the growth of population has been either greatly reduced, as in the cases of plague and famine, or totally eliminated, as in the case of internal war.

For the first time in her history, India has enjoyed a long period of uninterrupted freedom from foreign invasion.

Plague, which was endemic in every large city and became periodically epidemic throughout whole provinces, sweeping away the population by millions, has been kept within strict bounds, largely owing to the great advance made in the treatment of tropical disease.

Famine, which killed nearly as many people as plague, was the invariable sequel to a bad rainy season: for

if the rains failed, the crops failed, and as the crops failed, the people starved. But this specter, too, has been banished by irrigation, relief works, and the construction of railways.

In 1630-2 one of the most terrible famines in history desolated the Deccan and Gujarat. Between 1660 and 1770, sixteen major famines are recorded, and in one year alone a third of the population of Bengal perished. Even in the 19th century, when relief work on a large scale was undertaken, recurring famines still levied a heavy toll on the population.

India today has the largest irrigation system in the world. Canals and storage dams

have been constructed and in 1942 sixty million acres were irrigated, an area 22 times as great as that covered by Federal projects in the United States and ten times as great as the irrigated area of Egypt. The cost of the work has been nearly \$500,000,000; and as a result, since 1900, the rainfall has often failed, but there has been no serious famine.

Poverty Still a Major Problem

Yet the elimination or drastic reduction in the operation of these checks on population has unquestionably aggravated what has always been India's greatest problem, the poverty of her people.

The production of food and the development of industry have been hard put to it to keep pace with rapidly expanding numbers.

In many parts of the country the density of population, coupled with the Hindu laws of inheritance, has led to an excessive subdivision of the land.

Progress according to Western ideas is often difficult to reconcile with the social and religious customs of the people. The caste system, the practice of infant marriage, the persistence of unhygienic habits, the extravagant expenditure on social and religious ceremonies, the serfdom of peasants to moneylenders—these customs do not prevail equally in all areas and in all communities. They are deplored and discouraged by enlightened Indian opinion. But they are part of an ancient social structure; no government can rapidly eliminate them; and so long as they exist, they are bound to depress the social level and to accentuate the poverty of those who practice them.



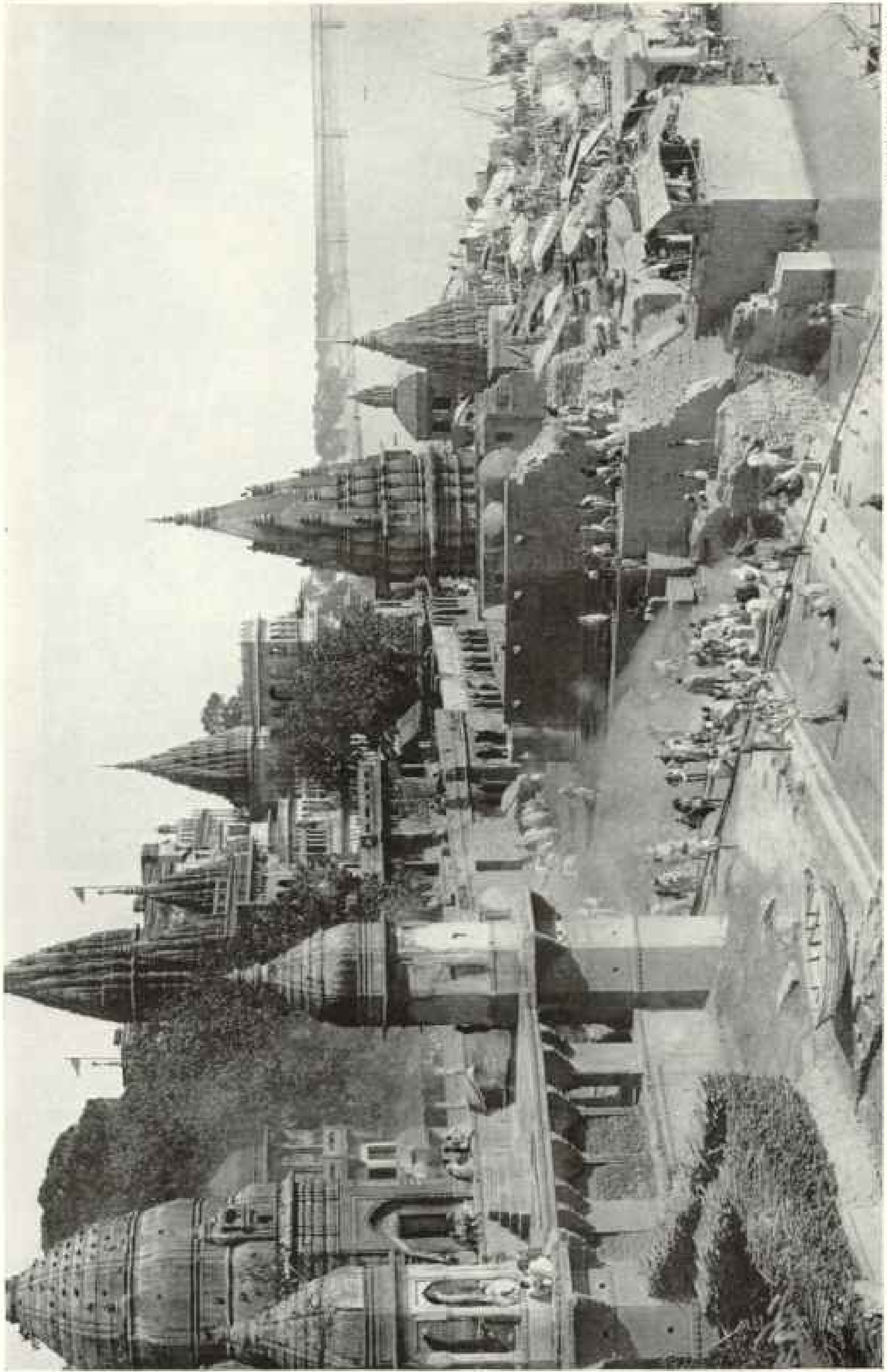
Staff Photographer Maxford Owen Williams

Signs of the Times in Three Alphabets—Bombay

India's millions speak many tongues and dialects. Only two out of a hundred Indians understand English; yet it is the chief unifying language because it is spoken in all parts of the land. Poster at left center is in the Devanagari alphabet, used for Sanskrit, Hindi, and various Prakrit dialects. Signs at bottom and right center are in the Gujarati tongue, with characters similar to Devanagari (page 401).

On the other side of the picture, the expansion of India's agricultural production has been as remarkable as the growth in population. Today her total wheat production is about the same as that of Canada, and her only serious rival in rice growing is China. She is the world's largest producer of cane sugar and her cotton crop is second only in size to that of the United States. She grows all the jute and about half the groundnuts (peanuts) in the world.

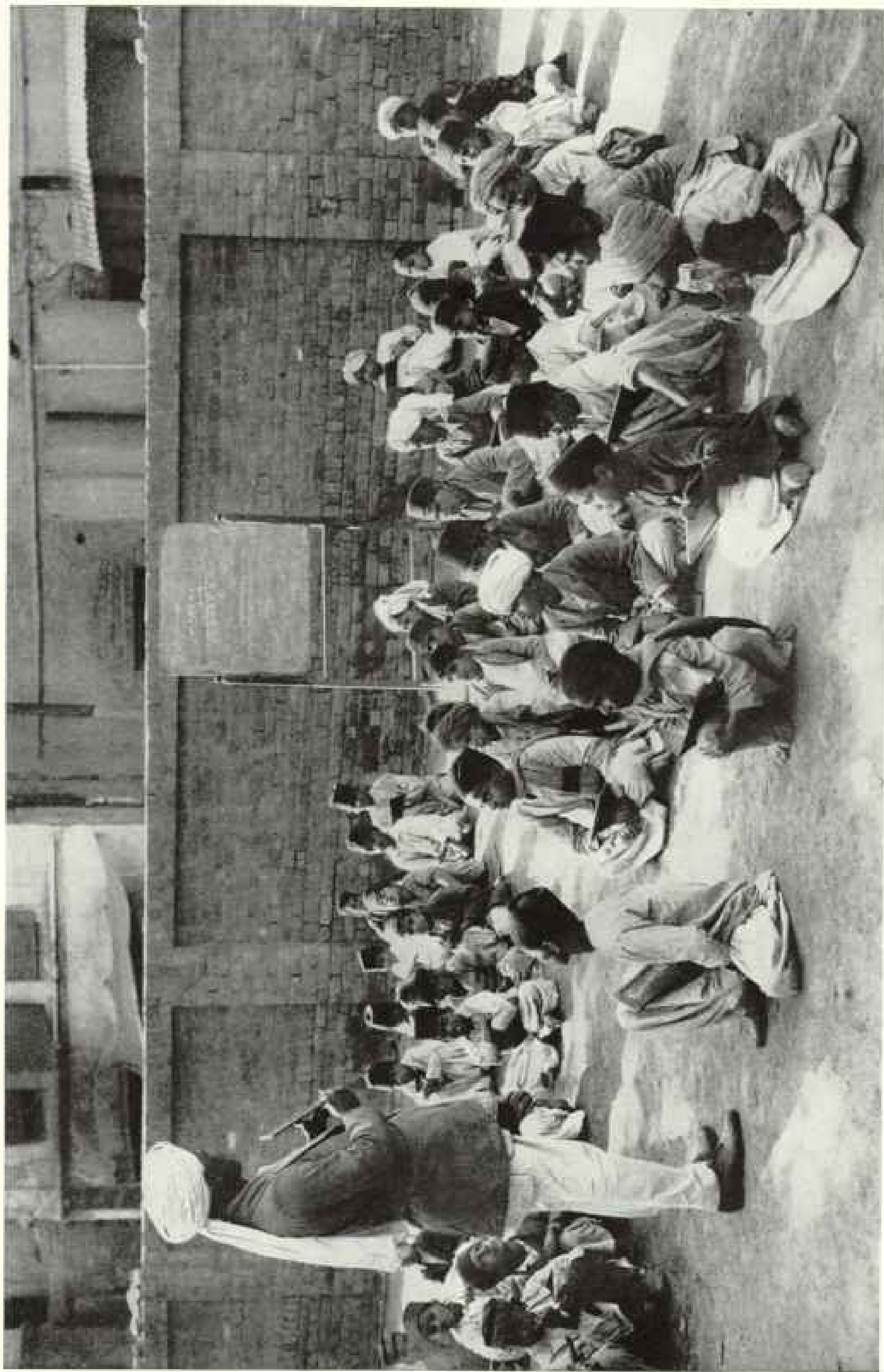
Her industrial development, though slower, is also impressive. Just before the war India had 10,000 factories of various kinds, employ-



Alexander Wetters - Westcott

Benares' Templed Crescent along the Holy Ganges Is the Heart of Hindustan

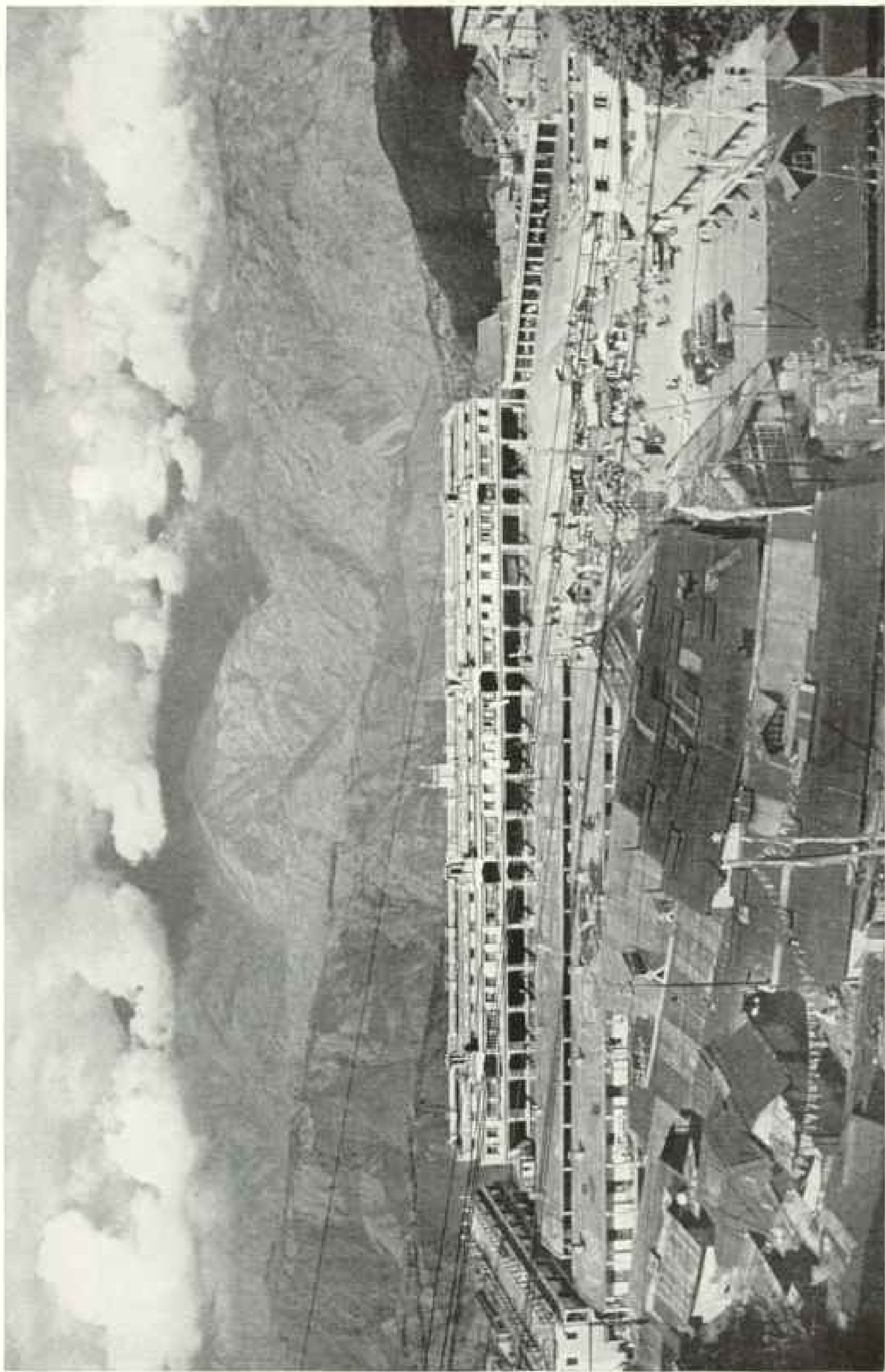
Benares and the Ganges appeal to India's Hindus as do Jerusalem and the Jordan to Christian pilgrims. Along three miles of curving steps (ghats) bathe worshippers of Siva, god of fertility. Friends and relatives watch cremation ceremonies at the burning ghat. Ashes of the dead are borne away on the sacred stream.



H. Haffner

Open-air Classes, Such as This One in Lahore, More than Doubled Literacy in the Punjab in Ten Years

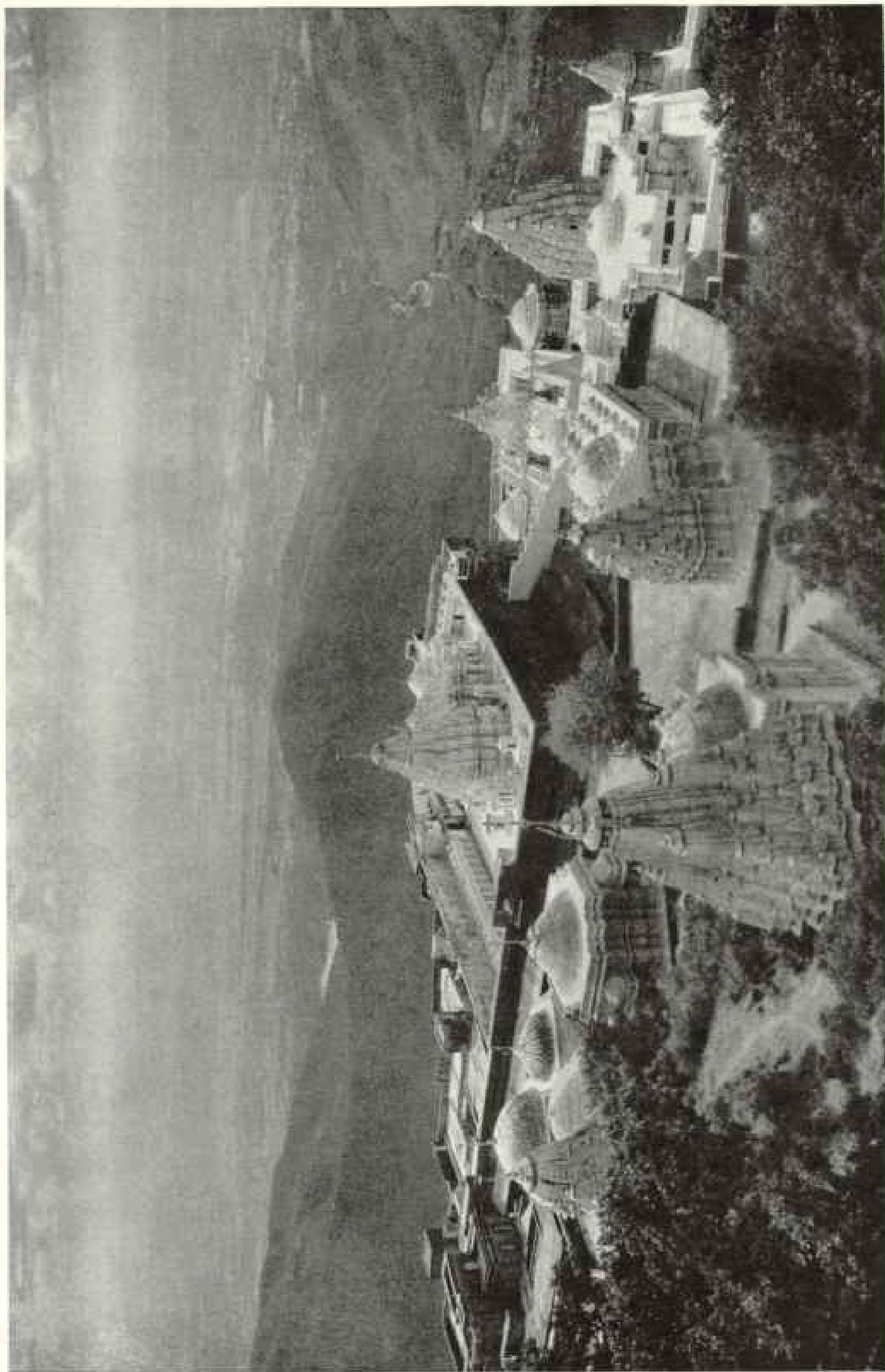
Little Moslems and Hindus glue their eyes to teacher's slate while they hold their own in their laps. Only other equipment is the blackboard in rear. Total cost of all schools, including universities, to taxpayers is about \$1 a pupil.



Henry Jones

Amid Matchless Mountain Scenery, Darjeeling's Broad Bazaar Lies 7,000 Feet above Sea Level

Strange tribesfolk come to market by winding Himalayan trails. Pigtailed Tibetans and close-cropped Bhutias from Bhutan, slant-eyed Nepalese and Lepchas from Sikkim, Marwari traders from Rajputana, and light-skinned Kashmiris crowd this square on Saturdays and Sundays.



© H. H. H. H.

Jain Temples Cluster in a Shangri La Setting High above the Hot Plains of Kathiawar

Temple areas of this Indian religious sect, such as this famous group in the Girnar Hills, breathe an atmosphere of peace. On a wide platform stands the Temple of Nemimath. Behind it are three domes of the Temple of Vastupala, built in 1177. The Jains carry to extremes their regard for all living things.



Agent General for India.

The Viper Is Dead; The Boy Will Live

At Kasauli, in the Himalayas, is the Central Research Institute which produces serums against snake-bites and rabies. Since the identity of the Russell's viper was known, the frightened lad has a nine-to-one chance for recovery.

ing some two million people; and during the last three years these figures have grown greatly (pages 402 and 403).

India is now producing 90 percent of the items required for her own war equipment, her output of shells alone having risen by more than 400 percent since June, 1940.

She has the largest single steel plant in the British Commonwealth. She has developed industries for the manufacture of heavy chemicals, machine tools, cloth, uniforms, and a multitude of other war necessities.

Her shipyards, besides turning out large numbers of corvettes, minesweepers and patrol boats, have refitted and repaired nearly 4,000 ships. India today is rightly rated among the leading industrial countries of the world.

Economic and Financial Independence

This general development rests on a basis of complete economic and financial independence. Since 1922 India has enjoyed the benefit of a fiscal convention, by which the British Government never interferes when the Government of India and the Indian

Assembly are in agreement on fiscal policy.

India is thus enabled to protect her own industries. She can, and does, impose tariffs on imported goods from any source, non-British or British.

Financially, she had the initial advantage, through her place in the British Commonwealth, of obtaining loans at interest rates very little above those of British public loans, and considerably lower than the rates paid by China, Japan, or Latin America. These loans were almost all required for productive expenditure, on railways, canals, and other dividend-bearing assets, which have supported the greater part of the service of the debt.

Moreover, owing to favorable trade balances, in recent years India has been able to "repatriate" her sterling loans: that is, convert them into rupee loans held by Indian investors. By this means she has become the owner of the great productive assets financed by public loans.

Today she is a creditor instead of a debtor country.

A similar process of "repatriation" has been

at work in the field of private investment. Indian industry at the outset was largely financed by British capital, but owing to the gradual purchase of shares by Indian investors and to the steady rise of Indian business initiative, the total British holding in India today is calculated at no more than a billion dollars, or about the same as the British investment in the railways of Argentina.

India's financial and economic autonomy is therefore well on the way to being complete. She sells where she can and buys where she wills. From 1909 to 1914 British goods accounted for 63 percent of India's total imports. In 1939 they had sunk to 25 percent. In 1938 Britain's trade with India was less by twelve million dollars than her trade with the Union of South Africa and less by eight million dollars than her trade with Australia.

The British merchant has no advantage in the Indian market over the merchants of other nations.

This economic and financial maturity, which is closely connected with the third purpose of British policy—the raising of the social and economic level of the people—has an important bearing upon the fourth—the development of India's political life. Political autonomy has little meaning and less value, unless accompanied by autonomy in the financial and economic fields.

We have already helped India to achieve the last; we are now helping her to achieve the first; and the progress made towards a solution of the stubborn problem of Indian self-government can only be rightly judged in historical perspective.

In 1757, when the British began to obtain a real footing in India, no one thought there was anything unnatural in the idea that one people should govern another. Least of all would such a thought have occurred to the masses of India, who had repeatedly passed from the rule of one conqueror to another.

The doctrine, developed by Locke and other British thinkers, that the powers of government derive from the consent of the governed, was still in its infancy. The American Revolution was indeed based expressly on this doctrine, with which were associated certain inherent human rights; but even after the War of Independence, only an enlightened minority in this country disputed the institution of slavery or the expropriation of the American Indian.

New and higher moral standards were slow to win acceptance, in Europe as in America, and it is idle to judge the men of the 18th and early 19th centuries by ideas which are

unchallenged in democratic thought today, but were very far from general acceptance a hundred and fifty or two hundred years ago.

In India British rule itself gradually developed these new standards of judgment. And while Great Britain was striving throughout the 18th century to restore stability to India, she herself was actually transforming many of the conditions which had dictated the character of her earlier and paternal administration.

Spread of English Law and Education

The long process of constitutional development must in itself have presaged vast changes in the relations between India and Great Britain. But its influence was immeasurably strengthened by the spread of English law and English education. In personal matters, Hindu and Moslem laws remain undisturbed; but the criminal and contract law of India is British.

One of the most potent factors, both in political development and in making for unity, has been the English language. It has given India a medium without which the degree of national solidarity attained would have been impossible; for in that country of many tongues English is the one language which every educated Indian, in whatever part he lives, can understand (page 395).

For the first time in Indian history, the Pathan in the north, the Bengali in the east, the Gujarati in the west, and the Tamil in the south could discuss their problems in a common tongue; and so began to be less conscious of themselves as Pathans, Bengalis, Gujaratis and Tamils, and more conscious of themselves as Indians.

But English has also been the gateway to a rich storehouse of science and literary experience. The outlook of Indians has not only been changed, but formed, by their familiarity with the language of Shakespeare and Milton, of Locke and John Stuart Mill, of Thomas Jefferson and Abraham Lincoln.

Human thought, once stirred from sleep, does not soon return to rest; and so it may be said with truth that by degrees the British themselves created the necessity of changing the spirit and adjusting the form of government.

The Long Road of Political Development

The Regulating Act of 1774, which was the first step towards the assumption by the British Government of the responsibility for ruling India, and the scheme of settlement associated with Sir Stafford Cripps in 1942, are the first



Inter-Allied Information

Turbans, Veils, and Beards Protect These Indian Steel Workers from the Heat

A tin plate mill scene shows that life is changing in a land of farmers. War wages are drawing villagers to factories. Only five percent of India's population has turned to industry thus far, but there is a decided increase in metal workers, munition makers, and mechanics.

and latest milestones on a long road of political development.

This development was an integral part of that wider process of evolution by which the present self-governing portions of the British Commonwealth have moved from dependence to autonomy. The important Act of 1833, which asserted for India the principle of equal status for all British subjects, the Council Acts of 1861 and 1892, which introduced representation and popular election, and the Morley-Minto reforms of 1909, which increased the size and widened the scope of all representative bodies, are linked to equivalent developments in Great Britain and elsewhere in the Commonwealth.

The greatest, as it is the most recent, of these constitutional enactments was the Act of 1935, which provided for popularly elected ministries in the eleven Provinces of British India, and gave them approximately the same powers of self-government as any State in the United States. The statute foreshadowed the future political form of India as a great federation, in which the Indian States would voluntarily join with the Provinces.

A federal cabinet of Indian members, drawn from the Indian States and the British Indian

Provinces, would be formed under the Viceroy, who would retain the final responsibility for defense, for foreign policy, and for certain limited aspects of finance.

The part of the Act which was to set up the federal authority had not come into force at the outbreak of war, but in the Provinces, apart from certain special powers reserved to the Governor for emergencies, the Act transferred to Indian hands all matters that most closely affect Indian daily life.

Law and order, finance, agriculture, irrigation, education: all these were placed under Indian ministers, themselves responsible to an Indian legislative body. A Governor was bound to accept the advice of his popularly elected ministry unless a bill appeared to trespass upon the federal sphere, or a proposal threatened to victimize a minority community or to prejudice the financial credit of the province.

Not all the Provinces have worked the Act all the time. When it came into force in 1937, eleven popularly elected ministries were formed. They discharged their duties well until, on the outbreak of war, the Congress Party Working Committee ordered the resignation of the eight ministries it controlled.



British Official

India's Railway Workshops Prepare Armored Carriers for Its Army

Before the war India imported its armored vehicles. In 1940 the Tata steel works developed a bulletproof armor plate for imported chassis. In 1939-40, all India contained fewer motor vehicles than the District of Columbia.

At present 6 out of the 11 Provinces are governed by popularly elected ministries.

That was the position, in the early summer of 1942, when Sir Stafford Cripps was empowered by the British Government to make a fresh offer to Indian political leaders. The offer he carried would have given India full self-government after the war, with the right, if she so desired, to leave the British Commonwealth. During the war it would have given to Indian leaders every post in the Viceroy's Executive Council, except that of Commander-in-Chief. The Cripps mission failed.

The Working Committee of the Congress Party rejected the offer ostensibly because it did not concede what the Committee described as "Cabinet government with full power" during the war. On this the British Government had always made it perfectly plain that during the war they must put the cause of Indian defense first, and could not delegate or diminish their effective control in this field.

The Moslem League rejected the offer on the ground that it did not adequately recognize the Moslem claim for separate autonomy.

But behind these rejections, of course, lay

what is known as the communal question, the greatest of all Indian perplexities, with roots set deep in Indian history.

The Hindu and Moslem Groups

In broad outline, and leaving out of account such important minorities as the Sikhs or the Indian Christians, the population of India may be divided into three main sections. The first and smallest is what are known as the Outcastes or Depressed Classes, who number about 49 million. These are probably descended from the early Dravidian inhabitants of India; Hindu by religion, but debarred from spiritual and social rights by the Caste Hindus who had superimposed themselves upon the original elements of the population.

The second and largest minority is the Moslem community of some 92 millions. They are the descendants of yet other and more formidable invaders, who conquered India and set up the Mogul Empire in the 16th century, or are converts from other religions.

The third and, of course, the largest section is the Caste Hindu community, numbering 206,100,000; and neither the Moslems nor the so-called Depressed Classes will accept any



Excerpt from "Three Lives"

Culture and Progress Mark This Indian Family of Pondichéry

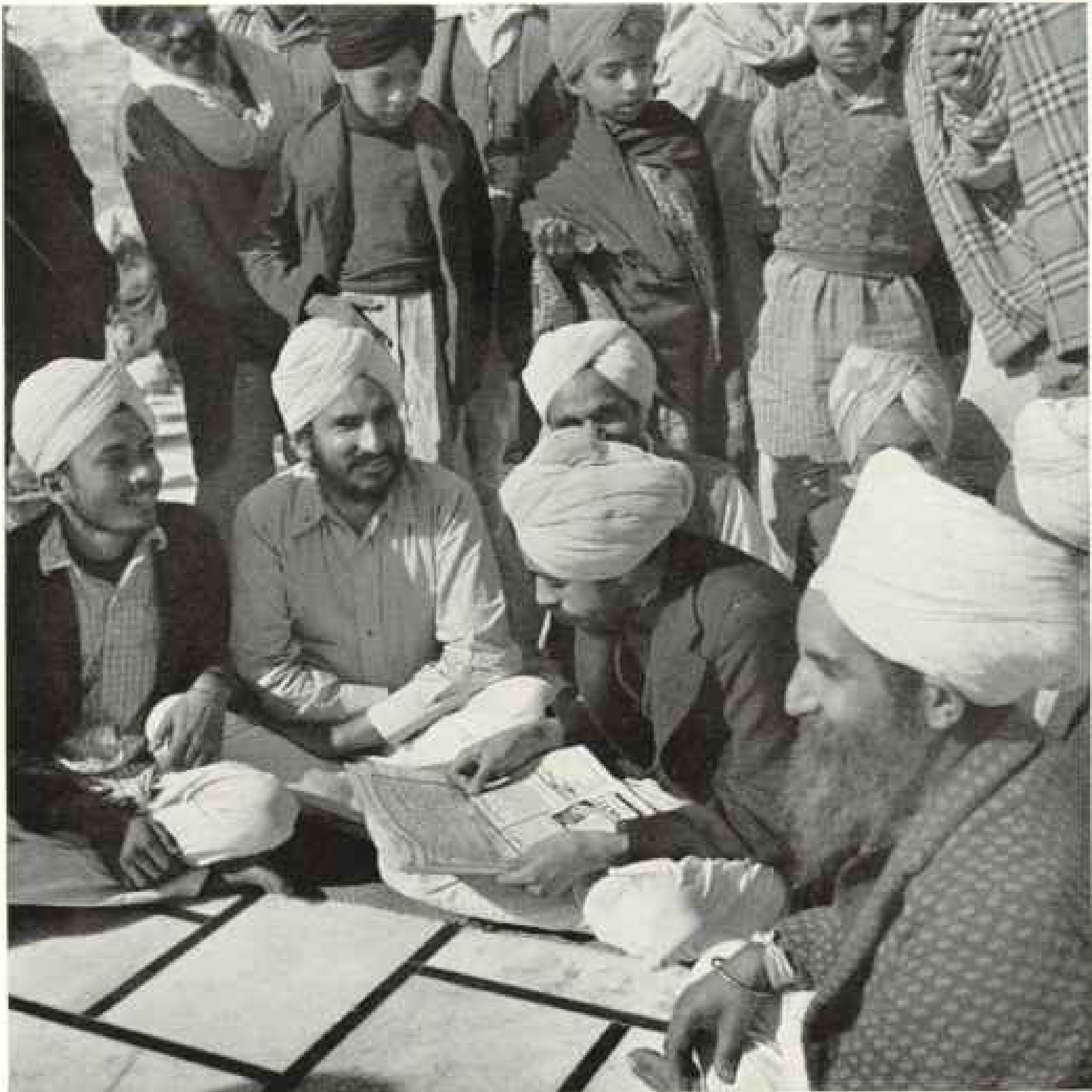
Chief French possession in India, it has a population of 205,000. It cast its lot with the Free French and has negotiated a special customs treaty with British India.



Herbert G. Ponting

Penance, Not Beauty Rest, Is the *Sadhu's* Bed of Spikes

Hindu ascetics, by painful penances, strive to attain supernatural powers. This holy man of Benares seems oblivious of physical pain. Such men are erroneously called *fakirs*, a term which applies to Moslem mendicants.



Staff Photographer: *Meynard Owen Williams*

Sikhs Discuss the News on the Marble Walk Edging Their Temple's Tank of Immortality

In the center of the artificial lake at Amritsar stands the Sikhs' Golden Temple of Spirituality. Within the temple, worshipers gather about their sacred book, the Granth. Many Sikhs are in the Indian Army; others are policemen throughout the East.

solution which would appear to place them in the power of the Caste Hindu majority. Nor, with some exceptions, will they follow the flag of the Indian National Congress. This is a party organization, predominantly Hindu, which in 1941 showed a membership of about a million and a half and, while there is good reason to believe that since then its numbers have considerably decreased, is still the most powerful political machine in the country.

In a democracy the will of the majority must ultimately prevail; but, as Lord Acton put it, "The test of freedom is the right of minorities." Every federal constitution con-

tains some measure of protection for them; the United States, for example, through the equal representation of States in the Senate. This necessity to maintain unity, while preserving the rights of minorities, is the core of the Indian problem. Nor can it be said that the Moslems and the Depressed Classes, with a combined strength of rather more than the total population of the United States, are ordinary minorities.

Between Moslem and Hindu, there is a baffling absence of fundamental community of thought or feeling. The Moslem is a realist and a democrat, and although intensely religious, is extremely practical.



Derrick Official

In an Indian Shipyard, Footwork Still Counts

With manpower available at low wages, wrist and ankle methods serve in naval construction. Here Sikh workmen are carrying a derrick to a partly built ship.

The Hindu is mystic and introspective. To the strict Hindu, with his belief in the doctrine of reincarnation, all the institutions of life are rigidly regulated, so that within the limits of an incarnation a man is expected to remain in the station to which he has been born.

The difference, therefore, is between a dynamic society and one that is largely static.

The Moslem, too, has memories of bygone days when the Moguls ruled India. Rightly or wrongly, he claims for the people of his faith a greater virility and a higher proficiency in the arts of war and peace. In reaction to the suggestion of an Indian federation dominated by a Hindu majority, the Moslem League has taken its stand upon the idea of Pakistan, a great Mohammedan state to be carved out of north and northwestern India; and this is a conception to which the bulk of Hindu feeling, not unnaturally, is violently opposed.

This deep antagonism has been the cause of violent outbreaks, often involving much loss of life and property. From time to time it is alleged that the British, on the principle of "Divide and Conquer," have encouraged the quarrels which lead to these disturbances. That simply is not true. The late Sir Sikander Hyat Khan, the distinguished Moslem Premier of the Punjab, than whom no one had

better right to judge, said plainly in September, 1942, that "It is both dishonest and unfair to say that the British are standing in the way of communal agreement."

From my own experience I know that there is no single thing more dreaded by every British officer, toiling through the hot weather in the plains of India, than that one of the big religious festivals may be the match to set off a Hindu-Moslem riot. He knows only too well that such an outbreak, so far from making his work easier, will at least bring a new burden of anxiety, and at worst may be a real disaster.

In addition to the mutual incompatibility of thought and temperament between Moslem and Hindu, we have to reckon with the apprehensions of the Depressed Classes, who regard with open dread any proposal which would leave them to the mercies of the Caste Hindus, by the majority of whom they are still treated as "untouchable." To them, again rightly or wrongly, the final establishment of such control would spell the destruction of all their hopes of social betterment.

The position of the Indian States is a further complication which those who draft paper constitutions for India sometimes forget. By virtue of their treaties with the States, the British can advise the rulers and insist on certain standards of government, but in the

last resort there can be no compulsion to accept an unwanted political solution. To attempt such compulsion would be to commit a unilateral infraction of treaties, which is one of the evils that have caused this war.

A Strange Mosaic of History

It is a strange mosaic of history, and carries all the marks that history has left. The divisions between Hindu and Moslem, between the Caste Hindu and the Depressed Classes, between Moslem and Sikh, between the British Indian Provinces and the Indian States—here are pieces in a political puzzle as difficult as the mind of man has ever set itself to solve. Only those who are unfamiliar with all that makes up the puzzle would be rash enough to assume the possibility of any quick or easy solution.

And India occupies a strategic position of great importance to the United Nations. In her own interests, but also in those of China, who draws her necessary supplies through and from India, and in those of the common cause for which we are all fighting, we cannot risk the confusion which might accompany vast constitutional changes with the enemy at the gate. Therefore, whatever preparations may prove feasible in the meantime, we are bound to defer the final settlement until the danger of invasion is past.

But on the other hand we have pledged our word that, when it is past, we shall recognize any constitution the Indians may frame for themselves. That is our purpose, and we shall not lose patience with the problem, or relax our efforts to resolve it.

But in the last resort it is the Indians themselves who must determine the pattern of their future, and they therefore must find the working basis of agreement. This remains the indispensable condition of progress and security. A precipitate abandonment of our responsibility before this could be safely assumed by others would only expose India to dangers such as she has not known for centuries.

The fact that our fourth and final purpose still lacks complete achievement and that India appears to have halted on the threshold of full self-government, should not obscure the real progress that has been made, not only in the task of creating a representative government, but also in that of Indianizing the Administration.

In the Central Executive, ten out of fourteen posts in the Governor-General's Council are held by Indians. In the higher administrative cadres there are 632 Indians to 573 British. In the General Administrative Serv-

ice there are eight Indians to one British. In the "qualified" medical services the proportion is 30 to one, and in the engineering services 14 to one; while ten out of every eleven judges today are Indians. Over the whole field of administrative and technical authority there has been, in the last 25 years, a gradual and progressive transfer to Indians.

Those, therefore, who picture India as a country seething with discontent and rebellion might well ask themselves if a few thousand civilians and a British peacetime force of 60,000 men could really hold down nearly 400 million people against their will. The truth, of course, is that in the main India is governed, administered, and defended by Indians; and that the Government itself, while it encounters much criticism, and active and even at times violent opposition, rests broadly upon the consent of the masses of the people.

It has sometimes been suggested that the failure to reach agreement on the political problem has had an adverse effect upon India's war effort. The facts lend no color to this suggestion. The tremendous increase in the output of munitions has been mentioned; and side by side with this has gone a remarkable expansion in India's armed forces.

An Effective Ally of the United Nations

Before the war the Indian Army numbered 170,000 men. Most of the Indian regiments had a long history of valiant and successful service, of which they were justly proud; and the Army, though small, was well trained and highly efficient. Today it numbers nearly two million.

The men are all volunteers and, to an increasing extent, the Army is being officered by Indians. Recruits have been taken in at the average rate of 50,000 a month, which is as fast as the necessary equipment becomes available (pages 391, 394).

As to the fighting quality of the Indian Army, those who have served with it are the best witnesses.

An outstanding example is the Fourth Indian Division. This has formed a part of the Eighth Army in North Africa; it has borne its full share of the fighting and the casualties; and it is generally conceded that no finer fighting division can be found in the ranks of the United Nations. Even before the battle of El Alamein it had captured over 100,000 Germans and Italians, and in the last phase of the Tunisian campaign it captured the German Commander-in-chief Von Arnim himself. Five Indians have, so far in this war, been awarded the Victoria Cross, the highest British decoration for valor.



Staff Photographer Maxwell Owen Williams

Stone Sister of the Taj Mahal Is Calcutta's Victoria Memorial

Built of the same marble as Shah Jahan's famed classic is this shining monument to Queen Victoria. The Queen assumed the government of India in 1858. At a magnificent *darbar* at Delhi she was proclaimed Empress of India on January 1, 1877. The Memorial, financed by voluntary contributions of Indian princes and peoples, is surmounted by a 3-ton figure of Victory.

The Royal Indian Navy used to consist of ten or twelve small ships, mainly for patrol work along the coast. Today, when the naval war has been carried into the Indian Ocean, this fleet has grown almost beyond recognition, and the seagoing personnel has been increased eighteenfold.

Indians, too, have shown that they make excellent fighters in the air. There are 10 squadrons of the Indian Air Force, the members of which, except for a few technical instructors, are all Indians; and Indian pilots have served with gallantry and distinction on the fighting fronts, and particularly in Burma.

In short, India is a formidable and effective combatant member of the United Nations. That this should be so is no surprise to those who know India and a great gratification to those who love her.

India has a magic charm which holds the hearts of those who have tried to serve her. It is the charm of a mighty land, of rich and rare diversity, with a noble and historic past. It is the charm of India's people, among whom I am proud to number many friends in every rank and in every calling.

They are often in my mind and will always remain in memory—prince and merchant, soldier and saint; and, above all, the *ryot*, that shrewd, kindly, humor-loving son of the soil, who is nine-tenths of India. He is a simple, friendly man. He does not ask much from life or from those who rule him; but I believe that in history we shall be judged by what we have done, or tried to do, for him, rather than by any other circumstance in our long connection with India. Nor, in my opinion, need we fear the verdict.

The Heraldry of Heroism

BY ARTHUR E. DU BOIS

Chief, Heraldic Section, Office of the Quartermaster General, United States War Department

DECORATIONS and medals stand for more than the Nation's grateful acknowledgment of fidelity. They are a constant incentive to performance of outstanding deeds.

In World War II United States decorations and medals are more numerous and beautiful than ever before. War's changing styles, introducing new weapons and tactics, have created new symbols of courage, achievement, and proficiency.

A few years ago, after the Purple Heart was revived and the Silver Star was authorized for the United States military service, it was reported that "there now is no act of bravery or distinguished service on the part of an officer or enlisted man which is not recognizable by an appropriate award." However, soon after Pearl Harbor it was determined that the ever-changing conditions of warfare required further awards for our heroes.

A military or naval hero is a man who has the strength of mind and spirit to encounter danger with fortitude, firmness, and courage.

If he possesses these qualities, the chances are that he will be singled out by his comrades in arms, who will acclaim his honors. Through the Nation's acknowledgment of his fidelity he may then be accorded a decoration. All over the United States a grateful people sees its returning heroes, wearing ribbons on their uniforms.

For the first time a comprehensive series to date of these honorable symbols is reproduced in color (Plates I through XII).

Many decorations are now being awarded on the field of battle. But they do not remain on the uniform; the ribbons are used in their stead. With few exceptions, decorations have distinctive outlines, while medals are always in the form of disks.

A decoration is conferred on an individual for a specific act of gallantry, and the various requirements are fully described (page 414).

Medals are distributed to those who have participated in designated wars, campaigns, expeditions, or who have performed services (page 436).

This distinction may appear confusing in view of several decorations having the word "medal" in their official titles. Thus the Medal of Honor, the Nation's highest award, often referred to as the Congressional Medal, is actually a decoration.

Decorations and medals are not officially classified as badges. A badge is given for some special proficiency, such as marksmanship, parachuting, and aviation (page 440).

Women Eligible for Many Awards

Women are eligible for a number of awards. For their exclusive wear, the latest service ribbon has been designed (page 434). Moss-tone green, edged with old gold, the colors adopted for the WAAC, is the ribbon that the WACS who served in the former organization will soon be wearing. It represents the first medal planned for women only.

The Merchant Marine Distinguished Service Medal represents a nation's dependence on the seamen who sail its merchant vessels regardless of torpedoes and bombs (Plate II).

The new civilian Medal for Merit may be awarded to Americans and civilians of other nations in the performance of an exceptionally meritorious act in furtherance of the war efforts of the United Nations (Plate II).

Previously, the United States bestowed on foreigners only the decorations given to its own fighting men. Now the Legion of Merit, a series of four decorations, has been created, and certain of these are being conferred upon members of the armed forces of friendly powers (Plate I).

Chief Commander, the Legion's highest degree, has been given to China's Generalissimo Chiang Kai-shek. Like others receiving any degree of the Legion of Merit, he was cited for "extraordinary fidelity and exceptional military conduct in the performance of outstanding services."

Second degree is Commander. First to receive it, or any of the degrees, was Brazil's Brig. Gen. Amaro Soares Bittencourt (412).

Third degree is Officer. First to receive it were Col. Johannes K. Meijer of the Royal Netherlands Army, Maj. Herbert J. Thompson, British Army, and Maj. Stephan M. Dobrowalski, Polish Army.

Fourth degree (Legionnaire) is also conferred upon members of foreign armies. Legion of Merit without degree is conferred on U. S. forces. First award was to a woman, Lt. Ann Agnes Bernatitus, heroic Navy nurse from Bataan and Corregidor (page 443).

Congress last year authorized officers and enlisted men to receive during the war, and for a year thereafter, decorations from co-belligerents and other American republics.



Arnold

For His Mission to Tokyo, General Doolittle Receives the Army Medal of Honor

From "Shangri La" he led a squadron of bombers across Japan on April 18, 1942. Lt. Gen. Henry H. Arnold (now General), Mrs. Doolittle, and Gen. George C. Marshall watch President Roosevelt's presentation. After the war, the decoration will be worn on a neck ribbon.

War's increasing emphasis on teamwork is receiving recognition. Just as Great Britain decorated the heroic people of Malta collectively, so does the United States honor a fighting ship or organization. Every member of such a unit is entitled to wear its symbol.

Two awards of this nature are Army Organization Citation and Navy Presidential Unit Citation (Plate II). The 19th Bombardment Group received the Army's first award, although prior citations had been published. The first naval award was made for service at Wake Island.

Representing this war's global nature are ribbons designating service in three major areas. They are American Theater, Asiatic-Pacific Theater, and European-African-Middle Eastern Theater (map, page 413).

A new decoration is the Air Medal. The Distinguished Flying Cross remains the higher award. The number and bravery of our airmen necessitated a second decoration. The

Air Medal is given to any member of the armed forces for meritorious achievement in flight. Conceived by the Army Air Forces, it has been adopted by the Navy (Plate II).

Awards Recently Authorized

Within the last few months, the Army, following the example of the Navy, Marine Corps, and Coast Guard, has adopted a Good Conduct Medal (Plate X).

Similarly, the Navy has created the Navy and Marine Corps Medal, which, like the Army's Soldier's Medal, is for noncombat service. Only the one example existed when a National Geographic photographer took its picture (page 439).

Likewise new to the Navy are two decorations created by the Army. One is the Silver Star, given for an act of gallantry not warranting the highest awards (Plate VII). The other is the Purple Heart Medal, now given in all services to men wounded by the enemy;

The original Purple Heart is believed to be the first military decoration for bravery given without respect to rank. Created by Gen. George Washington, it dates from the American Revolution.

Early in that war, awards were confined to the outstanding military leaders. Washington received the Nation's first gold medal in appreciation of his having driven the British out of Boston in 1776.

On August 7, 1782, Washington in turn established honors for the soldier. They were the Badge of Military Merit (Purple Heart) and Honorary Badges of Distinction. Creating the first of these, he used these words:

"The General, ever desirous to cherish a virtuous ambition in his soldiers, as well as to foster and encourage every species of Military merit, directs that whenever any singularly meritorious action is performed, the author of it shall be permitted to wear on his facings, over his left breast, the figure of a heart in purple cloth, or silk, edged with narrow lace or binding. Not only instances of unusual gallantry, but also of extraordinary fidelity and essential service in any way shall meet with a due reward. . . .

"The road to glory in a patriot army and a free country is thus opened to all. This order is also to have retrospect to the earliest days of the war, and to be considered as a permanent one."

Notwithstanding the General's injunction that the Badge of Military Merit was "to be considered as a permanent one," it was allowed to fall into disuse.

On February 22, 1932, the 200th anniversary of Washington's birth, the War Department announced:

"By order of the President of the United States, the Purple Heart established by Gen. George Washington at Newburgh, New York, . . . is hereby revived out of respect to his memory and military achievements."

Washington's "figure of a heart in purple cloth" has undergone elaboration. The new Purple Heart bears the likeness of the Father of his Country (both shown on Plate VII).

"Badge of Military Merit" does not appear in the modern designation. But the words "For Military Merit" are on the reverse of the new Purple Heart.

Similarly, two other awards trace their ancestry to Washington's emphasis on merit: the Legion of Merit (Plate I) and the Medal for Merit (Plate II).

Washington's second award, the Badge of Military Distinction, was given only during the Revolution. It was a "narrow piece of white cloth of an angular form, to be fixed on the left arm of the uniform coat." It was for noncommissioned officers and men who had served more than three years with "bravery, fidelity, and good conduct."

For six-year veterans two pieces of cloth were set "parallel to each other."

These distinction badges resembled the service stripes on today's service uniform. Their meaning, however, was similar to that of the modern Good Conduct Medals (Plate X).

A third recognition for enlisted men was created during the War with Mexico. In 1847 Congress established the Certificate of Merit. Originally for privates, it was given later to noncommissioned officers. Until 1905 it was a printed document signed by the President. In that year a medal was authorized (Plate V). In 1918 it was discontinued. The Distinguished Service Cross is its successor.

The Medal of Honor, the country's most cherished mark of esteem and the first metal decoration for award, was a product of the Civil War. It was created for the Navy, December 21, 1861. The Army Medal of Honor was established six months later.

Though differing in design and created by separate acts of Congress, Army and Navy Medals of Honor are referred to usually as "Medal of Honor," as if they were one decoration.

The Medal of Honor is usually presented by the President.

Only Woman to Receive Medal of Honor

Dr. Mary Walker, an Army surgeon in the Civil War, is believed to have been the only woman to receive the Army Medal of Honor.

The Medal of Honor, when awarded posthumously, is evidence that the person honored has given what Lincoln in his Gettysburg Address called "the last full measure of devotion."

An illustration from the present war is the posthumous award to Comdr. Howard W. Gilmore, commander of a submarine. Caught on deck and gravely wounded by Japanese machine-gun fire, he gave one last triumphant command, "Take her down!" Swept to sea as his vessel crash-dived to safety, Gilmore joined our Navy's immortals.

Worthy representatives of living recipients are Maj. Gen. James H. Doolittle and Aviation Chief Ordnanceman John W. Finn (pages 410 and 442).

As stated, the President is authorized to present a Medal of Honor in the name of Congress; yet Congress takes no action in its award. But it may do so. In 1935 it specifically honored the late Maj. Gen. A. W. Greely, Arctic explorer and long a trustee of the National Geographic Society.

Today's recipients of the Army Medal of Honor are cited for "conspicuous gallantry



Coordinator of Inter-American Affairs

A Brazilian General Receives the U. S. Legion of Merit

On November 8, 1942, the day that North African operations started, Brig. Gen. Amaro Soares Bittencourt became the first foreigner to receive the medal (Plate I). The citation for "outstanding service in making possible a close and effective cooperation between his country and the United States" is read by Col. Townsend Heard, creator of the design.

and intrepidity involving risk of life above and beyond the call of duty in action with the enemy."

The Distinguished Service Cross and the Distinguished Service Medal were created for the Army during World War I. The former was for "extraordinary heroism against an armed enemy"; the latter for "exceptionally meritorious service to the Government in a duty of great responsibility" (Plate V).

Comparable Navy World War I awards are the Navy Cross and the Distinguished Service Medal (Navy) (Plate VI.)

The Army of Occupation of Germany Medal (1918) is a service medal which was

finally authorized, 23 years after the Armistice, on November 21, 1941. So closely did that date coincide with historic December 7, 1941, that rumor said the Government, anticipating a second occupation of Germany, had adopted a medal for the men who were to stand watch on the Rhine. Confusion was cleared up when the date "1918" was emphasized.

Every man who honorably took part in the occupation of Germany (or Austria-Hungary) is entitled to this medal (Plate X), which will not be issued until after the cessation of hostilities.

In the Army, any commissioned officer having any knowledge of an act of valor may call it to the attention of the commanding officer of a field army (a general). The general and a board of officers decide the degree of valor. With two exceptions, the board may advise the general to award any appropriate decoration.

The two exceptions are the Medal of Honor and the Distinguished Service Medal. If one

of these awards is indicated, a recommendation is forwarded to the Secretary of War. He refers it for action to the War Department Decorations Board. If the award is the Distinguished Service Medal, the Secretary or his delegate makes the presentation.

Similarly, the Navy and Marine Corps require Washington's authority for the Medal of Honor and the Distinguished Service Medal. Fleet commanders, and even task force commanders, may confer the Navy Cross and lesser decorations.

Upon request, both Army and Navy award boards may consider recommendations for all decorations.



Drawn by Theodore Price

Like Caesar's Gaul, the World of Service Ribbons Is Divided into Three Parts

Area service medals are awarded for three major theaters. American sector averages 80 degrees of longitude, European-African-Middle Eastern 100, and Asiatic-Pacific 180. Alaska is detached from the rest of the Americas.

Decorations, medals, and badges should be worn only by those to whom they have been awarded. Posthumous awards are made to nearest surviving relatives but are not worn.

Decorations and medals are worn on uniforms on state or designated occasions, at the White House, parades, and inspections.

Miniatures, one-half regulation size, may be worn on evening dress and mess uniforms.

The Medal of Honor is worn from a neck ribbon. Most other decorations and medals are worn over the left breast. If several are worn, they are supported in a horizontal line by suspension ribbons from a single holding bar. If there are many, they may overlap.

Each service has established the order in which decorations are worn. Foreign awards are placed after United States awards.

United States decorations are for wear on the left. However, Army Organization Citation is always worn on the right. Navy Presidential Unit Citation is worn on the right when decorations are worn; on the left when service ribbons are worn.

In times of peace, civilians may wear decorations or medals on any occasion. If they choose, they may display lapel buttons to show service with the armed forces.

Recipients of Army decorations receive certificates of award intended for framing. The Navy gives certificates only when it presents decorations to foreigners, or, in the case of the Purple Heart, to men who have left the

service or to the next of kin of those who have been killed or died of wounds.

The words "gallantry" and "service" hold the key to the system on which our decorations and medals are based.

Second Series of Insignia and Symbols

The NATIONAL GEOGRAPHIC MAGAZINE for June, 1943, presented the story and color portraits of United States military and naval insignia. This issue presents the logical sequel—decorations, service medals, and badges, shown in their natural colors.

Included in this second color series are the insignia of the women of the Army, Navy, Marine Corps, and Coast Guard.

Shown in black and white is the Navy and Marine Corps Medal, created so recently that time did not allow its reproduction in color (page 439).

The 376 objects illustrated in color are nearly always true awards, not samples. Recipients, or their descendants, generously lent them to The Society for photographing. Among them were Rear Adm. Richard E. Byrd, Rear Adm. J. H. Towers, and Rear Adm. W. A. Lee.

For advice and cooperation acknowledgment is made to Lt. Col. G. Dewey Gardner, Chief of the Decorations and Awards Branch, Adjutant General's Office, U. S. A.; Capt. H. G. Patrick, U. S. N., Member and Recorder of the Navy Board of Decorations and Awards; Mrs. M. A. Crawford, Chief Clerk of the Navy Medals and Awards Section; Mrs. Jane V. Blakeney, Chief of the Decorations and Medals Division of the Marine Corps; Lt. Col. A. T. Mason, USMC; Mark J. Abrihat; Col. F. C. Endicott, Infantry, Executive Officer, National Board for the Promotion of Rifle Practice, Army Ground Forces; and Ralph Clifton Smith, Public Relations, Coast Guard.

A third presentation of the insignia of other services participating in the war will appear in an early issue (see announcement, page 488).

Decorations, Medals, Service Ribbons, Badges, and Women's Insignia

Legion of Merit

(Illustrations Plate I slightly reduced)

Legion of Merit created by Congress July 20, 1942. Degrees of Chief Commander, Commander, Officer, and Legionnaire; for award to personnel of armed forces of friendly foreign nations, and personnel of armed forces of United States and of the Philippines.

Recipients must "have distinguished themselves by exceptionally meritorious conduct in the performance of outstanding services" since the Presidential proclamation of emergency September 8, 1939. Decoration is first specific award to foreigners; first to have different degrees.

Three-inch plaque for Chief Commander worn on left side; Commander with neck ribbon; Officer and Legionnaire with suspension ribbon.

Designer—Col. Townsend Heard. Sculptor—Katharine W. Lane.

Obverse—Five-pointed American star of heraldic form, with 13 white stars on a blue field emerging from circle of clouds; the stars taken from U. S. Coat of Arms to represent the "new constellation," as the founding fathers described the young Republic. Backing the star is a laurel wreath. Crossed war arrows pointing outward represent armed protection to the Nation. Reverse—Chief Commander has words, "United States of America." Commander has words, "United States of America," and motto taken from reverse of Great Seal of the U. S.—*Annuit Coeptis, He (God) Has Favored Our Undertakings*—together with the date, MDCCLXXXII of first U. S. decoration, the Badge of Military Merit (Purple Heart).

Decorations, Medals, and Ribbons Authorized During World War II

(Illustrations Plate II slightly reduced)

Latest U. S. decorations suggest global nature of World War II and participation of armed forces and civilians.

Service ribbons are shown on this plate for decorations and medals not yet designed. Note the distinction between service ribbons and other "bars," for which no medals are awarded.

AIR MEDAL. Executive Order, May 11, 1942. Recipients, members of the armed forces, must have distinguished themselves, after September 8, 1939, by meritorious achievement in flight. Air Medal is awarded where the service does not warrant a Distinguished Flying Cross (Plate VII).

Designer—Walker K. Hancock.

Obverse—Bronze compass rose $1\frac{1}{16}$ inches in diameter, suspended by a pointer and charged with an eagle volant carrying lightning flashes.

MERCHANT MARINE DISTINGUISHED SERVICE MEDAL. Joint Resolution of Congress, April 11, 1943. Awarded to any person in the American merchant marine who, on or after September 3, 1939, "has distinguished himself . . . in the line of duty." Awarded by the U. S. Maritime Commission.

Designer—Paul Manship.

Obverse—Silver compass rose imposed on compass card, suspended by eagle in front of crossed anchors. An arch of leaves over the eagle's head. Reverse—Disk within compass rose, charged with shield of U. S. Coat of Arms, with words, "Distinguished Service" and "United States Merchant Marine."

LAPEL BUTTON. Worn in lieu of medal.

MEDAL FOR MERIT. Act of Congress, July 20, 1942. Awarded by the President on recommendation of the Medal for Merit Board (Secretary of State, chairman) to civilians of the U. S. and its Allies who "distinguish themselves by exceptionally meritorious conduct in the performance of outstanding services."

Designer—Col. Townsend Heard. Sculptor—Katharine W. Lane.

Obverse—Eagle resting on sheaf of arrows encircled by 13 stars. Bordering the arrows is the motto *Novus Ordo Seclorum*, the beginning of a New American Era, taken from the reverse of the Great Seal. Medal is suspended from the ribbon by a green laurel wreath. Reverse—Words, "United States of America" and "For Merit," with back of eagle modeled.

OAK LEAF CLUSTERS IN SILVER. Authorized on appropriate decoration suspension or service ribbon in ratio of one silver for five bronze clusters (Plate V).

SILVER (BATTLE) STAR. Authorized on appropriate service ribbon in ratio of one silver for five Bronze Stars (Plate X).

AMERICAN DEFENSE SERVICE MEDAL. Executive Order, June 28, 1941. Awarded to members of the armed forces "for service during the limited emergency proclaimed by the President on September 8, 1939, or during the unlimited emergency proclaimed by the President on May 27, 1941." The words quoted appear on the reverse. Service must have been between September 8, 1939, and December 7, 1941.

Designer and sculptor—Lee Lawrie. Designer of ribbon—Arthur E. Du Bois.

Obverse—Liberty in attitude of defense, holding shield and sword; standing on live oak with branches terminating in four leaves, for Army, Navy, Marine Corps, and Coast Guard.

After the war the Army will award a clasp for "Foreign Service."

After the war the Navy will award two clasps for wear on suspension ribbon. These will be: *Fleet*—for service on high seas; *Base*—for service on shore outside continental limits of United States.

A $\frac{3}{16}$ -inch bronze star is worn on the service ribbon in lieu of clasps for both services (Plate X).

A bronze "A" is worn on the service ribbon by personnel of designated vessels with the Atlantic Fleet for service between June 22, 1941, and December 7, 1941.

ORGANIZATION CITATION—ARMY. Re-named Dis-

tinguished Unit Badge. Executive Order, February 26, 1942. Citation issued in the name of the President "as public evidence of deserved honor and distinction" to any organization "of the Army of the United States or the Army of the Philippine Commonwealth" if twice cited "for outstanding performance of duty in action on or after December 7, 1941." Badge is worn by all members of cited organizations. It is considered an individual decoration for persons engaged in the cited actions, and so may be worn by them, whether or not they continue as members of the unit. Other personnel may wear decoration only while serving with the cited unit. The badge is worn centered above right breast pocket. (No medal is planned.)

Designer—Arthur E. Du Bois. Modeled by Trygve A. Rovestad. Blue ribbon set in a gold-colored frame of laurel leaves.

PRESIDENTIAL UNIT CITATION—NAVY. Executive Order, February 6, 1942, directed Secretary of Navy to issue a citation, in the name of the President, to any ship, aircraft, or other Naval unit and to any Marine Corps aircraft, detachment, or higher unit, for "outstanding performance in action on or after October 16, 1941."

Members of the unit wear the plain bar as long as they maintain their connection. Participants in cited actions wear the device permanently and place on it blue $\frac{3}{4}$ -inch stars on the center-gold stripe, one for each action.

Worn on left breast between decoration ribbons and service medal ribbons. When medals are worn, this ribbon worn on right breast. No medal for this citation.

NAVY AND MARINE CORPS RIBBON. Congress, August 7, 1942, authorized the President to award a Navy and Marine Corps Medal to anyone in those services, including their reserves, who, since December 6, 1941, distinguishes himself or herself by "heroism not involving actual conflict with an enemy." (Page 439.) Designer—Lt. Comdr. McClelland Barclay, missing in action.

MERCHANT MARINE COMBAT BAR. Issued to crew members of merchant ships attacked. Any crew member forced to abandon his vessel is awarded a silver star to be attached to the bar.

AMERICAN TYPHUS COMMISSION RIBBON. Executive Order, December 24, 1942. Awarded by the President for meritorious service in connection with the work of the typhus-control commission. Medal design not yet approved.

Theater of War Ribbons. Executive Order, November 6, 1942. Medal designs for these theaters have not been selected. To members of the armed forces who between December 7, 1941, and a date six months subsequent to the termination of the war shall have served outside the continental limits of the U. S. Map page 413.

AMERICAN THEATER. Blue represents the Americas; black and white, Germany; red and white, Japan.

EUROPEAN-AFRICAN-MIDDLE EASTERN THEATER. Green represents Europe; green, white, and red, Italy; black and white, Germany; brown, Africa.

ASIATIC-PACIFIC THEATER. Red and white represents Japan, on an orange background.

Clasps will be authorized for wear on theater-medal suspension ribbons for battles and campaigns by both the Army and the Navy. Army clasps will be represented on the service ribbons by a $\frac{3}{16}$ -inch bronze star. Five such stars may be replaced by a single silver star of the same size. See Silver Star, above, and Bronze Star (Plate X).

Navy clasps for engagements (battles) will be similarly represented by stars. For campaigns the Navy uses numerals rather than stars on the service ribbons; the bronze figure "1" representing participation in one campaign, "2" for two; et cetera.

Navy Service Ribbons for Decorations and Medals

(Illustrations Plate III slightly reduced)

In times of peace decorations and service medals are worn on formal occasions, and service ribbons, or service bars, are worn with "service dress" on ordinary occasions.

Navy and Marine Corps regulations require the ribbons to be $\frac{1}{2}$ -inch in "length." This term is based on the fact that a piece or "length" of ribbon is cut from the same bolt as the suspension ribbon for the same medal. Therefore the "length" of the ribbon is the short measurement.

Ribbons are worn in prescribed order in horizontal rows of three each on left breast without space between ribbons in same row.

Details about the decorations and medals for these ribbons will be found under the individual items describing them.

The Gold Star, shown on the Navy and Marine Corps Medal Service Ribbon, is described in text for Plate VI. The Bronze Star shown on the Navy Expeditionary ribbon is described in text for that medal (Plate XI). Other "auxiliary insignia" worn on service ribbons are described with the medals which the ribbons represent.

Army Service Ribbons for Decorations and Medals

(Illustrations Plate IV slightly reduced)

The Army, like the Navy, uses service ribbons for its decorations and medals during wartime.

The Army decoration service ribbons are worn in the sequence of importance starting on the top row toward center of the body and reading toward left arm, followed by medal service ribbons in sequence earned.

Army ribbons are $\frac{3}{8}$ inch in length, as contrasted to $\frac{1}{2}$ -inch Navy ribbons.

The Army, like the Navy, uses auxiliary devices on some service ribbons. See Oak Leaf Cluster (Plate V), Citation Star (Plate VII), and silver and bronze stars (Plate X).

A service ribbon is authorized to be worn by members of the Women's Army Corps (WAC) who served before the corps was a part of the Army. See illustration, page 434.

Devices for Wear with Civilian Clothing

(Illustrations Plate IV slightly larger than actual size)

The first act of Congress to provide insignia for wear with civilian clothing came in 1896 when

a red, white, and blue bowknot was authorized for wear in the coat lapel of recipients of the Medal of Honor. Since that time many such devices have been approved.

Army custom limits the rosette to represent the Medal of Honor and Medal for Merit.

For all other decorations and medals, a lapel button or lapel ribbon is prescribed. The lapel button is a colored enamel replica ($2\frac{1}{2}$ -inch by $\frac{3}{8}$ -inch) of the appropriate ribbon. The lapel ribbon is a piece of $\frac{3}{8}$ -inch ribbon for the appropriate decoration or medal placed on lapel from edge to buttonhole. Miniature Oak Leaf Clusters (Plate V) and Citation Stars (Plate VII) may be shown on lapel buttons.

The Navy permits wearing of rosettes for Medal of Honor and for other decorations and medals.

In addition, Plate IV shows other devices representing service in our armed forces.

ROSETTE (Medal of Honor). Hexagonal, consisting of a blue ribbon studded with 13 stars.

LAPEL BUTTONS. Silver Star shown.

LAPEL RIBBONS. Purple Heart shown.

VICTORY BUTTON, SILVER. Indicates wearer was wounded in World War I. Design modeled by A. A. Weinman.

VICTORY BUTTON, BRONZE. Indicates wearer served in World War I.

ARMY SERVICE BUTTONS. Gold-plated plastic button, announced July 29, 1943, will be issued to those discharged from the Army to indicate World War II service.

The gold eagle in the center within red, white, and blue ring with inscription "National Defense" in the top represents that wearer had military service or training.

NAVY HONORABLE DISCHARGE LAPEL BUTTON. Bronze with eagle and anchor on a sailing ship in the center within red, white, and blue ring, with words, "U. S. Navy Honorable Discharge."

MARINE CORPS HONORABLE DISCHARGE LAPEL BUTTON. Bronze with Marine Corps insignia in center, within a white ring with inscription, "U. S. Marine Corps Honorable Discharge."

COAST GUARD HONORABLE DISCHARGE LAPEL BUTTON. Bronze with U. S. shield on crossed anchors within a blue ring with inscription, "U. S. Coast Guard Honorable Discharge."

ARMY RESERVE CORPS BUTTONS (Chemical Warfare shown). In the Officers' Reserve Corps, general officers' buttons are all gold with letters in relief. For commissioned officers, button is enameled in the color or colors of the arm or service in which the wearer is commissioned. Colors of the various arms and services are shown on Plate V of the June, 1943, NATIONAL GEOGRAPHIC MAGAZINE.

For the Enlisted Reserve Corps, similar button except base metal is bronze.

ARMY AVIATION CADET RESERVE LAPEL BUTTON. Silver-plated with blue center. Issued to students continuing college until called by Army Air Forces. Silver letters "A C" for Aviation Cadet.

NAVAL RESERVE INACTIVE LAPEL BUTTON. Congress August 29, 1916. Gold eagle displayed in

front of foul anchor below a scroll containing letters "U.S.N.R."

NAVAL RESERVE HONORABLE DISCHARGE LAPEL BUTTON. Bronze with eagle and anchor on ship within white ring with inscription, "U. S. Naval Reserve Honorable Discharge."

MARINE CORPS RESERVE LAPEL BUTTON. Marine Corps insignia within blue ring with inscription, "U. S. Marine Corps Reserve."

A gold-color metal lapel button is worn in lieu of Merchant Marine Distinguished Service Medal (Plate II).

Army Decorations

(Illustrations Plate V. Medal of Honor, authorized 1904, actual size; others slightly reduced)

Decorations exclusive to the Army are brought together here. On Plate VII are shown decorations available to all services.

There have been three forms of the Medal of Honor, the Army's highest decoration.

MEDAL OF HONOR (1862-1896). By Resolution of Congress, July 12, 1862, to be presented "in the name of Congress, to such non-commissioned officers and privates as shall most distinguish themselves by their gallantry in action, and other soldier-like qualities," during the Civil War. Congress, March 3, 1863, provided that commissioned officers might also receive the medal. Time limit was removed, leaving "gallantry in action" the only qualification.

Designer—Anthony C. Paquet.

Obverse—Five-pointed star, tipped with trefoils containing crown of laurel and oak in middle of 34 stars, the number of States in 1862. Minerva, personifying the United States, stands with left hand resting on fasces and right hand holding a shield blazoned with U. S. arms. She repulses Discord, represented by snakes. All suspended by a trophy of crossed cannons, balls, sword, and American eagle. Clasp is two cornucopias and arms of the U. S.

MEDAL OF HONOR (1896-1904). May 2, 1896, Congress authorized a change in the ribbon.

MEDAL OF HONOR (1904). April 23, 1904, Congress provided for a new design.

Designer—Maj. Gen. George L. Gillespie.

Obverse—A bronze star, $1\frac{3}{16}$ inches in diameter, surrounded by green laurel wreath, suspended from a bronze bar inscribed "Valor," surmounted by an eagle. In center of star, Minerva's head surrounded by words, "United States of America." On each ray of star a green oak leaf. Reverse—Bar engraved "The Congress to."

President Theodore Roosevelt by Executive Order on September 20, 1905, provided that presentation of a Medal of Honor always be made with "formal and impressive ceremonial." Present instructions read: "The recipient of a Medal of Honor will, whenever practicable, be ordered to Washington and the presentation will be made by the President."

OAK LEAF CLUSTERS. Only one decoration is furnished to any one person.



Chief Commander



Officer
SERVICE RIBBONS



Commander



Legionnaire
SERVICE RIBBONS



Chief Commander



Commander
Reverse



Officer, Legionnaire
Reverse



Officer



Commander



Legionnaire



Chief Commander



Commander



Officer



Legionnaire

LAPEL BUTTONS

LEGION OF MERIT



Air Medal



Merchant Marine Distinguished Service Medal



Lapel Button



Medal for Merit



Silver Star



American Defense Service Medal



(Full Size) (Miniature)
OAK LEAF CLUSTERS



American Defense Service Medal (Reverse)



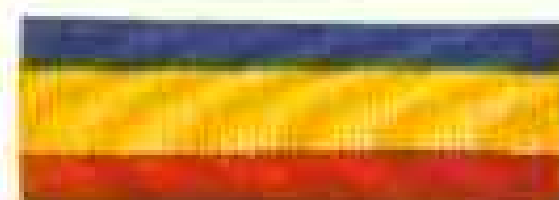
Reverse



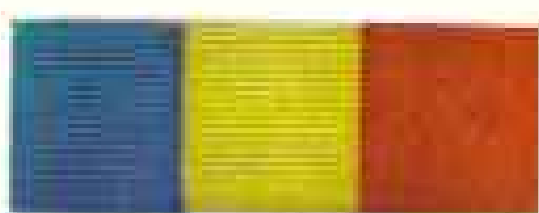
Reverse



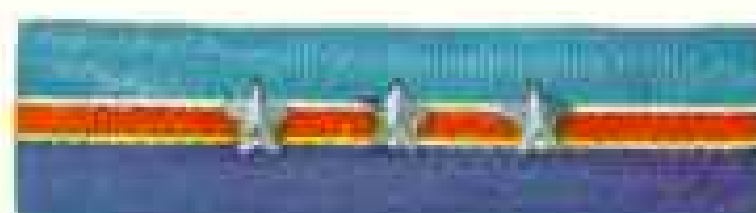
Organization Citation Army



Presidential Unit Citation Navy



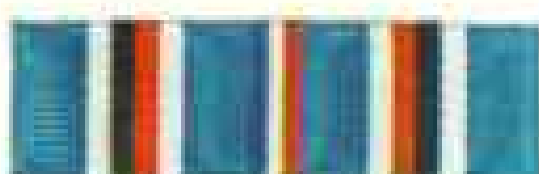
Navy and Marine Corps Ribbon



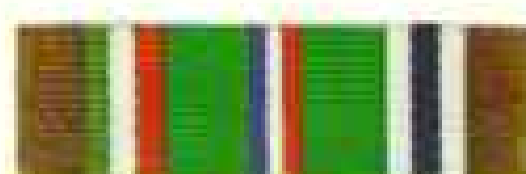
Merchant Marine Combat Bar



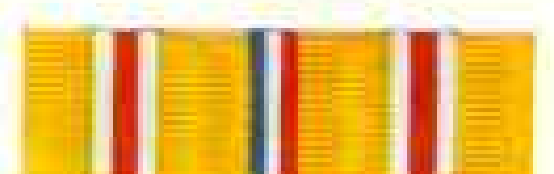
American Typhus Commission Ribbon



American Theater

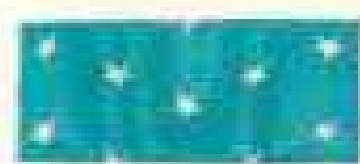


European-African-Middle Eastern Theater



Asiatic-Pacific Theater

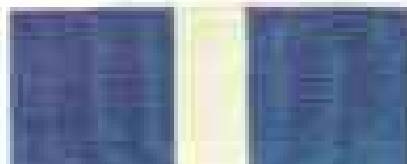
The National Geographic Magazine



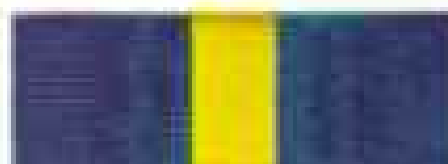
Medal of Honor



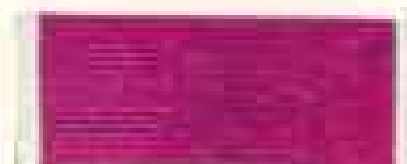
Marine Corps Brevet



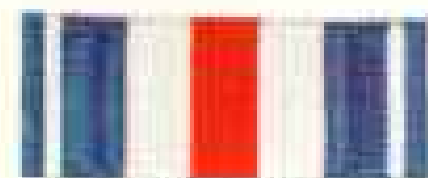
Navy Cross



Distinguished Service Medal



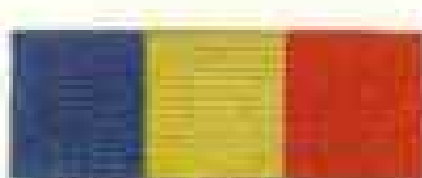
Legion of Merit



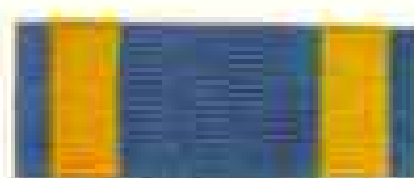
Silver Star



Distinguished Flying Cross



Navy and Marine Corps Medal



Air Medal



Specially Meritorious Medal



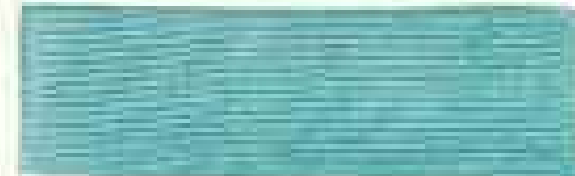
Purple Heart



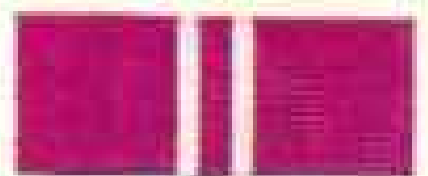
Presidential Unit Citation



Gold Lifesaving Medal



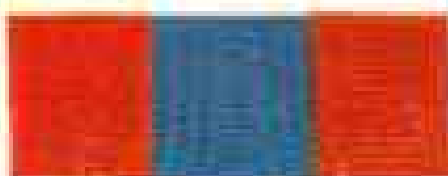
Silver Lifesaving Medal



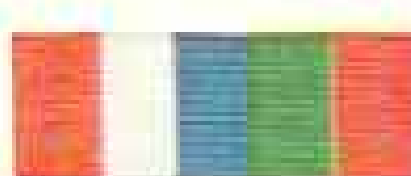
Medal for Merit



Dewey Medal



Sampson Medal



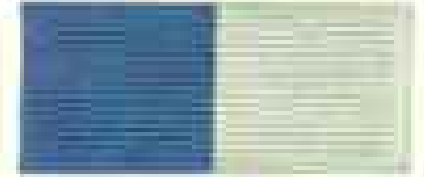
NC-4 Medal



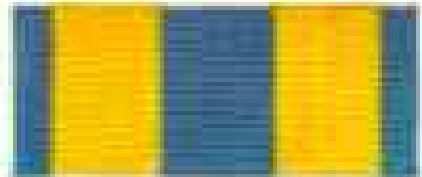
Byrd Antarctic Expedition



Second Byrd Antarctic Expedition



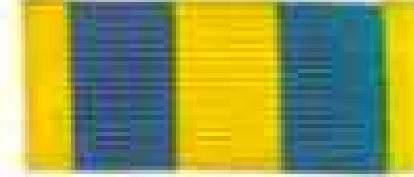
Civil War Campaign



Navy Expeditionary Medal



Marine Corps Expeditionary Medal



Spanish Campaign



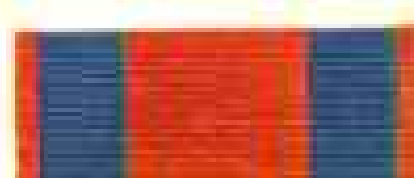
Philippine Campaign



China Relief Expedition



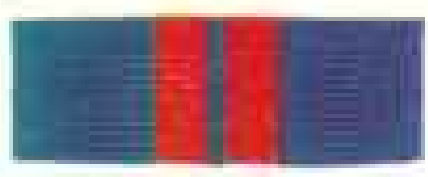
Cuban Pacification



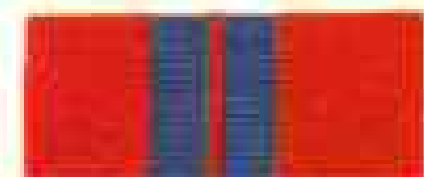
Nicaraguan Campaign (1912)



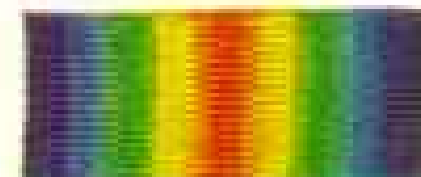
Mexican Service



Haitian Campaign (1915)



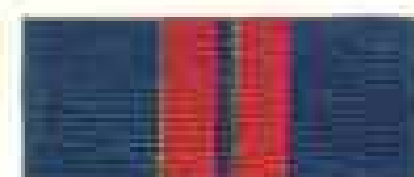
Dominican Campaign



Victory



Army of Occupation of Germany (1918)



Haitian Campaign (1919-1920)



Second Nicaraguan Campaign



Yangtze Service



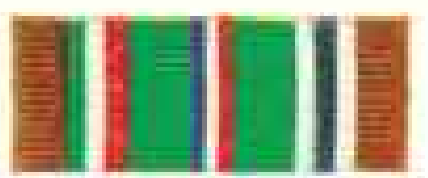
China Service



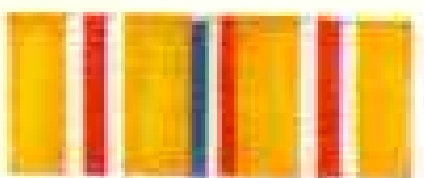
American Defense Service



American Theater



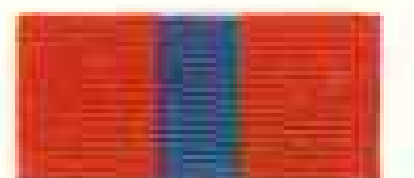
European-African-Middle Eastern Theater



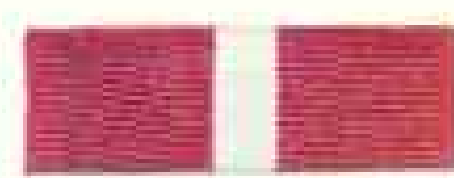
Asiatic-Pacific Theater



Navy Good Conduct Medal



Marine Corps Good Conduct Medal



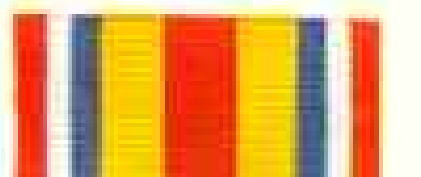
Coast Guard Good Conduct Medal



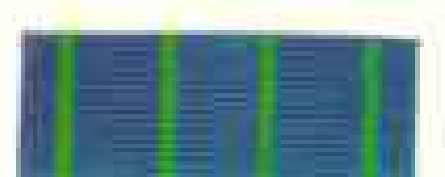
Bailey Medal



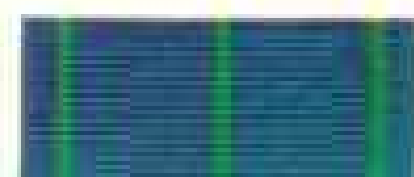
Naval Reserve Medal



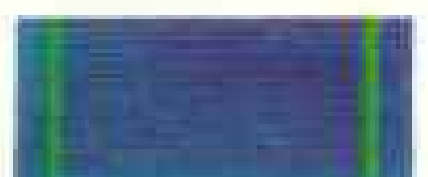
Marine Corps Reserve Medal



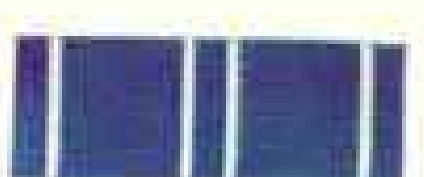
Navy Distinguished Marksman Distinguished Pistol Shot



Navy Expert Rifleman



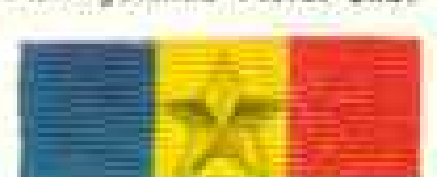
Navy Expert Pistol Shot



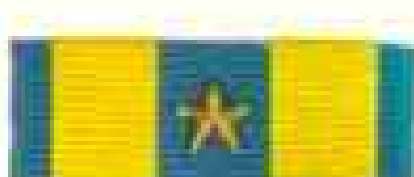
Coast Guard Expert Rifleman



Coast Guard Expert Pistol Shot

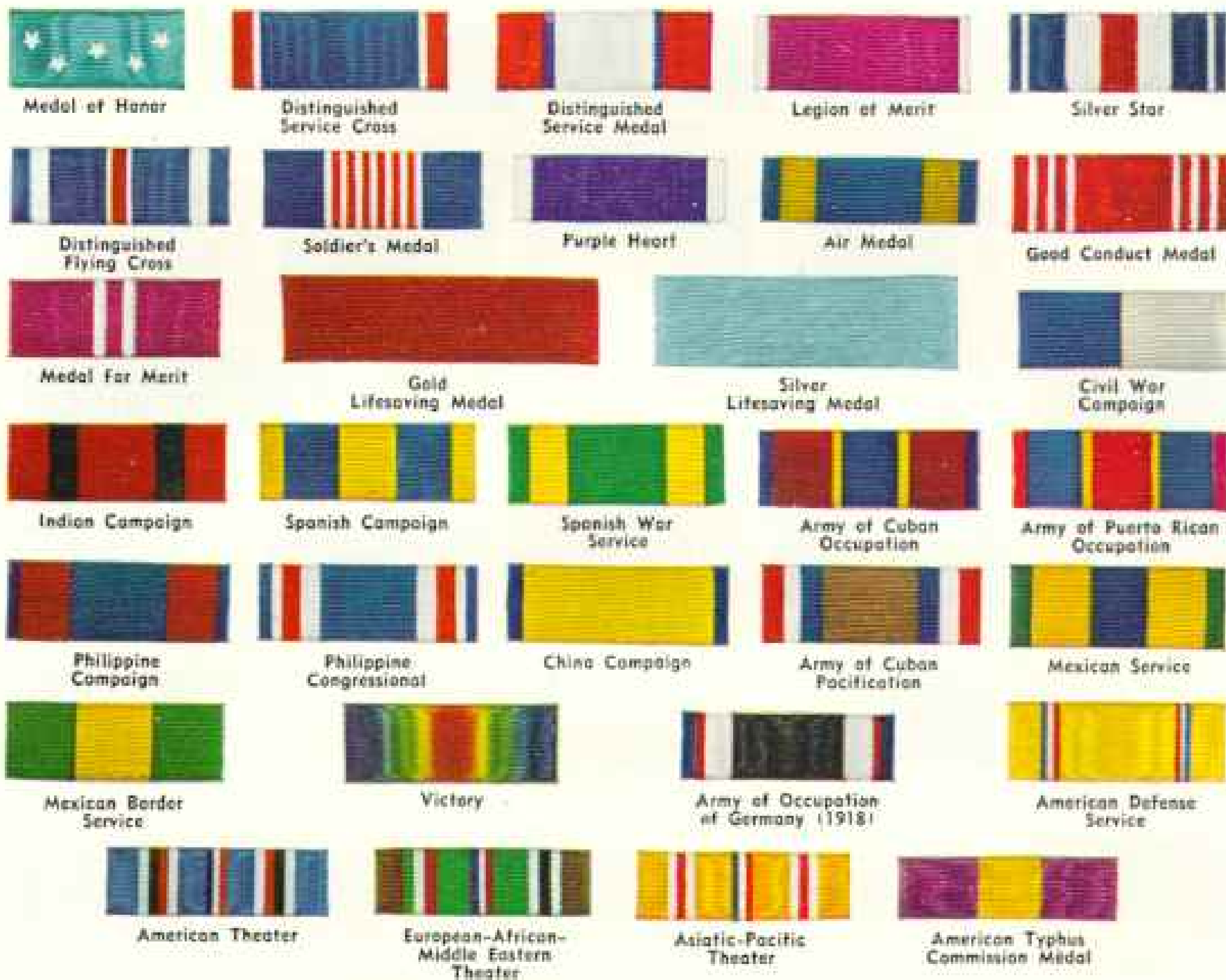


Gold Star for Second Award



Bronze Star (Explained in Text)

The National Geographic Magazine



ARMY SERVICE RIBBONS FOR DECORATIONS AND MEDALS



DEVICES FOR WEAR WITH CIVILIAN CLOTHING

(Slightly Larger Than Actual Size)



Medal of Honor
(1862-1896)



Medal of Honor
(Authorized 1904)



Medal of Honor
(1896-1904)

Army Medals of Honor, Old and New

(Full Size) (Miniature)
OAK LEAF CLUSTERS



Distinguished Service Cross



Distinguished Service Medal



Soldier's Medal



Certificate of Merit



Reverse



Reverse





Navy Cross



Reverse



Medal of Honor
(Authorized 1861)



Gold Star



Distinguished
Service Medal



Reverse



Bravet Medal (Marine Corps)



Reverse



Medal of Honor
(Obsolete)



Specially Meritorious
Medal



Silver Star

 Citation Star



Gold Lifesaving Medal (Treasury)



Distinguished Flying Cross



Reverse



Gold Lifesaving Medal (Reverse)



Purple Heart



Silver Lifesaving Medal (Treasury)



Silver Lifesaving Medal (Reverse)



Reverse



Original Purple Heart



Dewey Medal



Sampson Medal



Byrd Antarctic Expedition



Second Byrd Antarctic Expedition



Dewey Medal (Reverse)



Sampson Medal (Reverse)



Byrd Antarctic Expedition (Reverse)



Second Byrd Antarctic Expedition (Reverse)



NC-4 Medal



NC-4 Miniature



NC-4 (Reverse)



Cardenas Medal of Honor (Coast Guard)



Bailey Medal



Bailey (Reverse)



Cardenas Medal (Reverse)



Civil War Campaign



Indian Campaign



Spanish Campaign



Spanish War Service



Army of Cuban Occupation



Army of
Puerto Rican Occupation



Philippine Campaign



Philippine Congressional



China Campaign



Army of
Cuban Pacification



Mexican Service



Mexican Border Service

ARMY SERVICE MEDALS

(Continued on Plate X)



Civil War Campaign



Spanish War Service,
Mexican Border Service



Army of Occupation
of Germany (1918)



Reverse



Good Conduct
Army



Philippine Congressional



Indian, Spanish, Cuban
Occupation, Puerto Rican
Occupation, Philippine,
China, Cuban Pacification,
Mexican Service Medals



Reverse

ARMY MEDALS, REVERSES

(Obverses Plate IX)



Victory Medal Clasps
Army



Victory Medal



Reverse

★ Silver Star ★ Bronze Star ✠ Maltese Cross



Victory Medal Clasps
Navy



Victory Medal Clasps
Navy



VICTORY MEDAL, ARMY AND NAVY



Civil War



Reverse

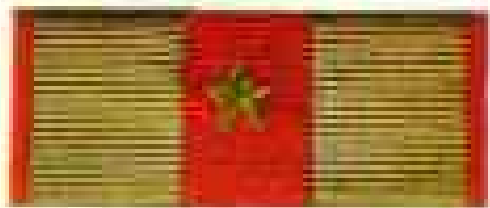
Civil War, Spanish, Philippine Campaign, China Relief, Cuban Pacification, Mexican Service, Nicaraguan, Haitian (1915 and 1919-20) Medals



Navy Expeditionary



Marine Corps Expeditionary



Star on Expeditionary Ribbon



Spanish Campaign



Philippine Campaign



China Relief Expedition



Reverse

Navy Expeditionary, Marine Corps Expeditionary, Dominican, Second Nicaraguan, Yangtze, China Service Medals



Cuban Pacification



Nicaraguan Campaign



Mexican Service



Haitian Campaign, 1915



Dominican Campaign



Haitian Campaign
(1919-1920)



Second Nicaraguan
Campaign



Yangtze Service



China Service



Navy Good Conduct



Marine Corps Good Conduct



Coast Guard Good Conduct



Naval Reserve



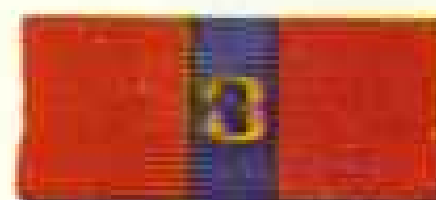
Naval Reserve
Reverse



Marine Corps
Good Conduct
Reverse



Good Conduct Bar
Navy, Marine Corps



Numeral on Good
Conduct Ribbon



Marine Corps Reserve





Expert Rifleman's Medal and Service Ribbon



Distinguished Marksman



Service Ribbon Distinguished Marksman and Distinguished Pistol Shot



Distinguished Pistol Shot



Expert Pistol Shot's Medal and Service Ribbon



Fleet Rifleman



Fleet Pistol Shot



Expert Team Rifleman

NAVY MARKSMANSHIP BADGES



Distinguished Marksman



Distinguished Pistol Shot



Lauchheimer Trophy Medal



Marine Corps Rifle Competition



Marine Corps Pistol Competition



Expert Rifleman



Sharpshooter



Rifle



Pistol

Division Competitions



Marksman



Requalification Bar



Bars



Basic Badge with Expert Automatic Rifle Bar



Bars



Expert Pistol Shot



Distinguished Marksman



Distinguished Pistol Shot



Expert Rifleman

COAST GUARD MARKSMANSHIP MEDALS



Pershing Trophy Medal High Individual Rifle Team Match



National Trophy Medal Rifle Team Match



Hilfen Trophy Medal Rifle Team Match



Soldier of Marathon Medal Rifle Team Match



Infantry Match Trophy



National Individual Rifle Match



National Individual Pistol Match



National Pistol Team Match



Minute Man Medal Rifle Match



Coast Artillery Medal Presented to Marine Corps



C.M.T.C.



R.O.T.C.

NATIONAL MATCHES MARKSMANSHIP MEDALS

The National Geographic Magazine



Collar Insignia



Officer, Summer



Enlisted Personnel
Summer



WAVES, SPARS
Shoulder Bag

WOMEN'S RESERVE OF THE U. S. NAVAL RESERVE (WAVES)



Collar Insignia

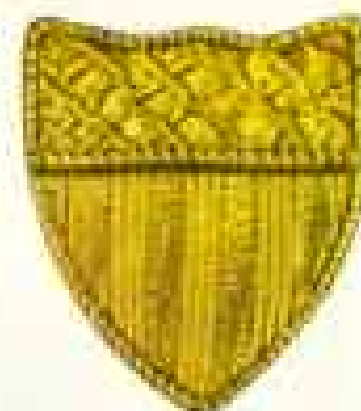


Officer, Winter



Enlisted Personnel
Winter

Sleeve Stripe Braid
SPARS, WAVES



Officer

WOMEN'S RESERVE OF THE U. S. COAST GUARD RESERVE (SPARS)



Collar Insignia



Officer, Summer

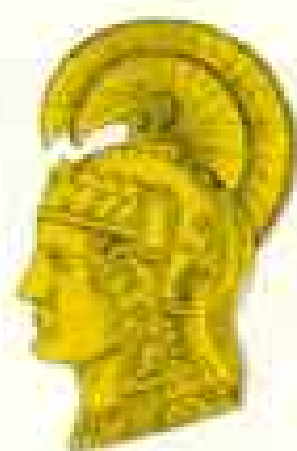


Enlisted Personnel, Winter



Shoulder Bag

U. S. MARINE CORPS WOMEN'S RESERVE



Officer
Lapel



Officer, Winter



Enlisted Personnel
Winter



Shoulder Bag

WOMEN'S ARMY CORPS (WACS)



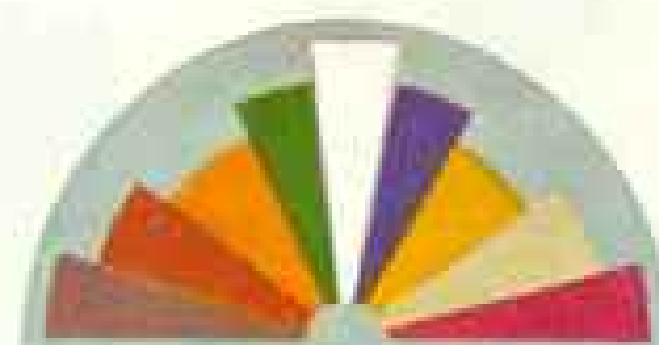
Army Hospital
Dietitian



Army Physical
Therapy Aide



Identification Brooch



Shoulder Sleeve and Chapeau Insignia

ARMY HOSTESS AND LIBRARIAN SERVICE

However, for each succeeding accomplishment sufficient to justify a second similar decoration a bronze Oak Leaf Cluster is awarded. Cluster consists of four oak leaves and three acorns, $\frac{1\frac{1}{2}}$ inch in length. Adopted in 1918; designed by Herbert Adams. Full-size cluster worn on suspension ribbons, miniature on service ribbons, miniature decorations, and lapel buttons.

Cluster is worn on decorations (Plate V), and on Army decorations (Plates II and VII).

In 1943 a silver Oak Leaf Cluster was authorized for persons who had five similar awards (Plate II).

DISTINGUISHED SERVICE CROSS. Presidential Order, January 2, 1918, confirmed by Congress, July 9, 1918. President was authorized to present, but not in name of Congress, this decoration to any person serving in the Army after April 6, 1917, who shall distinguish "himself or herself by extraordinary heroism against an armed enemy."

Designer—Capt. Aymar Embury.

Obverse—Bronze cross, two inches high, with eagle on center of scroll bearing inscription, "For Valor."

DISTINGUISHED SERVICE MEDAL. By Presidential Order January 2, 1918, confirmed by Congress July 9, 1918, the President was authorized to present, but not in the name of Congress, this medal to any person serving in the Army after April 6, 1917, who distinguishes himself or herself by "exceptionally meritorious service to the Government in a duty of great responsibility."

Designer—Capt. Aymar Embury. Sculptor—Corp. Gaetano Cecere.

Obverse—U. S. Coat of Arms in bronze, surrounded by a circle of dark blue $1\frac{1}{2}$ inches in diameter, bearing legend, "For Distinguished Service MCMXVIII." Reverse—Scroll upon trophy of flags and weapons.

SOLDIER'S MEDAL. By Act of Congress, July 2, 1926, this decoration is awarded to any person with the Army, National Guard, or Organized Reserves who distinguishes himself or herself by "heroism not involving actual conflict with an enemy."

Designer—Gaetano Cecere.

Obverse—On a $1\frac{1}{8}$ -inch bronze octagon an eagle standing on a fasces between two groups of stars of six and seven; above the group of six a spray of leaves. Reverse—Shield of U. S. with letters "U.S." on chief between sprays of laurel and oak. Around upper edge, words "Soldier's Medal"; across face, "For Valor."

CERTIFICATE OF MERIT. March 3, 1847, Congress enacted that "when any private soldier shall so distinguish himself," the President may grant a Certificate of Merit. In 1854, noncommissioned officers were made eligible.

January 11, 1905, a medal was adopted to be worn by recipients of the certificate. July 9, 1918, this decoration was discontinued. From 1918 until 1934, recipients of the certificate had those medals replaced (on request) by the Distinguished Service Medal. After 1934, such medals were replaced by the Distinguished Service Cross.

Designer—Francis D. Millet.

Obverse—Roman war eagle, surrounded by inscription, *Virtutis et Audaciae Monumentum et Praemium* (Virtue and Courage Are Their Own Monument and Reward). Reverse—"For Merit" in oak wreath joined at bottom by a knot, all in a circle of words "United States Army" in upper half, and 13 stars in lower half.

Navy and Marine Corps Decorations

(Illustrations Plate VI. Medal of Honor, authorized 1861, in actual size; others slightly reduced)

Navy and Marine Corps decorations are presented on this plate. During wartime, when the Coast Guard serves with the Navy, its members are eligible for Navy decorations. Other decorations, see Plate VII. Medal of Honor is the highest decoration for the Navy. Navy Medal of Honor antedates Army Medal of Honor. Only Medal of Honor is worn with neck ribbon.

MEDAL OF HONOR (authorized 1861). Congress on December 21, 1861, authorized 200 medals to be prepared to "be bestowed upon such petty officers, seamen, landsmen and marines as shall most distinguish themselves by their gallantry in action and other seamanlike qualities" during the Civil War.

Congress on March 3, 1901, revised the law to read: "who shall have distinguished himself in battle or displayed extraordinary heroism in the line of his profession."

On October 19, 1906, President Theodore Roosevelt provided for a presentation ceremony similar to the one established for award of Army Medal of Honor (page 416).

Designer—Anthony C. Paquet.

Obverse—Identical with the 1862 and 1896 Army Medals of Honor (Plate V), with the exception that it is suspended by an anchor.

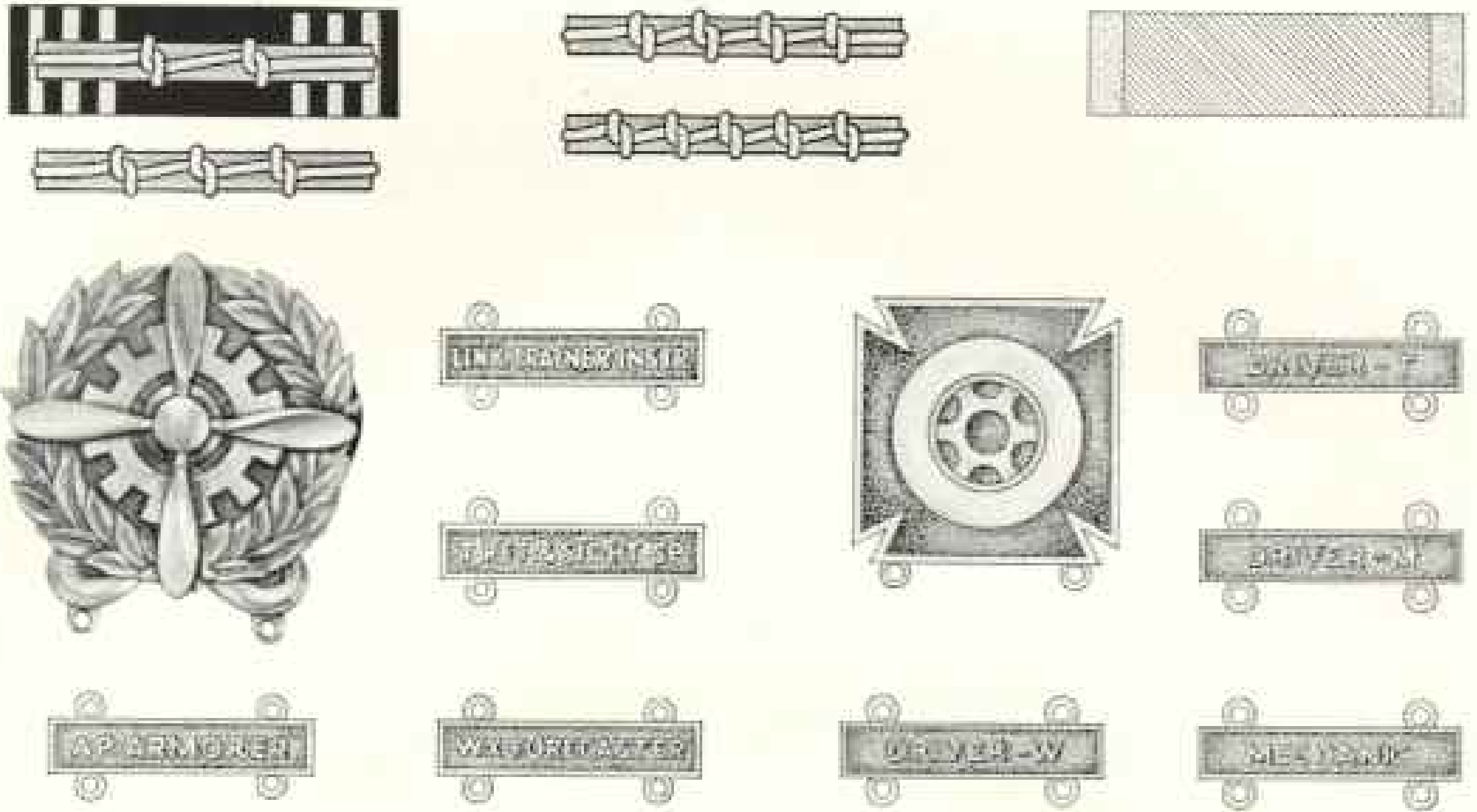
MEDAL OF HONOR (obsolete). Congress, February 4, 1919, authorized the President to present in the name of Congress a Medal of Honor to any person in the naval service who shall, "in action involving actual conflict with the enemy, distinguish himself conspicuously by gallantry and intrepidity at the risk of his life above and beyond the call of duty" and without detriment to his mission. Awarded for World War I service; discontinued in 1942.

Designer—Tiffany & Company.

Obverse—Gold cross pattée; on each arm a free anchor. A wreath between each arm encircling an octagonal medallion containing U. S. Coat of Arms within the legend, "United States Navy 1917-1918." Bar inscribed "Valour."

GOLD STAR. Act of Congress, August 7, 1942. For acts justifying additional identical awards, a Gold Star is given for wear on the appropriate decoration suspension and service ribbons.

NAVY CROSS. Congress, February 4, 1919, authorized the President to present, but not in the name of Congress, this decoration. Congress, August 7, 1942, revised the conditions to read: "while serving in any capacity with the naval service of the United States, distinguishes himself by extraordinary heroism in connection with military operations against an armed enemy."



New Ribbons and Badges Reflect Army's Changing Styles

Upper left and center: Clasps to affix to Good Conduct Medal or service ribbon to indicate second, third, fourth, and fifth awards. Upper right: Service ribbon (green with gold edges) worn by WACS who served with onetime Women's Army Auxiliary Corps. Lower left: Army Air Forces Technician badge and qualification bars. Right: Army Motor Vehicle Driver and Mechanic badge and qualification bars.

Designer—James E. Fraser.

Obverse—Dark bronze cross with rounded ends, with four leaves and berries in each re-entrant angle; in center a medallion charged with a sailing vessel on waves. This will be in dark brown tone in future. Reverse—Same as obverse, except medallion is charged with crossed cabled anchors between letters "U.S.N."

DISTINGUISHED SERVICE MEDAL. February 4, 1919, Congress authorized this decoration for any person in the naval service who after April 6, 1917, distinguishes himself by "exceptionally meritorious service to the Government in a duty of great responsibility."

Designer—Paulanship.

Obverse—Eagle standing on olive branch and arrows, all gold, within blue annulet with words, "United States of America—Navy." Gold wave scroll border. Pendant suspended by a white star with gold ball tips, charged with gold anchor. Gold rays emit from re-entrant angles of star. Reverse—Neptune's trident within laurel wreath, all gold, encircled by blue annulet with words, "For Distinguished Service"; gold wave scroll border.

BREVET MEDAL (MARINE CORPS). Established by Secretary of Navy June 7, 1921. Awarded to holders of brevet commissions issued by the President and confirmed by the Senate for "distinguished service in the presence of the enemy."

Designer—Q. M. Sgt. Joseph A. Burnett, U.S.M.C.

Obverse—Bronze cross pattée with bulging ends. On medallion, word "Brevet" encircled by words, "United States Marine Corps." Marine

Corps insignia joins cross to ribbon. Reverse—Inscription, "For Distinguished Conduct in Presence of Enemy."

SPECIALLY MERITORIOUS MEDAL. March 3, 1901, Congress authorized bronze medals for "officers and men of the Navy or Marine Corps who rendered specially meritorious service, otherwise than in battle," during War with Spain.

Obverse—Bronze cross pattée, in center a medallion charged with anchor encircled by wreath of oak and laurel within inscription, "U. S. Naval Campaign West Indies." Arms of cross inscribed, "Specially Meritorious Service 1898."

Decorations and Lifesaving Medals Awarded in All Services

(Illustrations Plate VII slightly reduced)

Plate VII shows decorations available to all armed forces. Army decorations may be awarded to members of Navy detailed to duty with Army. The same policy is followed by Navy.

CITATION STAR. By Act of Congress, July 9, 1918, for each citation of an officer or enlisted man for gallantry in action, a silver star $\frac{3}{16}$ inch in diameter was authorized for wear on the suspension and service ribbons of appropriate service medal. In 1932 Citation Star was replaced by Silver Star Medal. (See Silver Star, Plate X.)

SILVER STAR MEDAL. In 1932 the Army Silver Citation Star was placed on a bronze pendant and a ribbon of its own was designed, instead of being placed on a campaign medal ribbon. Silver Star Medal, by Act of Congress December 15, 1942, is awarded for "each citation of any person for gallantry in action while serving in any capac-

ity with the Army . . . not warranting the award of a medal of honor or distinguished service cross."

Silver Star Medal was made Navy decoration August 7, 1942, by Act of Congress.

Designer of pendant—Bailey, Banks & Biddle.
Obverse—Bronze star with a $\frac{3}{16}$ -inch raised silver star, within a wreath. Reverse—Inscribed, "For Gallantry in Action."

DISTINGUISHED FLYING CROSS. Congress on July 2, 1926, established for award to any person who, serving with the Army Air Corps, including the National Guard and the Organized Reserves, or with the Navy, Marine Corps, or Coast Guard, after April 6, 1917, "distinguishes himself by heroism or extraordinary achievement while participating in an aerial flight."

Designers—Elizabeth Will and Arthur E. Du Bois.

Obverse—On a bronze cross pattée a four-bladed propeller; in re-entrant angles, rays forming a one-inch square.

Air Medal, shown on Plate II.

Lifesaving Medals (Treasury). For award to civilians or members of armed forces. Congress June 20, 1874, directed the Secretary of the Treasury to have prepared "lifesaving medals of the first and second class which shall be bestowed upon any persons who shall hereafter endanger their own lives in saving, or endeavoring to save lives from perils of the sea, within the United States or upon any American vessel."

GOLD LIFESAVING MEDAL. Designer—Anthony C. Paquet.

Obverse—Three men in a boat in a heavy sea. One is rescuing a person who has hold of a spar. Another is casting a rope. A third is rowing. In distance, the wreck of a large vessel. Words, "United States of America Act of Congress June 20, 1874." Pendant suspended by an eagle's head. Reverse—Around rim, words, "In testimony of heroic deeds in saving life from the perils of the sea." Female figure, standing, holding in left hand a wreath of oak. With her right she is preparing to inscribe the name of the recipient on a monument surmounted by eagle. To her right are a mast, a yard with its sail bent, an anchor, a sextant, and a laurel branch.

Ribbon—Scarlet.

SILVER LIFESAVING MEDAL. Designer—Anthony C. Paquet.

Obverse—Female figure hovering in air, and saving a man from the deep. Words, "United States of America, Act of Congress, June 20, 1874." Pendant is suspended by eagle's head. Reverse—Wreath and words, "In testimony of heroic deeds in saving life from the perils of the sea."

Ribbon—Light blue.

ORIGINAL PURPLE HEART. Generally believed to be first military award for bravery, without regard for rank, the Badge of Military Merit, frequently called Purple Heart, was established by General Washington by an order from his headquarters at Newburgh, New York, on August 7, 1782. Order is quoted on page 411.

Three awards were made. They were to: Sgt. Elijah Churchill of the 2d Regiment of Light Dragoons; Sgt. William Brown of the 5th Connecticut Regiment; Sgt. Daniel Bissell of the 2d Connecticut Regiment.

After these original awards, the decoration went into disuse.

The first-named award is in possession of Howard Edson Johnson, Flint, Michigan, great-grandson of Sergeant Churchill. That Purple Heart is embroidered with the word "Merit" encircled by a wreath.

A second original Purple Heart is in possession of the Society of the Cincinnati in the State of New Hampshire. That society graciously permitted a National Geographic Society photographer to photograph the heart at a Boston vault where it is kept (Plate VII). It is not known whether this heart was the one awarded to Sergeant Brown or Sergeant Bissell. Designer recorded as Pierre Charles L'Enfant.

Badge of Military Merit served as an inspiration both for the name and qualifications necessary for recently created Legion of Merit (Plate I) and Medal for Merit (Plate II). Design was the basis for modern Purple Heart Medal.

PURPLE HEART. Revived February 22, 1932. Awarded to Army personnel who, as a result of enemy action, receive wounds necessitating treatment by a medical officer.

An Executive Order of December 3, 1942, announced that personnel of Navy, Marine Corps, and Coast Guard are eligible to receive Purple Heart Medal.

Designer—Elizabeth Will. Modeled by John R. Sinnock.

Obverse—Purple heart within a light bronze border, a profile of Gen. George Washington. Above heart, shield of Washington's coat of arms between sprays of green leaves.

Reverse—Below shield and leaves, a raised bronze heart with words, "For Military Merit."

Navy and Coast Guard Commemorative Medals

(Illustrations Plate VIII slightly reduced)

Medals illustrated are representative of memorable events. (The Bailey Medal is not a commemorative medal.)

DEWEY MEDAL (Commemorating the Battle of Manila Bay).—Congress on June 3, 1898, authorized a medal for officers and men with Dewey at Manila.

Designer—Daniel Chester French.

Obverse—Commodore Dewey in uniform; anchor on laurel wreath with star below. Inscription, "The gift of the people of the United States to the officers and men of the Asiatic Squadron under the command of Commodore George Dewey." In center of holding bar an eagle resting on waves; on one side of eagle the hilt of a cross-handled sword; on other, an olive branch. Half a wheel on each end. Reverse—Half-nude gunner seated upon gun, holding flag horizontally across his lap; below, a tablet stamped with name of the recipient's ship (U. S. S. *Baltimore* illus-

trated). Inscription, "In memory of the victory of Manila Bay, May 1, 1898."

SAMPSON MEDAL (Commemorating Naval Engagements in the West Indies). Congress on March 3, 1901, authorized medal for the officers and men of Navy and Marine Corps who participated in engagements in the West Indies.

Designers—Obverse, Charles E. Barber; reverse, George T. Morgan.

Obverse—Admiral Sampson in uniform. Legend: "U. S. Naval Campaign West Indies 1898." In field: "William T. Sampson, Commander in Chief." Bar bears name of recipient's vessel inscribed within a rope edge. (U. S. S. *New Orleans* shown.) Reverse—Officer, gunner, and marine on deck of battleship in action. Below, tablet bearing engagement name (Santiago de Cuba illustrated), followed by date. Clasps bearing the name of engagements with date stamped on reverse are threaded upon ribbon. Three engagements at Santiago shown.

NC-4 MEDAL. Congress on February 9, 1929, authorized the President to award in the name of Congress gold medals to Comdr. (now Rear Adm.) John H. Towers for "conceiving, organizing, and commanding the first transatlantic flight" and to officers and crew members of Navy flying boat *NC-4* who crossed the Atlantic with him.

Designer—Catherine G. Barton.

Obverse—A gull volant over waves. Inscription: "First Transatlantic Flight United States Navy May 1919." Reverse—Names of those to whom awarded, with words: "Presented by the President of the United States in the name of Congress." Inscribed: "Newfoundland, NC-4, Portugal."

NC-4 MINIATURE. Gold NC-4 Medal was not designed for wear. Bronze miniature, as large as usual full-sized medal, was authorized by Congress April 25, 1935.

BYRD ANTARCTIC EXPEDITION MEDAL. May 23, 1930, Congress directed Secretary of the Navy to have "gold, silver, and bronze medals" made "for officers and men of the Byrd antarctic expedition."

Designer—Francis H. Packer.

Obverse—Admiral Byrd in parka holding a ski pole. The words: "Byrd Antarctic Expedition, 1928-1930." Reverse—Sailing ship above a panel inscribed: "Presented to the officers and men of the Byrd Antarctic Expedition to express the high admiration in which the Congress and the American people hold their heroic and undaunted services in connection with the scientific investigations and extraordinary aerial exploration of the Antarctic Continent." Below, an airplane.

SECOND BYRD ANTARCTIC EXPEDITION MEDAL. June 2, 1936, Congress directed that silver medals be made for "deserving personnel of the Second Byrd Antarctic Expedition."

Designer—Heinz Warneke.

Obverse—Admiral Byrd petting Eskimo dog. Words: "Byrd Antarctic Expedition 1933-1935." Reverse—Inscription on panel: "Presented to the officers and men of the Second Byrd Antarctic Expedition to express the very high admiration in which the Congress and the American people hold

their heroic and undaunted accomplishments for science unequalled in the history of polar exploration." Radio towers at Little America, ship, airplane, and dog sled and team.

BAILEY MEDAL. Navy Department announced December 1, 1885, that the Bailey Medal of gold would be awarded annually to one naval apprentice with an outstanding record.

Obverse—Head of Admiral Bailey, within the inscription, "Endowed in Memoriam Theodorus Bailey, Obit. 1877." Reverse—Inscribed "Conferred on," with space for recipient's name; and "For Merit in" (duties specified) "by Trustees." Medal discontinued.

CARDENAS MEDAL OF HONOR. In 1900 a gold medal was awarded to First Lt. Frank H. Newcomb, of Revenue Cutter Service; silver medals to his officers, and bronze medals to men of his command at Cardenas, Cuba, May 11, 1898.

Obverse—Draped winged female figure wearing a winged helmet holding sword and palm branch. In base a scene of the *Hudson* towing *Winslow*. Below, "Cardenas May 11, 1898." Reverse—Nude figure inscribing with chisel and mallet, "Joint resolution of Congress approved May 3, 1900, in recognition of the gallantry of the officers and men of the *Hudson* who in the face of a galling fire towed the *Winslow* out of range of the enemy's guns." Palm branch extending beyond oak wreath.

Medal, shown in a greater reduction than other medals on Plate VIII, is $3\frac{1}{8}$ inches in diameter. Not intended for wear. Cardenas and Good Conduct (Plate XII) are the only medals especially issued to Coast Guard. (Revenue Cutter Service is a former name of Coast Guard.)

Army Service Medals

(Illustrations Plates IX and X slightly reduced)

Army service medals are given to all who participate honorably in specified wars or campaigns. The term "campaign medals" is sometimes used, but "service medals" refers to medals for campaigns and for noncombat service; compare Spanish Campaign Medal and Spanish War Service Medal. Medal obverses on Plate IX; reverses on Plate X.

Service medals are $1\frac{1}{4}$ inches in diameter.

CIVIL WAR CAMPAIGN MEDAL. Authorized January 11, 1905, for service between specified dates.

Designer—Francis D. Millet.

Obverse—Head of Lincoln, with the words: "With Malice toward None, with Charity for All." Reverse (Plate X)—Words "The Civil War"; below, dates "1861-1865," surrounded by a wreath of oak and olive.

INDIAN CAMPAIGN MEDAL. Authorized January 11, 1905, for Indian campaigns between 1865 and 1891.

Designer—Francis D. Millet.

Obverse—Mounted Indian wearing war bonnet and carrying spear. Above, words "Indian Wars"; below, a buffalo skull and arrowheads.

SPANISH CAMPAIGN MEDAL. Authorized January 11, 1905, for service ashore in, or on high seas en route to, Cuba, Puerto Rico, and Philippine Islands, on specified dates in 1898.

Designer—Francis D. Millet.

Obverse—Castle with round corner towers (taken from arms of Spain); within circle of words "War With Spain, 1898." Branch of tobacco plant and stalk of sugar cane.

SPANISH WAR SERVICE MEDAL. By Congress July 9, 1918, for service in War with Spain, between April 20, 1898, and April 11, 1899, by those not eligible to receive the Spanish Campaign Medal.

Designers—Obverse, Col. J. R. M. Taylor; reverse, Bailey, Banks & Biddle.

Obverse—Roman sword hanging on a tablet on which is inscribed "For Service in the Spanish War," surrounded by a wreath. Sword is sheathed to indicate National Guard service in continental United States, not in mortal combat. Reverse (Plate X). U. S. Coat of Arms with scroll below, surrounded by wreath displaying insignia of Infantry, Artillery, and Cavalry.

ARMY OF CUBAN OCCUPATION MEDAL. Authorized June 28, 1915, for service in Cuba between July 18, 1898, and May 20, 1902.

Obverse—Cuban Republic coat of arms with wreath and fasces. Words "Army of Occupation, Military Government of Cuba." Above shield, dates "1898" and "1902."

ARMY OF PUERTO RICAN OCCUPATION MEDAL. Authorized June 28, 1915, for service in Puerto Rico between August 14, 1898, and December 10, 1898.

Obverse—A castle. Words: "Army of Occupation Porto Rico, 1898," between a branch of tobacco plant and a stalk of sugar cane.

PHILIPPINE CAMPAIGN MEDAL. Authorized January 11, 1905, for campaign between 1899 and 1913.

Designer—Francis D. Millet.

Obverse—Words "Philippine Insurrection" and date "1899." Coconut palm represents tropical character of Philippines; lamp, enlightenment under United States rule; scales of Justice, character of that rule.

PHILIPPINE CONGRESSIONAL MEDAL. Established June 29, 1906, for those in War with Spain who served beyond date on which they were entitled to discharge, to help suppress Philippine Insurrection.

Designer—Francis D. Millet.

Obverse—Color bearer holding United States flag and supported by two soldiers. Inscribed: "Philippine Insurrection, 1899." Reverse (Plate X). Words, "For Patriotism, Fortitude and Loyalty," in pine and palm wreath.

CHINA CAMPAIGN MEDAL. Authorized January 11, 1905, for service ashore with the Peking relief expedition, between June 20, 1900, and May 27, 1901.

Designer—Francis D. Millet.

Obverse—Imperial Chinese dragon within inscription, "China Relief Expedition 1900-1901."

ARMY OF CUBAN PACIFICATION MEDAL. Authorized May 11, 1909, for service in Cuba between October 6, 1906, and April 1, 1909.

Obverse—Cuban Republic coat of arms with wreath and fasces supported by two American

soldiers with rifles. Above: "Cuban Pacification"; below: "1906-1909."

MEXICAN SERVICE MEDAL. Authorized December 12, 1917, for designated service in Mexico. Designer—Col. J. R. M. Taylor.

Obverse—Yucca in flower, mountains in background. Words: "Mexican Service, 1911-1917."

MEXICAN BORDER SERVICE MEDAL. Authorized July 9, 1918, for service in National Guard, on Mexican border, or elsewhere in field, in 1916 or 1917, and Regular Army service, January 1, 1916, to April 6, 1917, in Mexican Border Patrol.

Obverse—Same as Spanish War Service Medal except the words "For Service on the Mexican Border."

Army Medals

(Illustrations Plate X concluded from Plate IX)

Army Service Medals reverses are shown here with 1918 Army of Occupation of Germany Medal. The Good Conduct Medal recently authorized is also shown.

INDIAN CAMPAIGN MEDAL, etc., reverses. Used for eight Army medals, this design is a trophy composed of an eagle, perched on cannon supported by crossed flags, rifles, Indian shield, spear, and quiver of arrows, Cuban machete, and Sulu kris. Below trophy, words "For Service" encircled by words "United States Army" and 13 stars. Designer intended trophy to represent Revolution, War of 1812, Mexican War, Spanish War, and Philippine Insurrection.

ARMY OF OCCUPATION OF GERMANY MEDAL (1918). Act of Congress, November 21, 1941. To each officer and enlisted man of the armed forces, or to nearest of kin surviving, who served in Germany or Austria-Hungary November 12, 1918, to July 11, 1923; also to members of naval service detached from ships for duty ashore.

Designer—Trygve A. Rovelstad.

Obverse—General Pershing profile. Around upper edge, general's four stars. Dexter side: "General John J. Pershing"; on sinister, an unsheathed sword, point up; within a laurel wreath, "1918 and 1923." Reverse—Eagle standing on Castle Ehrenbreitstein. Inscription: "U. S. Army of Occupation of Germany." Three stars, one for each Army.

GOOD CONDUCT MEDAL, ARMY. Executive Order, June 28, 1941. Conditions for award were modified March 31, 1943, to read: "who on or after August 27, 1940, had or shall have honorably completed three years of active Federal military service, or who after December 7, 1941, have or shall have honorably served one year of active Federal military service while the United States is at war."

Designer—Joseph Kiselewski. Ribbon design by Arthur E. Du Bois.

Obverse—Eagle on closed book and sword. Inscription: "Efficiency, Honor, Fidelity." Reverse—Star above a scroll between words "For Good" and "Conduct," all within laurel and oak wreath. Clasps (page 434) are used on medal suspension and service ribbons for subsequent awards.



These Are Wings of a WASP

Women's AirForce Service Pilots fly in noncombat jobs for the Army Air Forces. WJ indicates first class to graduate under Women's Flying Training Program (319th Training Detachment). WASPS include the women ferry pilots formerly known as WAFS (page 456).

Victory Medal, Army and Navy

(Illustrations Plate X slightly reduced)

One of most frequently observed service ribbons is for the Victory Medal worn by World War I participants.

Before that war it was the custom for nations to bestow medals on personnel of their allies. Size of the armies made such an exchange of medals impracticable; so it was decided the Allies would have a similar medal. Winged Victory was prescribed. Each country selected its own artist. The double rainbow ribbon was identical for all countries. The medal was awarded to officers and enlisted men who had an honorable record for active duty in Army, Navy, and Marine Corps during designated dates.

U. S. designer—James E. Fraser.

Obverse—Bronze Winged Victory. Reverse—U. S. Shield with letters "U.S." surmounted by fasces. Inscription: "The Great War for Civilization" and names of associated nations.

VICTORY MEDAL CLASPS—ARMY. Army adopted battle clasps for wear on suspension ribbon of the Victory Medal. First 13 clasps shown indicate participation in a major operation. Defensive Sector Clasp indicates participation in Defensive Sector. A $\frac{3}{16}$ -inch Bronze Star is worn on service ribbons to represent each battle clasp. Five service clasps bear the names of countries; they are not awarded to persons entitled to battle clasps. Service clasps are worn on suspension ribbon, but are not represented by stars on service ribbon.

VICTORY MEDAL CLASPS—NAVY. Navy also authorized clasps for Victory Medal suspension ribbon. A $\frac{3}{16}$ -inch Bronze Star is worn on service ribbon to represent all clasps except for countries.

SILVER STAR. The $\frac{3}{16}$ -inch Silver Star was used by the Army to indicate a citation for gallantry on any service medal ribbon. Replaced by Silver Star Medal (Plate VII).

Navy still uses small Silver Star with Victory Medal. When an officer or enlisted man received a citation for gallantry, he was given the Silver Star Citation; as in the Army, this can now be replaced by Silver Star Medal. If he had merely a letter of commendation signed by Secretary of Navy, he continues to use small Silver Star; it is pinned above clasp on suspension ribbon or attached to right of bronze star on service ribbon.

BRONZE STAR. See preceding text for Victory Medal Clasps.

Same star is used by both Army and Navy on American Defense Service ribbon to indicate service outside continental U. S., and as a battle star on Theater of War Service ribbons (Plate II).

MALTESE CROSS. Awarded for use on the service ribbon for those officers and men of the Marine Corps and Medical Corps, Navy, who served with the A. E. F. in France between April 6, 1917, and November 11, 1918, and were not entitled to battle clasps issued by Army.

Navy and Marine Corps Service Medals

(Illustrations Plates XI and XII slightly reduced)

Service medals for Navy and Marine Corps, like those for Army, are awarded for participation in specified wars or campaigns.

Clasps and stars are worn on suspension ribbons of some medals shown on Plates XI and XII. These auxiliary insignia are represented on service ribbons by stars, numerals, and letters.

Two reverses are used for Navy and Marine Corps Service Medals. First is described with Civil War Medal and second with Navy Expeditionary Medal. Medals for the two services may be distinguished by the words "United States Navy" or "United States Marine Corps." Many of the Navy medals use same ribbons as Army.

CIVIL WAR MEDAL. Authorized June 27, 1908, to officers and enlisted men who served in Navy during Civil War. Same date announcement was made that Marine Corps personnel would also be issued the medal.

Designer—Bailey, Banks & Biddle.

Obverse—Representation of battle between *Monitor* and *Merrimac*. Inscription: "The Civil War, 1861-1865." Reverse—Eagle resting on anchor, with words, "For Service"; branches of oak and laurel. Inscription: "United States Navy." Marine Corps medal is identical except reverse has words: "United States Marine Corps."

NAVY EXPEDITIONARY MEDAL. Awarded to officers and men who shall have landed on foreign territory and engaged armed opposition, or operated under circumstances for which no special medal has been awarded. For additional expeditions a $\frac{3}{16}$ -inch bronze star is added to suspension and service ribbons. (See Plate III.) Same star is used on Marine Corps Expeditionary Medal ribbon. Navy personnel who served in defense of Wake Island December 7 to December 22, 1941, wear a silver "W" on service ribbon.

Obverse—Sailor beaching boat containing an officer and Marines with Flag of United States. Word, "Expeditions." Reverse—(Plate XI)—Eagle perched on anchor and branch. Words, "For Service" and "United States Navy."

Designer—A. A. Weinman.

MARINE CORPS EXPEDITIONARY MEDAL. Given under same conditions.

Obverse—Marine under full pack charging with fixed bayonet. Wave scrolls at base indicate naval phase of Marines' duties. Word, "Expeditions."

STAR ON EXPEDITIONARY RIBBON (Marine

Corps). See text for Navy Expeditionary Medal.
SPANISH CAMPAIGN MEDAL. Authorized June 27, 1908; for Navy and Marine Corps personnel who served afloat or on shore in Cuba, Puerto Rico, the Philippines, or Guam, between May 1, 1898, and August 16, 1898.

Designer—Bailey, Banks & Biddle.

Obverse—Morro Castle, Cuba. Inscription: "Spanish Campaign, 1898."

PHILIPPINE CAMPAIGN MEDAL. Authorized June 27, 1908; issued to Navy and Marine Corps personnel on duty on naval vessels or on shore in Philippine Islands between designated dates.

Designer—Bailey, Banks & Biddle.

Obverse—Old gate in Manila city wall. Inscription: "Philippine Campaign, 1899-1903."

CHINA RELIEF EXPEDITION MEDAL. Authorized June 27, 1908; to Navy and Marine Corps personnel in expedition between May 24, 1900, and May 27, 1901.

Designer—Bailey, Banks & Biddle.

Obverse—Main gate to walled city of Peking, and imperial Chinese dragon. Inscription: "China Relief Expedition, 1900."

CUBAN PACIFICATION MEDAL. Authorized August 13, 1909; to Navy and Marine Corps personnel in expeditionary forces, 1906.

Designer—Bailey, Banks & Biddle.

Obverse—Figure representing America with sword suspended from her girdle; carrying Flag and offering olive branch to a Cuban. Inscription: "Cuban Pacification 1908."

NICARAGUAN CAMPAIGN MEDAL. Authorized September 22, 1913, commemorating naval expedition sent to Nicaragua in 1912.

Designer—Bailey, Banks & Biddle.

Obverse—Volcanic Momotombo, rising from Lake Managua behind tropical forest. Inscription: "Nicaraguan Campaign, 1912."

MEXICAN SERVICE MEDAL. Authorized for officers and men of Navy and Marine Corps between designated dates.

Obverse—Old castle of San Juan de Ulloa in Veracruz harbor. Branches of cactus between word "Mexico" and "1911-1917."

HAITIAN CAMPAIGN MEDAL 1915. For those who participated in joint Marine and Naval expedition to Haiti between July 9 and December 6, 1915.

Obverse—View from sea of mountains of Cape Haitien. Inscription: "Haitian Campaign, 1915." For information on clasp, see Haitian Campaign Medal, 1919 (Plate XII).

Navy, Marine Corps, and Coast Guard Medals

(Illustrations: Plate XII slightly reduced)

Service medals are concluded with China Service Medal. Followed by Good Conduct and Reserve Medals.

DOMINICAN CAMPAIGN MEDAL. Authorized 1921 to commemorate services by Navy and Marine Corps during operations in Santo Domingo and on designated vessels from May 5 to December 4, 1916.



Navy and Marine Corps Medal, Designed by a Hero Lost in the Pacific

Struck in 1943, this medal for noncombat heroism was the creation of Lt. Comdr. McClelland Barclay, USNR. A battle artist, he was reported missing in action off New Georgia Island (Plate II).

Designer—A. A. Weinman.

Obverse—"Tower of Homage" at Ciudad Trujillo. Inscription: "Dominican Campaign, 1916."

HAITIAN CAMPAIGN MEDAL (1919-1920)—See Haitian Campaign Medal, 1915 (Plate XI). Designs identical with exception of dates. Medal was issued to Navy and Marine Corps personnel who served in Haiti from April 1, 1919, to June 15, 1920. For individuals who had already received the 1915 Haitian Campaign Medal, a clasp (Plate XI) was given in lieu of 1919 medal. On service ribbon, clasp is represented by a "large bronze star," $\frac{1}{4}$ inch in diameter. Same service in Haiti is also represented by a star on Expeditionary Medal (Plate XI).

SECOND NICARAGUAN CAMPAIGN MEDAL. First issued under orders, November 8, 1929, medal was given later for services during entire period of operations in Nicaragua and on designated vessels between August 27, 1926, and January 2, 1933. Medal given to officers and enlisted men of Army who cooperated.

Designer—Obverse, Albert Stewart.

Obverse—Columbia in coat of mail and flowing skirt. Sword in hand, she shields citizens. In base, wave scrolls. Inscription: "Second Nicaraguan Campaign," and dates "1926-1930."

YANGTZE SERVICE MEDAL. Established April 28, 1930, for personnel of Navy and Marine Corps who served at Shanghai or in valley of Yangtze.

Designer—Obverse, John R. Sinnock.

Obverse—Chinese junk in full sail. Words: "Yangtze Service."

CHINA SERVICE MEDAL. Authorized August 23, 1940, for services performed by Navy and Marine Corps during operations in China from July 7, 1937, to September 7, 1939.

Designer—George H. Snowden.

Obverse—Chinese junk resting on waves. Words: "China Service."

NAVY GOOD CONDUCT MEDAL. First authorized April 26, 1869, present medal was designated July 13, 1892. Issued to enlisted men for fidelity, zeal, and obedience.

Obverse—In center, encircled by rope, a full-rigged ship. Below, the word "Constitution." The whole rests upon an anchor. Between rope and chain, words "United States Navy." Reverse—Similar to Marine Corps Good Conduct Medal.

Subsequent awards indicated by bars on suspension ribbon, and by numeral on service ribbon. See text below for Marine Corps Good Conduct Medal.

MARINE CORPS GOOD CONDUCT MEDAL. Authorized July 20, 1896. For obedience, sobriety, military efficiency, neatness, bearing, and intelligence.

Illustrations show obverse and reverse as well as bar worn on suspension ribbon for subsequent awards. Bar is engraved with number of enlistment for which awarded. Also shown is service ribbon with numeral. Numerals on service ribbon represent number of bars awarded to individual.

Designer—Maj. Gen. Charles Heywood, U. S. M. C.

Obverse—Center encircled by a rope, a gunner, and a gun; below, a scroll bearing motto, "Semper Fidelis." The whole rests on anchor. Inscription, "United States Marine Corps." Attached to a clasp in form of a musket and suspended by a ribbon from a rounded bar with rope edge. Inscribed "U. S. Marine Corps." Reverse—Plain with number and name of recipient, number of enlistment (first), year in which enlistment began, and year in which ended.

COAST GUARD GOOD CONDUCT. Awarded on same basis as the Navy Good Conduct Medal.

Obverse—A ship within a rope encircled by motto "Semper Paratus." At ends of chain, crossed oars. Bar inscribed "U. S. Coast Guard." Reverse—Similar to Marine Corps.

Clasp—Name of vessel (*Woodbury* shown) shows ship on which recipient served.

NAVAL RESERVE MEDAL. Awarded to officers or enlisted men with 10 years' honorable service. For additional 10 years, a bronze star may be worn on ribbon.

Obverse—Eagle perched on anchor with background of rays. Reverse—Inscribed "Faithful Service" and "United States Naval Reserve."

MARINE CORPS RESERVE MEDAL. Authorized February 19, 1939. Based on record of four years' service.

Obverse—Marine and civilian walking. Words "Marine Corps Reserve" and "For Service."

Army Marksmanship and Gunnery Badges

(Illustrations Plate XIII size reduced)

Army badges are generally silver for individual qualifications and gold or bronze for others. No substitute for badge may be worn on uniform. Reverses are usually plain.

QUALIFICATION BADGES. Basic badges designated "Expert," "Sharpshooter and First Class Gunner," and "Marksman and Second Class Gunner." Suspended from basic badge are appropriate qualification bars. Examples shown are "Small Bore Rifle," "Rifle," and "Pistol-D."

TEAM MARKSMANSHIP BADGES. There are three units—pendant, clasp, and top bar. Pendant has a bow with arrows within annulet with 13 stars encircled by oak wreath. Corps Area Teams disk is bronze; for Army Teams, annulet is enameled in the designated color for particular arm (blue for Infantry shown). Team clasps are in form of muskets, pistols, or automatic rifles. Clasps are in gold, silver, or bronze. Top bar is bronze rectangle with oak leaves for Army Teams; rounded ends and a medallion in center containing number of Corps Area for Corps Area Teams.

Army Infantry Rifle Team Badge shown.

DISTINGUISHED MARKSMAN BADGE. Awarded to winner of three team badges. Enameled target between words "Distinguished" and "Marksman" on a shield-shaped plaque. Bar has the U. S. shield with letters "U. S."

DISTINGUISHED PISTOL SHOT BADGE. Awarded to a winner of three team badges. Enameled target between words "Distinguished" and "Pistol Shot" on a shield-shaped plaque. Bar has U. S. shield with the letters "U. S."

DISTINGUISHED AUTOMATIC RIFLEMAN BADGE. Automatic rifle across a target framed by leaves forming a square. Bar has word "Distinguished" between oak leaves.

DISTINGUISHED AERIAL BOMBER BADGE. Laurel leaves around a target with a drop bomb. Bar of clouds with word "Distinguished." For outstanding Distinguished Aerial Bomber for year.

DISTINGUISHED AERIAL GUNNER BADGE. Laurel leaves around a target with a winged bullet. Bar of clouds with word "Distinguished." For outstanding Distinguished Aerial Gunner for year.

MOTOR VEHICLE DRIVER AND MECHANIC BASIC BADGE AND FOUR BARS. Authorized July 28, 1942, for qualified vehicle driver and mechanic. Bars are designated Driver-W (wheeled vehicles); Driver-T (track or half-track vehicles); Driver-M (motorcycle); and Mechanic (automotive or allied trade mechanic) (page 434).

ARMY AIR FORCES TECHNICIAN BASIC BADGE. Announced January 11, 1943. Gear wheel, encircled by a wreath surmounted by propeller. Badge with examples of the 24 bars, page 434.

Navy Gunnery and Marksmanship Badges

(Illustrations Plates XIII and XIV size reduced)

Gunnery Badges not awarded in wartime.

Navy issues service ribbons for some marksmanship badges. Some badges shown no longer issued but still worn.

ADMIRAL TRENCHARD TURRET-GUN-POINTER MEDAL. Awarded by Navy League annually on July 1 to set of three turret pointers attaining highest merit at short-range battle practice.

Obverse—Crossed anchors; in center a blue medallion with gold rope edge bearing a vertical anchor; letters "U. S." in gold and letters "N. L." in white. Bar engraved "Admiral Trenchard Section 73." Reverse—Wreath, with words, "Admiral Trenchard Section 73."

Knox Trophy Medals (Army and Navy). Presented annually by Society of the Sons of the Revolution in Massachusetts in honor of Maj. Gen. Henry Knox, first Secretary of War.

Obverse—Knox portrait. Inscription: "1750-1806" and "Henry Knox." Obverse identical for Army and Navy awards.

Reverse (for **GUNPOINTING—Navy**)—Awarded to battleship making best score in gunnery preceding year. Columbia holds trident and wreath. Shield and eagle at her side. Inscribed, "Sons of the Revolution in Massachusetts." In base, "Excellence in Gunpointing."

Reverse (for **LIGHT ARTILLERY—Army**)—Awarded to sergeant of Field Artillery attaining highest proficiency. Crossed cannon entwined with laurel wreath on which is an eagle. Inscription: "Society of the Sons of the Revolution in the Commonwealth of Massachusetts" and "Excellence Light Artillery U. S. Army."

SHARPSHOOTER'S MEDAL. Top bar with pendant (a) represents original award of Sharpshooter's Medal. Bars with years (b) represent subsequent qualifications as sharpshooter. Four bars "Expert" with years engraved (c) represent subsequent qualifications as expert; "Expert Pistol Shot" bar (d) represents additional qualification.

Obverse—Disk with rope edge on which is a target in front of crossed rifles. Words, "United States Navy." Overlapping main disk is another disk containing a representation from a Navy Seal; design shows an eagle with U. S. shield on breast, standing on an anchor. Badge and bars no longer issued, but still worn.

Navy Marksmanship Badges

(Illustrations Plate XIV size reduced. Concluded from Plate XIII)

DISTINGUISHED MARKSMAN. Awarded to individuals who have won three medals in either or both of National Rifle Matches, or who have won two medals in National Rifle Matches and a place medal in either Force or Fleet Rifle Match. Bar inscribed "U. S. Navy." Service ribbon awarded for wear in lieu of badge.

DISTINGUISHED PISTOL SHOT. Awarded for similar accomplishments to Distinguished Marksman. Same service ribbon.

EXPERT RIFLEMAN'S MEDAL AND SERVICE RIBBON. Awarded for qualification with rifle or carbine. Designation "Expert Rifleman" above target.

EXPERT PISTOL SHOT'S MEDAL AND SERVICE RIBBON. Similar to Expert Rifleman with exception of ribbon and designation "Expert Pistol Shot."

FLEET RIFLEMAN. Target in front of anchor and crossed rifles above wreath and designation "Fleet Rifleman." Top bar, "U. S. Navy."

FLEET PISTOL SHOT. Target on anchor between automatic pistols above wreath and designation "Fleet Pistol Shot." Top bar, "U. S. Navy."

EXPERT TEAM RIFLEMAN. Awarded for qualifications with rifle or carbine. Target in front of anchor suspended from top bar marked "Expert Team Rifleman." (No longer issued.)

Marine Corps Marksmanship Badges

(Illustrations Plate XIV size reduced)

Highest Marine Corps marksmanship badges, like those for Navy, are designated as "Distinguished." Unlike Navy, however, the Marine Corps does not issue ribbons in lieu of badges. Designs for Distinguished Marksman and Distinguished Pistol Shot are similar to those of Navy, except for designation "U. S. Marine Corps" on top bar.

LAUCHHEIMER TROPHY MEDAL. Detachment of Marines with colors flying below designation, "The Lauchheimer Trophy for annual competition in small arms firing." Words, "Presented to United States Marine Corps by the family of Brig. Gen. Charles H. Lauchheimer." Suspended from bar marked "Marine Corps." Badge in three degrees—gold, silver, and bronze.

MARINE CORPS RIFLE COMPETITION. Disk charged with target in front of crossed rifles above wreath. Marine Corps insignia at top. Bar marked "Marine Corps." Gold, silver, and bronze.

MARINE CORPS PISTOL COMPETITION. Disk charged with target flanked by .45-caliber automatic pistols above wreath. Marine Corps insignia at top. Bar marked "Marine Corps." Gold, silver, and bronze badges.

DIVISION RIFLE COMPETITION. Same as Marine Corps Rifle Competition, except that designation "Division" replaces Marine Corps insignia.

DIVISION PISTOL COMPETITION. Same as Marine Corps Pistol Competition except Corps insignia is omitted and word "Division" is below target.

EXPERT RIFLEMAN BADGE. Silver crossed rifles in front of wreath suspended from bar marked "Expert Rifleman."

SHARPSHOOTER'S BADGE. Cross of Malta with a target. Bar marked "Sharpshooter."

MARKSMAN PIN. Bar with word "Marksman" between targets.

REQUALIFICATION BAR. Used between top bar and pendant on Expert Rifleman's Badge. Requalification dates are engraved.

BASIC BADGE WITH EXPERT AUTOMATIC RIFLE BAR. Target within a wreath, Marine Corps insignia at top. Suspended from top bar marked "U. S. Marine Corps." Between top bar and pendant are appropriate bars of qualification.

"EX" is for "Expert." Similar bar with letters "SS" for "Sharpshooter."

Coast Guard Marksmanship Medals

(Illustrations Plate XV size reduced)

Coast Guard has service ribbons for all marksmanship medals. Ribbons are comparable to those on Plate XIV for Navy, except that stripes are white (see Plate III). Medals are similar to those issued by Navy, except that top bars are designated "U. S. Coast Guard."



U. S. NAVY, Official

Hawaiian Islands Hero Shows His Wife a Medal of Honor for His Action on December 7, 1941

This decoration was conferred upon Aviation Chief Ordnanceman John W. Finn, USN., for heroism at Kaneohe Bay Naval Air Station, near Pearl Harbor. This, the Nation's oldest continuous award, dates from 1861 (Plate VI).

National Matches Marksmanship Medals

(Illustrations Plate XV size reduced)

National Matches Marksmanship Medals are presented by the National Board for the Promotion of Rifle Practice, under the War Department. Matches, held at Camp Perry, Ohio, in recent years, are suspended for duration. Medals shown are authorized for wear upon uniforms on specified occasions. Although under War Department, many of these matches are open to members of all armed forces and to civilians.

All medals shown, including three at bottom of page, are suspended by a similar ribbon from a bar designated "U. S. National Match." Bars all bear date 1936, since photographs were made from a set of display medals made up in that year.

PERSHING TROPHY MEDAL—HIGH INDIVIDUAL NATIONAL RIFLE TEAM MATCH. Head of Pershing between designation, "Gen. John J. Pershing" and "U. S." Words, "The Pershing Trophy."

NATIONAL TROPHY MEDAL NATIONAL RIFLE TEAM MATCH. Nude figure holding four dogs on leashes; upper dexter, a ribbon suspending a disk with U. S. Coat of Arms and bars containing words "Army," "Navy," "Marine Corps," "National Guard," "Civilian"; upper sinister, "National Trophy presented by the Congress of the United States for excellence in Team Marksmanship, MDCCCIII."

HILTON TROPHY MEDAL NATIONAL RIFLE TEAM MATCH. Herd of charging buffalo. At bottom, six Indian shields. In lowest center shield, words, "Presented by Henry Hilton for Rifle Shooting by Military and Naval Teams of Twelve." On a scroll above design, words "Military & Naval Challenge Trophy" and "1878." Pendant connected to suspension ribbon by an eagle and two sprays of leaves.

SOLDIER OF MARATHON MEDAL NATIONAL RIFLE TEAM MATCH. On a disk a nude male figure kneeling and holding a torch.

Dexter side, U. S. Coat of Arms.

INFANTRY MATCH MEDAL. Soldier running through barbed-wire entanglement.

NATIONAL INDIVIDUAL RIFLE MATCH. Crossed rifles with the letters "U. S." and "Individual Rifle Match." U. S. Coat of Arms at top.

NATIONAL INDIVIDUAL PISTOL MATCH. Crossed .45-caliber automatic pistols above U. S. Coat of Arms and words, "Individual Pistol Match."

NATIONAL PISTOL TEAM MATCH. Like National Individual Pistol Match, except inscription "Pistol Team Match."

MINUTE MAN MEDAL (CITIZENS' MILITARY CHAMPIONSHIP MEDAL—NATIONAL INDIVIDUAL RIFLE MATCH. Concord Minuteman standing beside plow, holding musket. Dexter, U. S. Coat of Arms; on sinister, letters "U. S." Inscription:

"Citizens Military Championship."

COAST ARTILLERY MEDAL PRESENTED TO MARINE CORPS (COAST ARTILLERY APPRECIATION MEDAL NATIONAL INDIVIDUAL RIFLE MATCH). Loving cup inscribed "Coast Artillery Corps to Marine Corps." Marine shooting from a standing position, and another in kneeling position. Above cup a scroll inscribed "N.B.P. of R.P." (National Board for the Promotion of Rifle Practice); in base, Marine Corps and Coast Artillery Corps Insignia.

CITIZENS' MILITARY TRAINING CAMPS. U. S. Coat of Arms between rifles below letters "C.M.T.C."

RESERVE OFFICERS' TRAINING CORPS. Target with letters "U. S." in front of crossed rifles flanked by torches. Words "National Matches" above and letters "R. O. T. C." on scroll below.

Distinctive Indications for Women

Women members of armed services are an integral part of their organizations; so they have little distinctive insignia. Women of the Marine Corps, for example, use insignia identical with those of the men. Though not insignia in a limited sense, hats and shoulder bags are distinctive indications of service. They are, therefore, a quick means of identification.

Hats for WAVES and SPARS are identical except for insignia. Summer hats are shown for WAVES; winter for SPARS.

WAVES and SPARS use same shoulder bag. Grade for officers and enlisted personnel for all services is shown by same insignia as those used by men, except that WAVES and SPARS use "reserve blue" instead of gold for sleeve stripes on blue uniforms; they never use shoulder marks.

Hospital Dietitians and Physical Therapy Aides, like nurses, are commissioned in the Army Medical Corps. Army Hostess and Librarian Service is not part of the Army, but serves with it.



Staff Photographer Alfred T. Palmer

Bright Ribbons Are Her Honors of Bataan and Corregidor

Lt. (jg) Ann Agnes Bernattus is the only member of the Navy Medical Staff who escaped after Bataan and Corregidor service under fire. The nurse's ribbons represent the first Legion of Merit Medal ever awarded (Plate I), the new Distinguished Unit Badge, American Defense with star, and Asiatic-Pacific Theater (all Plate II). Her patient, Pvt. Daymon M. Carter, USMC, is a twice-decorated hero of Guadalcanal.

Women's Reserve of the U. S. Naval Reserve (WAVES)

CORPS DEVICE. Dark-blue disk charged with light-blue propeller with white anchor for blue uniforms.

HAT, OFFICER, SUMMER. White crown, dark-blue brim with an officers' cap insignia.

HAT, ENLISTED PERSONNEL, SUMMER. White crown, blue brim, black band marked "U. S. NAVY."

WAVES' AND SPARS' SHOULDER BAG. Distinctive to the service.

Women's Reserve of the Coast Guard Reserve (SPARS)

COLLAR INSIGNIA. Shield centered on disk bearing words, "United States Coast Guard 1790,"



AP from Photo Act's

Purple Heart, Inspired by the Father of His Country, Consoles a Wounded Yank

Army Pvt. (1st cl.) Raymond F. Kavis of Harvey, Illinois, holds the decoration awarded for wounds. He was wounded when landing in Morocco. Gen. George Washington directed the award of the original Purple Heart. Long in disuse, it was revived in 1932, 200th anniversary of Washington's birth.

and superimposed upon crossed anchors. Word "Semper" above shield and word "Paratus" below shield. Worn on both tips of collar.

HAT, OFFICER, WINTER. Dark blue with officers' cap insignia.

HAT, ENLISTED PERSONNEL, WINTER. Dark blue; black band marked "U. S. COAST GUARD."

SHIELD, OFFICER. Shield is worn on both sleeves above stripes denoting grade. Enlisted personnel wear similar shield on right sleeve in blue on white clothing and white on blue clothing. This follows Coast Guard custom.

SLEEVE STRIPE BRAID, SPARS AND WAVES. Worn on sleeve of jackets of blue uniforms in same manner as other officers' sleeve braids.

U. S. Marine Corps Women's Reserve

COLLAR INSIGNIA. Same as Officer Garrison Cap in dull-finish bronze.

OFFICER CAP, SUMMER. Green with a white cap cord and Marine Corps Officer's dress (gold and silver) cap insignia.

ENLISTED PERSONNEL CAP, WINTER. Marine green with red cap cord and Marine Corps-bronze enlisted cap insignia.

Caps for officers and enlisted personnel similar except for insignia.

SHOULDER BAG. Brown leather.

Women's Army Corps (WACS)

Formerly Women's Army Auxiliary Corps, WACS are now in the Army Reserve.

OFFICER LAPEL INSIGNIA. Gold head of Pallas Athene. Letters "U. S." in officers' type are worn on jacket collar tips just above lapel insignia. Pallas Athene design on a disk is used by enlisted personnel on left collar tip and enlisted man's "U. S." on a disk on right tip.

OFFICER CAP, WINTER. Dark olive drab with Army officer's cap insignia.

ENLISTED PERSONNEL, CAP, WINTER. Olive drab with Army enlisted man's cap insignia.

SHOULDER BAG. Russet leather.

ARMY HOSPITAL DEPARTMENT'S COLLAR INSIGNIA. Medical Corps caduceus with the letters "H. D."

ARMY PHYSICAL THERAPY AIDE COLLAR INSIGNIA. Medical Corps caduceus with letters "PT."

Army Hostess and Librarian Service

IDENTIFICATION BROOCH. Silver with individual's name engraved on lozenge.

SHOULDER SLEEVE INSIGNIA. Light-blue arc with rays of maroon, red, orange, green, white, blue, yellow, buff, and crimson. Majority of colors of arms and services of the Army. This insignia is worn also on left curtain of prescribed chapeau.

Women in Uniform

BY LA VERNE BRADLEY

THE YANKS had landed!

On the morning of November 8, 1942, the world heard that the first American invasion forces had reached North Africa.

It did *not* bear that when American troops jumped from assault barges to land under fire on the coast of Algeria that historic night, more than 200 American girls were with them.

Not until half a year later, and then only by chance, did the daring exploits of the Army nurses on the beaches of Oran and Arzew break into the news. When the wounded Lt. Gen. Lesley J. McNair, Chief of the Army Ground Forces, returned to the United States from Tunisia, a quiet, clear-eyed young woman accompanied him. One day she happened to mention the landing of her units.

Her units!

With our fighting men through the confused early hours of invasion were the first American women to see action on the second front.

They tumbled from landing boats into the surf and waded ashore. The sea reached their shoulders and caught a number over their heads. Soldiers and sailors carried a few lucky ones. Others made it alone, holding their own gas masks, musette bags, and canteens. They wore steel helmets.

There was no time to rest. Nazis were strafing the beaches. They reached a private villa near by and commandeered it for work. Casualties poured in.

Strips of Slips and Shirts for Bandages

The first American surgical hospital was soon set up in some old French military barracks and tents. While waiting for supplies to land, the girls ripped off their slips and shirts and tore them in strips for bandages.

As the troops pushed forward, nurses followed the mobile field units and fell back with the line when it retreated. In the withdrawal at Kasserine Pass, one group became isolated. Guns hammered in front and to the rear. "Somehow" they got out.

In the months that followed, Army nurses marched with the troops into evacuated cities.

They slept on dirty rooftops, in mud-encrusted tents, on bare ground. They helped set up advance mobile hospital units composed of rows upon rows of tents—and were ready to dismantle them completely in an hour and twenty minutes. They used candles to save power for operating rooms and took baths in steel helmets (page 448).

In the rush of battle, with supplies not yet at hand, they gave their own blood. In an

Army jeep, overturned in a shell hole, and in an air crash, three gave their lives.

Since the first days of action in World War II, their heroic stories have rolled in from all parts of the world. With them have come the stories of the Navy nurses who serve with our men at sea. Among women, their gallantry has been unsurpassed.

First in service, first in uniform, first in action, and first in citation, the Army and Navy Nurse Corps have been the trail blazers of American women at war. They head the list of service organizations which, in 17 months, have put nearly 125,000 women of our country in military and naval uniform.

As more and more women have emerged from training and taken their places at Army posts and naval bases, we've come to recognize their khakis and blues, greens and grays—and to realize for what they stand.

We know them as WACS, and WAVES, and SPARS, and WASPS, and women Marines.* We know that wherever we see them, they are there to release able-bodied men for combat duty. They are from the school, the opera house, the House of Representatives, the office, and the house next door.

Nurses First Women Commissioned

The Army and Navy Nurse Corps grew up early in our history, but they waited a long time for proper recognition. When it came, it came as a magnificent tribute. The first woman colonel was an Army nurse. The first woman captain in the U. S. Navy was, and is, a Navy nurse.

Decorations for "bravery in action," "meritorious conduct," "outstanding service"—these things come to nurses in routine line of duty.

Last November, the War Department's new Legion of Merit (Plate I) went for the first time to Lt. (jg) Ann Agnes Bernatitus, Navy nurse. Lieutenant Bernatitus was the only member of the Navy medical staff in the Philippines to escape final capture.

The Cañacao Naval Hospital could hardly help being hit. It was on the strategic point overlooking the entrance to Manila Bay, next to a powerful radio station and airfield, and directly opposite the Navy base at Cavite.

* WACS—Women's Army Corps, founded originally as the Women's Army Auxiliary Corps; WAVES—Women Accepted for Volunteer Emergency Service, the women of the U. S. Navy; SPARS—the Women's Reserve of the U. S. Coast Guard, whose name comes from the Coast Guard motto, *Semper Paratus*—"Always Ready"; WASPS—Women's AirForce Service Pilots, attached to the Army Air Forces.



U. S. Army Signal Corps, Official

Army Nurses in Old-style Blues Get a Snappy North African Shine

Off duty, Second Lt. Helen Baniak and Della Mae Moore are good-will ambassadors. Their new field uniforms are of khaki and olive drab. For dress, they have a cream-colored outfit trimmed in maroon.

At the first news of Pearl Harbor, regular patients at Cañacao were evacuated to Manila, and hospital decks were cleared for casualties.

In one eight-hour stretch, Navy doctors, nurses, and attendants performed 285 operations. The dispensary was hit and everyone in it killed. Casualties pyramided into hundreds. As the wounded were treated, they were sent on to Manila.

When Cañacao was no more, the medical staff also evacuated. In Manila it spread out over the city in emergency operating teams of six—two doctors, two nurses, two hospital corpsmen—working under Army orders.

Ann Bernatitus was in one of these units. In the early morning of December 24, her team was suddenly ordered to Camp Limay, Bataan.

Patients Die in Bombed Hospitals

On Bataan the Navy medical staff worked as part of the Army. Next to the wide red crosses laid on sheets and spread out in the

clearings around their headquarters, they felt safe at first. They felt fairly safe even after the first bombing, which killed 30 patients and civilians; the Japanese apologized for their mistake. Three days later they were bombed again and lost more than 70. Two nurses were wounded and removed to Corregidor.

After that, when planes were heard, nurses slashed tractions holding splints, rolled their wounded under beds, and threw themselves into any available shelter.

Three months on Bataan, moving from one improvised, undersupplied "hospital" to another! In January, when the soldiers went on half rations, the nurses did likewise. Quinine was saved for hospital cases only—as long as it lasted.

Another month on Corregidor, and Ann was evacuated one night with Army and Navy officers and 11 Army nurses to a submarine lying far out in Manila Bay. As Jap searchlights played toward them, they were pulled aboard and crammed down the hatch in split



U. S. ARMY, OFFICIAL

First Women's Detachment in Army History Heads for Port and Duty "Over There"

From 39 States and the District of Columbia the first overseas WACS went to General Eisenhower's headquarters in North Africa. WACS and Army nurses from a torpedoed ship shared lifeboats with troops until they were rescued. Some 800 WACS are serving in England and North Africa.

seconds. The submarine dived. They didn't see the sky again for 17 days.

The final evacuation order was the only one in four months of heat and bombs and blood that made the nurses crack.

"The thoughts that went through our minds then," said Miss Bernatitus, "are the things we remember most today.

"I thought of the boy who came in with his arm hanging by a thread, and stepped aside when he took a look at others brought in on stretchers. He said, 'At least, I could walk in.'

"I remember standing on Corregidor and watching our ammunition dump go up at Mariveles. I knew the boy who had that job. He had said that when it happened he probably wouldn't be back."

77 Nurses Imprisoned or Missing

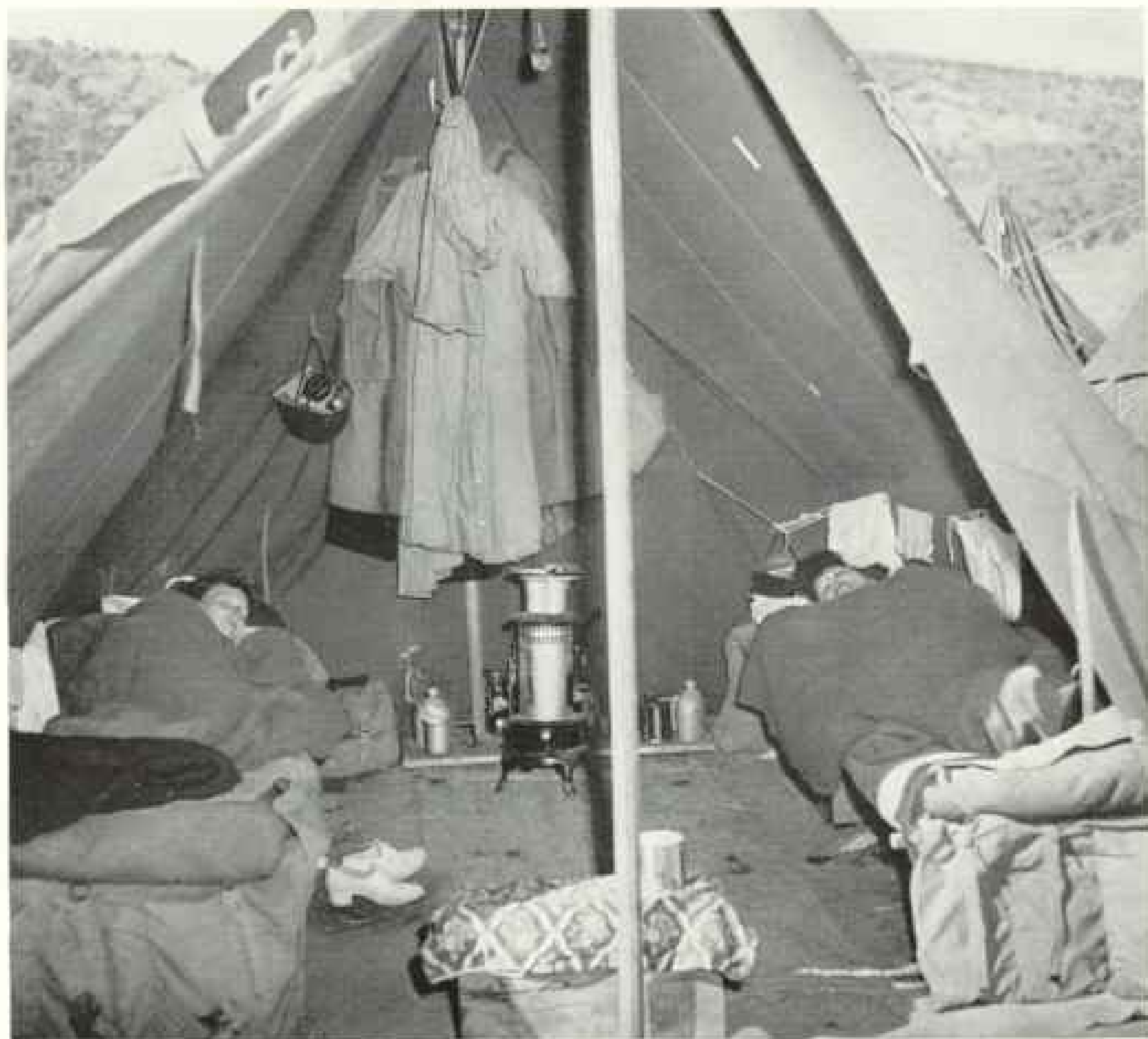
Twenty Army nurses started off with other groups in two PBV's. They reached Lake

Lanao, on Mindanao, on the first leg to Australia. Taking off again, one of the ships struck a coral reef and put a hole in its hull. A few chose to stand by in the hope it could be fixed; the others, including ten Army nurses, were taken ashore and tried to make a near-by airfield for another escape.

They reached it just as the Japs did. The plane, with a mattress stuffed in the hole, got away and made it to Australia.

Two native girls from Guam, trained by the Navy nurses there, were aboard the Navy station ship *Gold Star* on their way to Manila with patients when the Pacific war broke. Guam was bombed in back of them, Manila in front of them.

No word was heard of the ship for weeks, when suddenly it turned up in Australia, having followed a dizzy, zigzag course across the South Pacific. The Chamorras are serving today at the Mare Island Naval Hospital in California. American women in uniform!



Between Battles in Tunisia, Exhausted Army Nurses Grab What Rest They Can

Army nurses have been with the troops through every Army engagement of World War II. Note the helmet crammed with personal possessions. It serves equally well as a washbasin (page 445).

The five Navy nurses captured at Guam have been returned by the Japanese. Of the 66 Army nurses and 11 Navy nurses left in the Philippines, 48 are prisoners of war. The others are missing. The 22 who escaped are back on duty both here and abroad.

Navy nurses go where the Navy goes—to shore stations at home, to hospital ships at sea, to bases in faraway lands. They are everywhere, from Trinidad to Alaska, from Coco Solo to New Zealand.

On hospital ships Navy nurses serving just back of the battle zone occasionally find themselves well in it. A wandering shell whistling overhead, a depth charge off the port bow—a few near misses, and they have learned to keep their lifejackets within easy reach.

Global war has meant a whale of a job for military and naval nurses. It is a far different thing from the role they performed in

the localized fields of World War I. It has become complicated, technical, demanding.

In the last war, with an Army and Navy of about four and a half million men, we had 28,000 nurses. Today, with nearly twice that number of men in uniform, we have only 8,000 more. In normal times, civilian nurses are trained to handle 2.5 patients, Army and Navy nurses about 10. On battle fronts, it is frequently about five times that many. On Bataan it was 250.

Last February a big Army transport swung in over Guadalcanal bringing the first white women to the island since the Marines had landed some six months earlier. The transport was a hospital plane of the Army Air Evacuation Unit carrying 24 Army nurses, first fledglings of the flying training school for the Army Nurse Corps.

Flying nurses are the new angels of mercy.

They are winging their way over India, the far north, the Mediterranean, and the South Seas.

At Bowman Field, Kentucky, center of air evacuation training, volunteer student flying nurses undergo strenuous physical exercise and take a specialized course in aeromedical physiology. The Army trains them in air-evacuation tactics, classification of wounded, logistics. In medicine they study for every global emergency, from Arctic hygiene to tropical dengue fever.

The WACS Can Take It

A raw wind swept across the parade ground and whipped at the coats of 3,000 women soldiers standing still and erect at regimental review. They were chilled to the bone. Flecks of snow clung to their eyelashes, and frost coated the sides of the big brass horns in the band.

A few rookies, wiggling their toes to keep up a circulation, thought of friends in North Africa and gritted their teeth. Others mentally checked off the minutes—the seconds—until they would hear an order releasing their aching arms and backs from rigid attention. Arms swollen from inoculations; backs weary from scrubbing, polishing, arranging for Saturday inspection.

"Damn!" muttered a girl as tears of cold slipped over her cheeks. She didn't care about the cold. She was cursing the thought of a man seeing anything that resembled feminine weakness.

Then the band swung into position, the music rolled out, and every woman snapped to salute with a precision that sent a thrill



U. S. Navy, Official

WAVES Meet Their Fleet—But Only on a Small Scale

Until our major warships return from battle, Navy WAVES, not permitted overseas, must study Fleet silhouettes through mock-up. WAVE officers have replaced all men naval officers as instructors at the U. S. Naval Training School, Bronx, New York. Boot camp trains enlisted personnel in Navy history, organization, customs, and military drill (page 454).

clear through me. I looked at these American women—and wondered. And was proud.

The Women's Army Corps, largest of the feminine military services and first of the new women's reserve armies to get into operation, began as an auxiliary—a semi-enfranchised female military outfit.

It was watched suspiciously, handled gingerly, treated coolly. It was called the "powder-puff Army." It had to make good. And it did.

Today 240 fully trained companies are serving at Army posts throughout the country and overseas. At training centers women work, sweat, drill, and study 12 to 14 hours



Flanked by Spahis, WACS Parade the Colors through the Gates of French Headquarters in Algiers

WAC, official

a day to learn the duties and cram in the knowledge that will send more Army divisions to the front.

Out of 625 Army jobs, the wac is grooming itself to take over 410! With an actual enlistment of about 65,000, the Army has piled up requests for 335,000 more!

The Army Air Forces wants the wac to furnish them aircraft electricians and mechanics, teletype operators and repairmen, weather observers, armorers, instrument specialists, power turret and gunsight mechanics, photographic laboratory technicians, camera repairmen, Link trainer instructors, parachute riggers, radio specialists—they want 375,000 trained women!

Old Army men were staggered when 16 trim young wacs took their places at the U. S. Army Command and General Staff School at Fort Leavenworth, Kansas. This is the toughest military school in the country. Courses formerly were open only to officers holding the rank of major or higher, and with field service records of 17 years or more!

Seventeen years! Most of these women had been in the Army only three or four months. As rookies they had learned the ropes in Army life.

They got up to a bugle before dawn. If they were slated for K. P., they got up earlier than that. They whipped their barracks into military trim and turned out on the double for muster and mess. In relays they fed and moved on. By 8:05 thousands would be on the drill field or in the gym humping in close-order drill.

Then came classes under wac officers, who had been trained under regular Army officers before them: military customs and courtesy, property accounting, map reading, defense against air and chemical attack, discipline, first aid. And then out for more drill.

Somewhere in those first few weeks they were inoculated about seven times. They may have drawn K. P. five times in one week—it sometimes happens that way. Five K. P.'s in one week takes a lot of patriotism.

Late afternoons they relaxed at the PX, or sat around barracks learning to gripe about the wondrous ways the Army works.

Then came retreat—and they found out what it meant to be in the Army. As bugle notes sounded and the flag was lowered, they stood with lumps in their throats and knew why they were there.

If they were at Fort Des Moines, acceptance for Officer Candidate School moved them out of "Boom Town" (the new wac section of the old post) and into some old military buildings facing the parade ground.

These were even harder to keep clean, and they had less time to do it.

Classes, now about doubled, taught the advanced military techniques needed to build competent Army leaders.

About three months all together—and then the Command School! The Army is working fast these days, and the wacs are a part of it.

First basic training center for the Women's Army Corps was at Fort Des Moines, Iowa. There are two others now—Daytona Beach, Florida, and Fort Oglethorpe, Georgia. The only Officer Candidate School for wacs is now at Fort Oglethorpe.

Every WAC Eligible for Officer Training

Every wac private, regardless of color, experience, age, or education, is eligible for officer training. O.C.S. presents a fast, concentrated, competitive course, and it's tough. A girl can serve in many valuable capacities in the Army and not worry too much about competition, because there are jobs enough for all; but when she starts to climb, she is asking for punishment—and she's on her own.

Frequently a bright chick is spotted by superiors and shipped posthaste back to Oglethorpe. She may be tapped on the shoulder one day by an officer who will say, "We think you are officer material. Have you given it any thought?" A few will answer, "Not for me! I'll do any job you ask, but I don't want responsibility." Others will take a special examination and pray for a passing grade.

Results are amazing. At Fort Sheridan, Illinois, for instance, about 90 percent of the 29th Company qualified for officer training last spring. Then, as the weather began to clear up, the frequent reaction was, "Well, I've stuck it out through a Lake Michigan winter—and what a winter!—I think I'd like to wait around and see what summer is like."

Other reasons may enter in. At Fort Sheridan, girls are working into antiaircraft artillery, keeping records on gunnery, making weather observations, handling T squares, slide rules, graphs. Their dayroom, fitted out by women of Chicago's north shore, is the swankiest on the historic old post. And they are learning jujitsu! It's a good life.

wac companies in the field are self-sustaining. Besides the personnel selected to fit the post jobs for which they were requisitioned, they carry with them complete units trained to serve the company as cooks, bakers, administrators, etc.

At Fort George G. Meade, Maryland, I found the 36th wac Company barely settled in its new barracks. Already, wacs were part of the scenery, doing men's jobs and

their own. Four platoons of 150 women under three officers were at work in post headquarters, service clubs, and libraries; 27 had gone to the motor pool; others were detailed to WAC town to keep it running.

They had been met at the train around dawn by the 76th Division Infantry band; they were given a reception; they were treated magnificently. Then they were put to work with no more flourishes. A feminine first sergeant was paralyzed one day when the inspection officer (a ranking male) flipped a 50¢ piece on a bed to see if it would bounce! Any girl who doesn't pull her blanket board-tight these days takes her life in her hands.

They have a snappy beauty parlor, although it's strictly G. I. All WAC companies have some arrangement for this non-reg phase of Army life. Permanent waves, shampoos, and manicures are obtained in spare moments, and these being few, even a shaken QM realizes that facilities must be at hand. Appearance must be neat, morale must be high, and women are still women.

Even the WACS in North Africa, barracked in a convent and an office building, maintain the traditions of basic training and live the lives of G. I. soldiers, though long hours and short facilities give them less chance for frills.

WACS abroad now are mainly drivers, clerical workers, switchboard operators, and linguists. Motor pool girls handle everything from a peep to a two-ton truck.

Eventually the women being trained in Army technical schools all over America will supplement these ranks, and the women of our Army will take their places still closer to men in battle.

WAVES Invade Civilian Colleges

Officer candidates for the WAVES train at the Naval Reserve Midshipmen's School at Smith and Mount Holyoke Colleges in Massachusetts. A month of basic indoctrination turns out feminine naval officers versed in Navy administration, organization, and drill.

"Why drill? They never use it again."

Here's why, says the Navy. When a girl learns to obey "To the right—*march!*" she has the groundwork for all her future relations with the Navy. Drill is the basis of discipline, of quick thinking, of conformity to established pattern. Besides, it's good exercise.

After the first month, some WAVES take advanced indoctrination; others enter communications, which includes naval intelligence, code, and other related subjects not publicly discussed. A few go on to the Navy Supply Corps School at Harvard University for business administration.

A number have entered Massachusetts Institute of Technology and the University of California at Los Angeles for aerological engineering. And one specially selected group of about 100 is at the Navy Japanese Language School, formerly in Tokyo, now at the University of Colorado.

Future women Marine officers train at Camp Lejeune, the big Marine base for men at New River, North Carolina (page 457).

Besides supervising enlisted personnel as regular staff officers, WAVE, SPAR, and Marine officers are filling shore billets from Pensacola to Puget Sound. They are turning out engineering blueprints, keeping track of personnel, handling legal matters and press relations, recruiting, checking supplies, and inspecting naval installations.

SPARS Learn about Lifeboats, Too

Officer candidates for the SPARS train along with Coast Guard cadets at the U. S. Coast Guard Academy, New London, Connecticut.

SPARS are probably the only women in training who get up to the tune of "Home on the Range" drifting through to them in a rich baritone. Cadet barracks have been bisected by a series of rough plywood bulkheads strung across hallways separating SPAR quarters from those of the cadets.

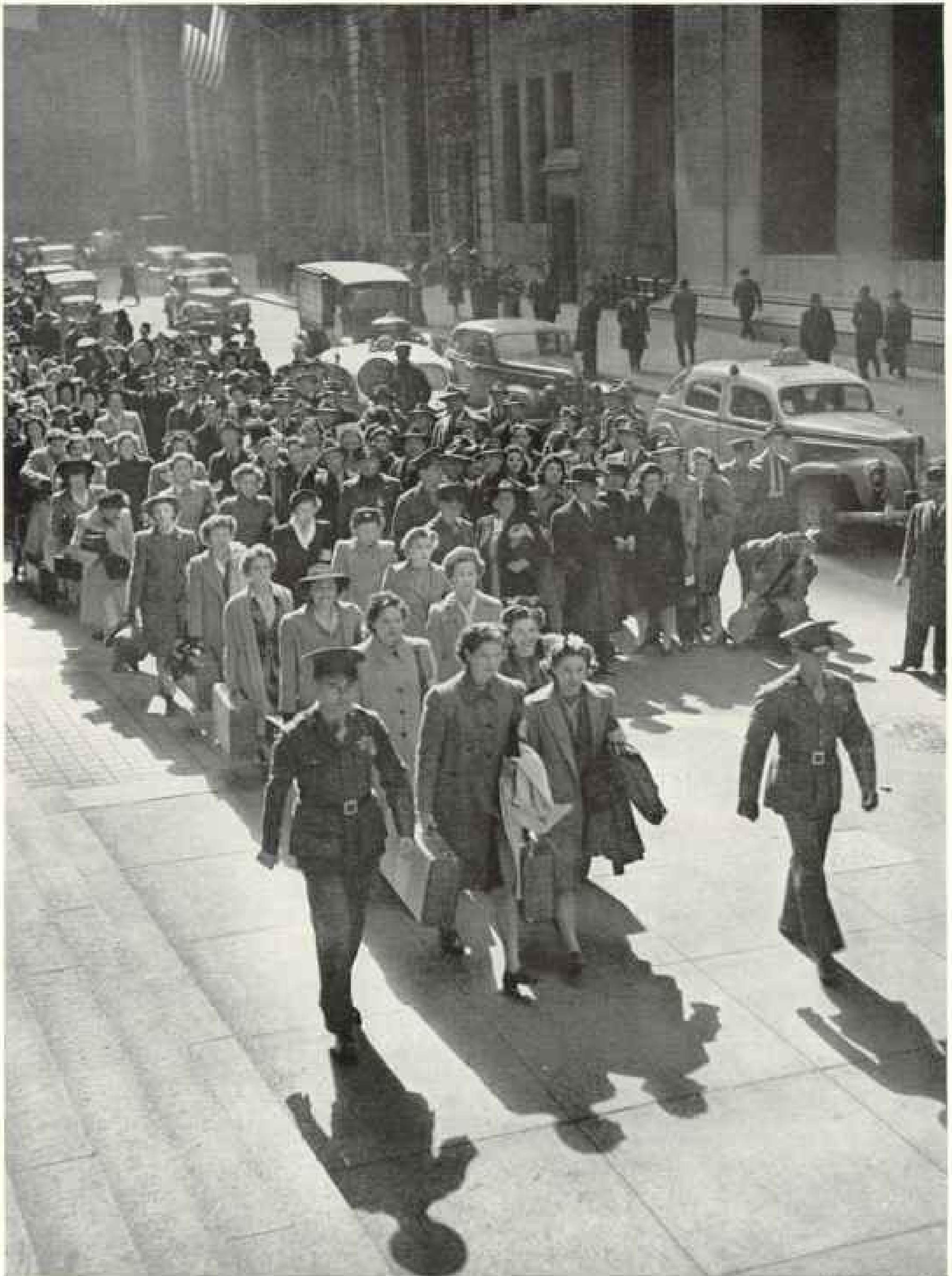
Formation whistles and bugles were confusing at first, but schedules have been shifted and new pipes bought, so that reveille for the cadets no longer puts SPARS in the showers 45 minutes too soon.

The SPARS have their own lectures and their own drill, but their life is cadet life. It is exciting to stand on the Academy bluff and watch squads of cadets marching down the sloping paths to the lifeboat dock, while a platoon of SPARS crosses back of them heading for the Armory or parade grounds.

SPARS go down to the sea in ships, but it's mainly for morale purposes and to teach them the real-life difference between a spar and a boom. "Many SPARS would like to become a boom," put in one. "A boom is defined as a spar of many uses."

Coast Guard cutters take them on occasional training runs, but never very far out. They learn to handle lifeboats, too.

Pulling out into the broad Thames River, they fall into the busy naval pattern of small and large warcraft moving up and down on practice or shakedown runs—launches, cutters, sailboats, converted power yachts, small training subs and occasionally a big one from the submarine base across the way, and always the other lifeboats of Coast Guard cadets learning their biggest job.



Morris Gordon, PM

Bound for Boot Camp, a "Goon Squad" of Marine Rookies Marches through Manhattan

Met by the familiar Leathernecks, girls from all sections of the Nation are assembled for basic training. Many have never before seen a skyscraper or a subway. Armbands are for identification if they get lost. "Goons" are recruits not yet in uniform.

From 1,000 to 2,000 enlisted WAVES wash in and out of the Bronx Naval Training School, New York, each month. After "logging in" at the huge National Guard Armory just off the campus (this used to be Hunter College), bewildered recruits are marched off in "goon squads" (those not yet in uniform) to barracks—16 converted apartment houses lying off to starboard of the station . . . and their Navy life has begun.

A stiff aptitude test at boot camp sends enlisted personnel either to immediate duty or to one of 15 technical training schools located anywhere from Stillwater, Oklahoma, to Milledgeville, Georgia.

"Screening" takes about five hours and ranges from ordinary intelligence quizzes to mechanical aptitude tests. In case you're wondering how well these girls are sifted to take over men's jobs, the main mechanical test is the same one given enlisted men at boot camp.

One girl flabbergasted the staff by passing the "tool relationships" test (identification and uses of tools) 100 percent. Here, officers thought, is a natural.

It turned out that she didn't have a speck of mechanical aptitude. She used to help assemble the tool section of the Sears-Roebuck catalogue.

As the Navy training program for women continues to expand, each naval service becomes more and more individualized. Enlisted WAVES, SPARS, and Marines were formerly given basic training together at the Bronx base in New York.

Today, enlisted Marine Reserves—about 525 every two weeks—go to the Marine Corps base at Camp Lejeune, while enlisted SPARS have their own boot and specialist schools in Palm Beach, Florida.

All Shore Jobs Open to WAVES

WAVES are learning to become aviation machinist mates and metalsmiths, Link trainer instructors, parachute riggers, aerographers, storekeepers, clerks and typists, control-tower operators, radiomen, motion-picture and synthetic-gunnery-device operators—all 246 shore jobs of enlisted men are open to WAVES. Some 20,000 of these trained women are already in the field.

At the huge Naval Air Technical Training Center in Millington, near Memphis, Tennessee, I saw my first enlisted WAVES plunged into advanced technical training.

We walked from building to building, watching girls bending over lathes, doping airplane wings, dissecting engines, studying, drilling. Some were practicing wigwag.

More than 1,000 enlisted WAVES are here with 15,000 bluejackets and 1,100 Marines learning to be aviation machinist mates. Their training is identical, except that the daily hour devoted to gunnery, which trains every Navy man for a battle station, is given to the women to spend as they please. They usually wash clothes.

We moved into a long shop where girls in light-blue coveralls and bandannas were working at the moment on "Job #11: Object: To disassemble, inspect, assemble, and align rudder control linkage and trim tab."

"How good are they?" I asked a head mechanic supervising machine-shop work.

"Magnificent. Ducks to water. If they are clumsy at first with tools, they are every bit as clumsy with a big needle on fabric (airplane fabric), and not a bit less adaptable to all of it than city men I've seen. Besides, with all the questions they ask, they ought to know everything in half the time!"

In the engine shop, former schoolteachers, shopgirls, and debutantes learn to tear down a giant airplane engine of about 3,000 parts and put it back together again. With engines roaring and props spinning, a harassed student may suddenly hear an offbeat, and it's up to her to find its ailment. Frequently it is a wad of chewing gum purposely stuck over a fuel vent by an instructor.

WAVE barracks are maintained in Navy tradition. Bunks, lockers, uniforms, everything is laid out in neat rows and polished till it stings. Even the stoppers in the wash-bowls are strung in a row to starboard.

On every naval station and in every naval training school, whether it is ship, shore, or, like Millington, hundreds of miles inland, the language is the language of the sea. When you put your foot on the place you "go aboard." When you leave, even if you take a bus to Memphis, you "go ashore." A floor is a deck, and you mop it with a swab. You stow your gear, chow in the mess, and bone so you won't bidge. You hit the deck at 0600 and turn in for sack check at 2310.

WAVES are of the Navy, all right—so much so that I didn't really get the full impact of any feminine transition until the Master-at-arms, seeing the male naval officer with us, stepped ahead and called out, "Man aboard! Clear the decks." "Man aboard!" in a Navy that has never worried about anything except "Woman aboard!"

WAVES Ride Mess Hall Stools Sidesaddle

The big naval air station at Corpus Christi, Texas, will eventually have a full complement of about 3,000 WAVES. Every WAVE



U. S. Navy, official

WAVES Take Over the Control Tower at Naval Air Station, Jacksonville, Florida

Logging reports and checking aircraft movements are three of the girls who have replaced every tower man but the flight officer. Navy planes land and take off at this field by the minute.

here is ship's company (active personnel).

The shift from an all-male base to one which admits women as a new and essential part of its make-up, has been fast, and in some instances particularly funny. Barracks formerly used by naval aviation cadets have been taken over by enlisted WAVES and form a Restricted Area where men are poison.

Walking through one of the barracks, I noticed Navy signal flags posted on a bulletin board—in Navy tradition piping the uniform of the day! In back, WAVES on liberty were sunning themselves on racks where cadets once aired bedding. New ironing boards were in the laundry room; washtubs have replaced the old scrub tables.

In the WAVE messhall, stools, built out from the table to be straddled by cadets, have not been converted. Girls ride them sidesaddle.

From WAVE barracks with its neat rows of uniforms and completely feminine smell of soap, I looked across the drill field (the "grinder") to cadets tumbling over obstacle courses, clambering up scramble nets, toughening themselves up for a man's war.

Up one morning before the stars had faded, I joined WAVE officers for breakfast in the officers' mess. Sprinkled throughout the olive-green and khaki uniforms of our naval aviators

were the colorful uniforms of Latin American cadets, and here and there the crisp white hats of the WAVES.

As the sun came up and caught the gold wings on the shirts of the flyers and the brass buttons of the WAVE blouses, the pageant seemed to take on the aspect of tremendous drama. It was a brilliant moment.

They weren't paying much attention to it, however. The planes warming up outside had to be flown. A job is a job.

The duties performed by WAVES at Corpus Christi are typical of what they can and will be doing all over the Nation—perhaps the world. They range from ordinary clerical duties to highly specialized jobs connected with the operation of heavy naval air traffic.

Ensign McKee Acts as Armed Guard

Just north of the Naval Air Station is the Ward Island Naval Air Technical Training Center, one of the few naval training bases which include a radar school.

As one of the most important and confidential centers of its kind in the country, Ward Island bristles with armed guards. Chief Security and Intelligence officer at Ward Island today is Ensign Grace E. McKee. Miss McKee is typical of the startling types



U. S. Coast Guard, Official.

On a Recreational Cruise, SPARS Ride Coast Guard Patrol Cutters in Long Island Sound
On a fair day, cadets training at New London, Connecticut, learn the sting of salt air. Sometimes their "jeeps of the deep" take them out when storm signals are up (page 452).

of women to be found in our new feminine services. She is young, tiny, and extremely pretty. You would imagine her as the most likely candidate to become the sweetheart of Louisiana State.

Her job is to supervise and enforce security measures within the technical training compound, lecture students on the business of security, keep check on confidential publications, burn others, set up specific instructions governing the security of all buildings within the compound, take charge of delivering confidential papers to the commanding officer, and about six other things.

Training Women Pilots

Most highly specialized of all women in military service are the women pilots of the Army Air Forces, now called WASPS (Women's Air-Force Service Pilots).

WASPS include all women pilots flying in noncombat operations for the AAF and in flight training under Army supervision. Of

these, the oldest, largest, and best-known group is the ferry pilots, formerly called WAFFS (Women's Auxiliary Ferrying Squadron), who help the Air Forces deliver planes from factory to field.

When women flyers were first called for Army duty last fall, qualifications were so stiff that only about 25 American women made the grade.

Things are different today. Under Miss Jacqueline Cochran, who holds more flying records than most men and was the first woman to ferry a bomber across the Atlantic, a Women's Flying Training Program is forming a pool of trained women pilots for many noncombat flying jobs with the Army Air Forces.

The wide sky of west Texas is filled with streaking planes these days, and in many of them a suntanned girl is at the controls. She has an enviable job in this war picture, but it is no sinecure. Whatever glamour may seem to attach itself to the idea of women flying



U. S. Marine Corps, Official

Women Training at Camp Lejeune Discover One Way the Marines Have Landed

On the paratroopers' flyaway tower, a woman Marine demonstrates a shock-drop harness. At this North Carolina base both women officer candidates and enlisted personnel take basic training alongside Marine Corps regulars.

military planes quietly vanishes in the long, hard pull through training and in weather-drawn, travel-worn days to follow.

It takes six months to turn out a woman pilot to Army specifications. Training life is similar to that of regular Army aviation cadets, except for the omission of combat flying and gunnery. Graduation means silver wings and assignment to an Air Transport Command field, where WASPs live the lives of regular Army ferry pilots, or to some other post of noncombat flying operations.

"Imagine getting paid to fly ships like that!" said Dorothy Scott, one of the original 25 WASPs, now attached to the Fifth Ferrying Group. We were looking across rain-drenched Love Field in Dallas, Texas, at a neat row of P-51's.

To the right and left were planes of all types—Liberators, Fortresses, advanced trainers, P-38's, all sitting along the runways like bedraggled ducks waiting for the ceiling

to lift so they could take to the air again.

I was glad it rained. The girls would have been off "on orders" if it hadn't. Florinne Miller, squadron leader for the Dallas group, led the way through the operations rooms of A.T.C. flight headquarters. It looked complicated, but she showed how the business of checking pilots and ships in and out has reached assembly-line methods.

The "Homeless WASP"

The WAVES had a song which mentioned the "homeless WASP." They weren't kidding. There is scarcely an airport in the United States that these girl flyers haven't touched.

They have crisscrossed the continent thousands of times, stopping at remote little towns or big cities for a few hours rest before going on. After several months of puddle-jumping and haystack-hopping, they have made up a log of what towns not to get stuck in.



A.A.P.A.F., OFFICIAL

National Geographic Society Trustee Presents Wings to a Flying Daughter

Rear Admiral L. O. Colbert, Director of the Coast and Geodetic Survey, proudly pins silver wings of the WASPS on daughter Mary Lou. She was one of the first class graduated in Houston, Texas, last April under the Women's Flying Training Program of the Army Air Forces. Silver wings are personal gifts to all girl Army flyers from Jacqueline Cochran (in print dress), Director of Woman Pilots of the AAF.

"Occasionally we forget where we are," said one of them, "and we'll wind up looking for a restaurant that someone knows is just around the corner, but which usually turns out to be in another town."

When a ship is delivered, ferry pilots get back to their bases by the fastest means possible. Their transportation priority ranks next to the President's.

Routine Can Be Heroic, Too

Most of the jobs done by our women in service are far less engaging.

The WAC who wanted to follow her husband into North Africa is a clerk at an Army post in the Midwest. The French girl who dreamed of being among the first to reach her homeland is teaching history at Fort Oglethorpe—WACs with families in occupied countries cannot be exposed to capture.

Ann Bernatitus wants to get back to the battle front; she is at the dispensary in New Orleans.

It's hard to stay on the home front when your heart is over there. It's tough to be a yeoman when your energy is equal to a torpedo boat. It's not easy to be a woman at all when you want to fight with your bare hands.

These American women in uniform are doing the next best thing. They are no dreamers in shining armor. Of the 98 percent who want to get overseas, most of them know there is only a slim chance of making it. Their desire to serve can never be more than partially fulfilled, but they are willing to stand by, just in case.

In the meantime, theirs is the biggest job of all—learning to do the unheroic, to serve where needed.

Through Paraguay and Southern Matto Grosso

BY SIR CHRISTOPHER H. GIBSON

With Illustrations from Photographs by Fenno Jacobs from Three Lions

PARAGUAY, nestling in the heart of South America, and southern Matto Grosso, which adjoins it, can be approached from Buenos Aires by river, rail, or air. The country has to thank Pan American Airways for the latter innovation. As there was plenty of time at our disposal, we decided to take the longer river route.

A few miles above the town of Corrientes, the Paraná divides into its two great branches: the upper Paraná, forming the southern and eastern boundaries of Paraguay, and the Paraguay, which runs almost due north, far into the unknown back blocks of the Brazilian State of Matto Grosso. The plan was to make a wide circuit and return by the upper Paraná.

We proceeded leisurely up to Asunción, capital of Paraguay (map, page 461).

The city lies behind a hospitable, red-faced bluff, overlooking a placid bay sheltered from the river current. In days gone by it had the honor to rule all the Río de la Plata provinces, though distant 1,200 river miles from the ocean.

Today it possesses an Old World atmosphere which many other South American cities lack. Historical associations, charmingly mellow setting, old-fashioned colonnaded buildings, and sunny climate give it a reposeful air.

The mass of Government House stands out boldly on the water front, a reminder of by-gone splendor during the López and Madame Lynch régime. On the quayside river steamers are loaded with citrus fruits, yerba maté (Paraguayan tea), cotton, timber, and canned meat, chief products of the country.

Behind the city undulating, forest-clad country unfolds. The open emerald-green pastures blend harmoniously with the darker green of the trees and Devon-red soil of the roads and tracks. Near at hand flowering trees and shrubs form splashes of bright color; in the distance everything merges into an indefinite, bluish haze.

Across the river lies the flat Chaco Boreal, its banks a tangle of palms, forest, creepers, and lianas; mysterious, alluring, faintly menacing.

As we wanted to get down to our real business of property and livestock inspection, we determined to enjoy only a short trip round Asunción.

As we made our way up Calle Palma, the Fifth Avenue of Asunción, pedestrians jostled each other on the shady side of the street. The picturesquely clad women, straight-backed, barefooted, carrying loads on their heads, and the men, small of stature and small-featured, all possessed those high cheekbones, olive-tint complexions, and sad expressions which are so typically Paraguayan.

Wars Took Heavy Toll of Men

Small wonder, for Paraguay has had a poignantly tragic if romantic history. Plunged into a five-year war by the dictator Francisco Solano López, it was only in 1870 that hostilities ceased with his death. By that time virtually all the wealth of the country had perished, together with at least half the population and nearly all the able-bodied men.

Just when progress was beginning to make real strides, dispute with Bolivia over the Chaco region plunged the country into another terrible conflict (1932). For Paraguay, with meager resources and population of fewer than a million, the sacrifice was tremendous. History repeated itself. The country was crippled financially, and many men were lost.

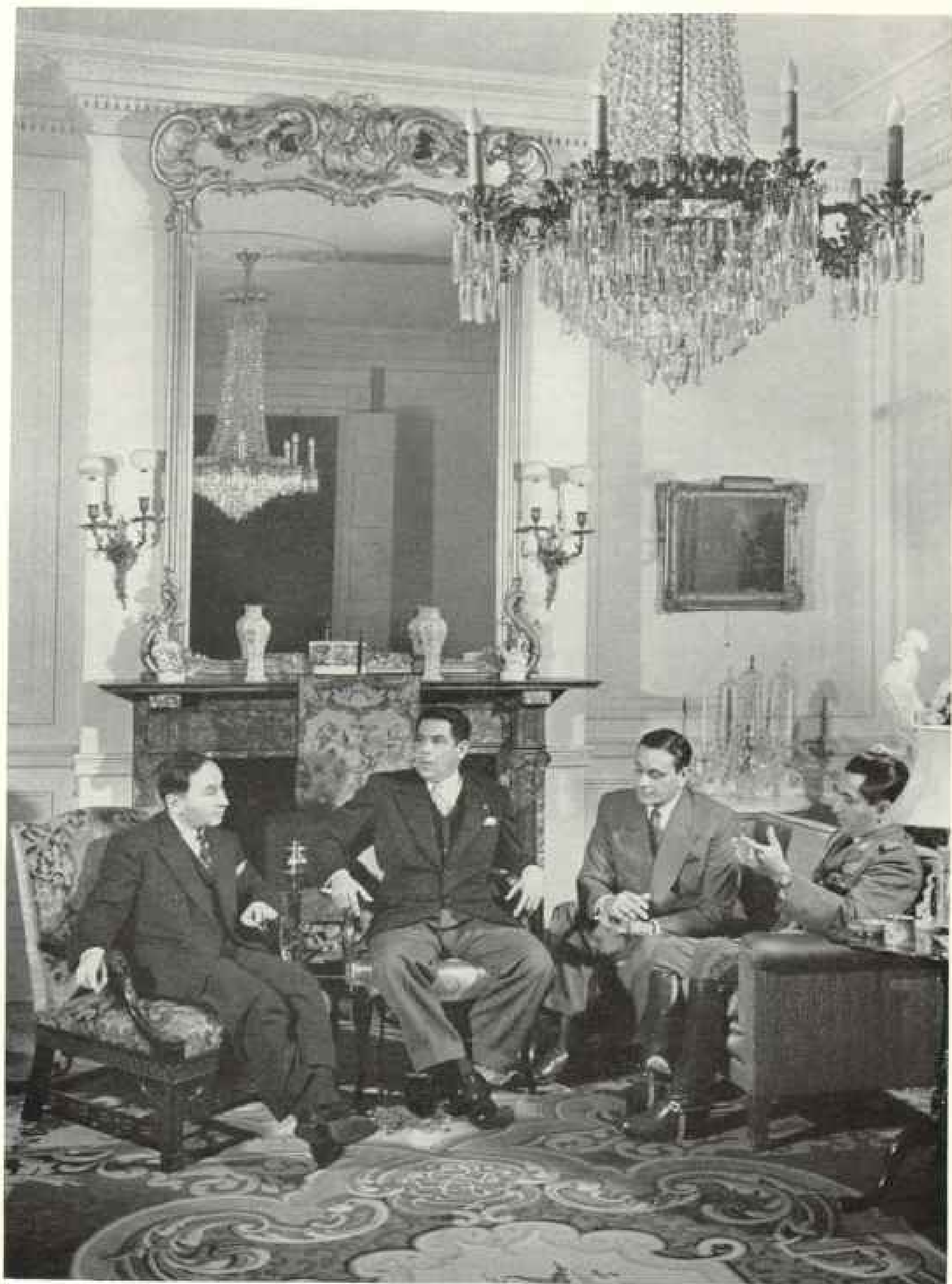
Continuing our stroll, we heard on all sides the soft accents of Guarani, the tongue of the Paraguayan Indians, for that language is used in preference to Spanish. Electric cars clanged along noisily. A few automobiles mingled with the bullock carts and donkeys, the latter always ridden by women going to, or returning from, the open market place.

Bestowing an admiring glance on the fine church of La Encarnación, recently completed, we entered the market.

This is the real pulse of Asunción. Battles are refought; endless tales are told of the powerful Francia, who built up his country into a mighty nation, and of López the Second, who wrecked it. After the placidity of the streets, the chatter of thousands of women haggling over their wares was overwhelming.

Optimistic maidens tried to burden us with fruit, slabs of very dead-looking fish, exquisite *ñanduti* lace (we liked this and bought some), pottery (the statuettes were excellent), celluloid combs, hats of plaited palm leaves, cigars of repellent appearance, pet monkeys, and livestock.

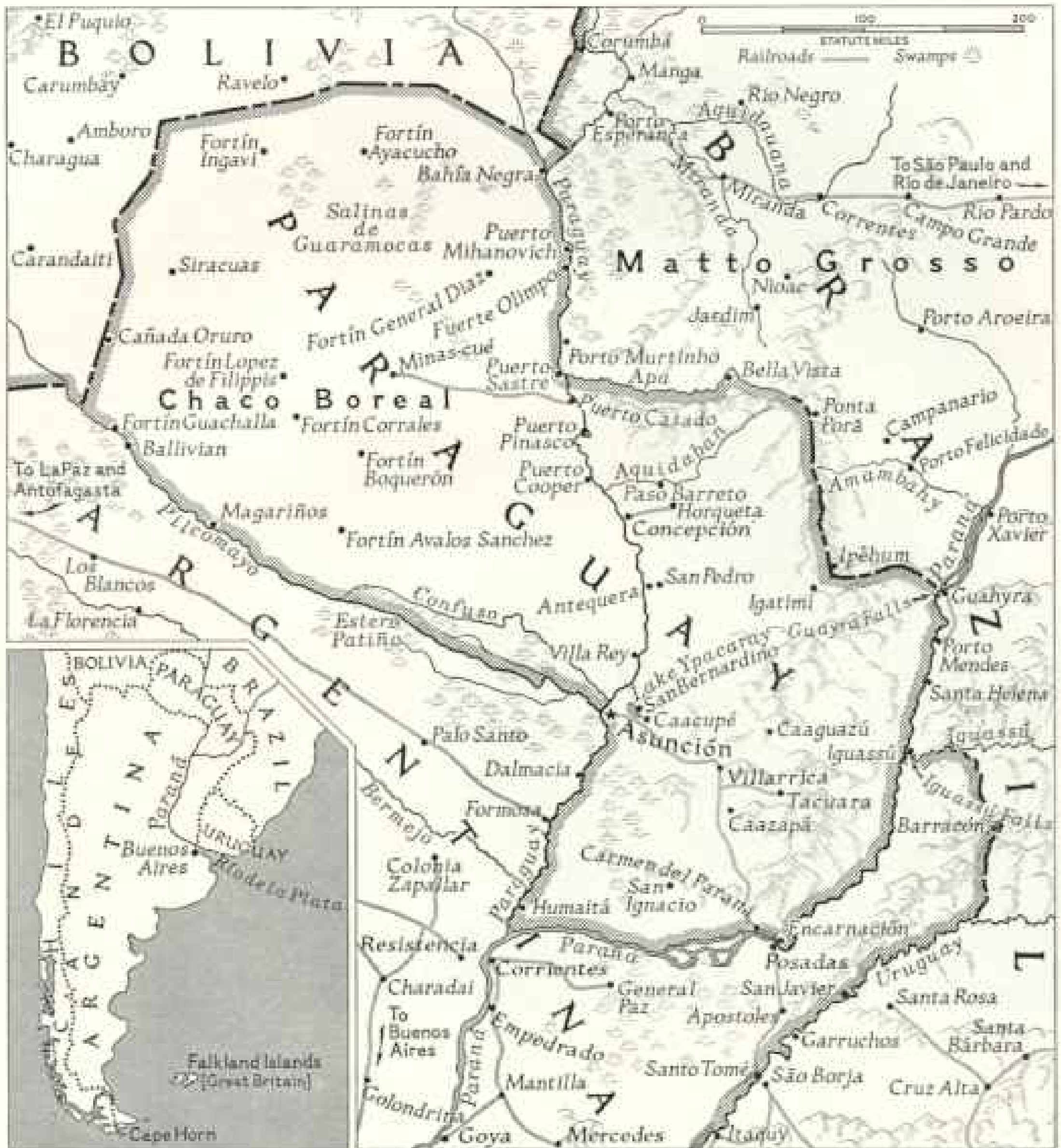
The mischievous eyes and purposely obtuse understanding of the damsels rendered our



Staff Photographer R. Anthony Stewart

In Washington, Paraguay's President Stops at Blair House, the White House Guest Annex

Gen. Higinio Morinigo, recently elected to a second term, is seated second from left. With him (left to right) are Luis Argaña, Minister of Foreign Affairs, Rogelio Espinoza, Minister of Finance, and Lt. Col. V. Benitez Vera, representing the Paraguayan Army. Paraguay has severed relations with the Axis.



Landlocked Paraguay Is a Maritime Nation—a Vast River System Links It to the Sea

plight all the more embarrassing. At length, utterly demoralized, we beat a swift retreat to the calm of the plaza and took a seat in the shade of the *chivatos*, similar to poinciana trees, blazing with their scarlet, orange, and yellow blossoms.

The Great Waterway and Its Fish

Afternoon found us aboard a comfortable little river steamer, northward bound for Concepción. The beauty of the changing waterway was an ever-increasing wonder. The sun beat down, turning the water to molten metal. Later, at sunset, the river reflected an almost

indescribable galaxy of colors, changing, as night approached, from an extreme blood red to an intensely deep indigo which merged with the background of hazy forest and afterglow of apple green. Perfect peace reigned.

The water was unruffled, glasslike in its smoothness. Only the sharp prow of the vessel or the occasional leap of a fish disturbed its surface. Flocks of bats skimmed over the river in their silent search for insects.

Concepción is a tidy little town, typical of Paraguay with its red earth roads, orange groves, and sleepy air of repose. Facing it lies the island of Chaco-i, meaning "Little



Yerba Maté Is Sipped from a Gourd through a *Bombilla*

Paraguay's national beverage requires a special set of drinking implements. This Asunción girl demonstrates them. The tube is usually of silver. The tea is brewed from leaves of the yerba maté tree. It is popular in Argentina, Brazil, and Uruguay, and has been introduced in the United States.

Chaco," a low-lying piece of land to which a few poor people return after the memory of the last flood has faded from their minds. On the farther side of the island lies the Chaco itself.

Some years ago Concepción was a brisk shipping center, bullock carts converging there from many interior places and from southern Matto Grosso with their loads of yerba maté for export. But now the Brazilian Federal railway, terminating at Porto Esperança farther north, and the development of the upper Paraná as a shipping route have killed the bulk of Concepción's trade.

About 35 miles inland is Paso Barreto, home of the mother of Gen. José Félix Estigarribia,

hero of the Chaco War. He was elected President of the Republic in August, 1939, but 13 months later was killed in an airplane accident.

At the foot of the home flows the Aquidaban, a glorious stream, forest-girt, whose shallow waters gurgle musically over their stony bed. Hereford cattle graze peacefully on the gentle, palm-studded slopes of the hills, whose summits are crowned with dense woods of pink-flowering *lapachos*.

Before crossing over to the Chaco, we decided to try our hand at fishing, for Concepción is one of the "good spots." The dorado, South America's premier fresh-water game fish, provides grand sport. Somewhat similar to the salmon in shape and in many characteristics, though in no way a biological relation, he is stronger and fights more hardily, flashing high and golden into the sunlight as he shakes his head fiercely to dislodge the spoon.

The *pacú*, excellent to eat, is another sporting fish. Catfish and "mud flappers" range from the gigantic *manguruyú* of 200 pounds to the tiny *mandí*, no larger than a sprat.

Swarms of the little cannibals, piranhas, largest of which weigh about three pounds, infest most of the waters in tropical South America (page 484). Their bulldog jaws possess immense power. With their razor-sharp triangular teeth they cleave away flesh and gristle with a single snap. Utterly fearless, upon scenting blood they immediately pile onto the unfortunate victim, be it fish, man, or fowl, and strip his bones bare in the twinkling of an eye. Often they will attack a rash bather without the provocation of blood.

Anywhere north of Corrientes, however try-



El País (The Country), Asunción's Evening Paper, Posts News Bulletins

"Embudo," title of an Argentine motion picture, means "Enchantment." The sign, strung across the balcony rail, announces the opening at the Municipal Theater. Wartime has developed a tremendous increase in news dispatches between the United States and all Latin-American nations.

ing the conditions, my rule is: "Bathing, paddling, and dabbling strictly prohibited!"

In attempting some short description of the Chaco, I am filled with dismay. So much can be said. For the Chaco is a strange mixture of friendly charm and unexpected hostility; of thorny plants, terrible insect pests, and beautiful butterflies; of miasmal heat, bitter cold, and glorious autumn days; of deadly snakes and a vast array of exquisite birds.

The word "Chaco" itself has been taken to mean "hunting ground," an accurate description of the land. Geographically and climatically, it differs utterly from eastern Paraguay. From the river steamer you look out on two distinct countries, separated physically only by a ribbon of water.

The undulating, hilly red soil of Paraguay which will "grow anything" gives place to the vast, flat, marshy, silt-covered expanse of the Chaco, clad in forest; to long, coarse grasses and scrub. Seldom do you get a horizon of more than 200 yards.

Nomadic Indians roam its mysterious thickets; queer animals and birds abound. Yet most of the flora and fauna are indigenous to both territories.

Forests of "Ax-breaker" Trees

As you penetrate westward, the Chaco rises very gradually toward the foothills of the Andes. Handsome quebracho (ax-breaker) hardwood trees, from which tannin is extracted, and native only to the western bank of the river, are replaced by a more stunted, scrubby growth (page 479). The fine grazing lands of the riparian zone, where the annual rainfall is about 50 inches, imperceptibly merge into drier, more barren country.

On the south the Pilcomayo River divides the Paraguayan Chaco from its Argentine namesake. A strange waterway is the Pilcomayo, navigable at each end. It loses itself in a colossal swamp—oozing, foul, insect-ridden Estero Patiño, mostly unsurveyed.

One gets, then, the picture of a strip of land bordering the Paraguay River, a network about 50 miles wide of creeks, swamps, and sluggish streams, divided into great paddocks in which range the mighty herds of native cattle and bestrewed with a handful of ranches, widely spread (page 476).

At one place an ill-defined track meanders away to a mission station; at another a narrow-gauge line pokes out a skinny finger in the interests of a quebracho company; at a third a cattle breeder fences in a more distant slice of land for his increasing herds. But for the most part the back blocks remain virgin and undeveloped, a land for pioneers.

An extract from my diary is typical of many other Chaco entries:

"We reached the outpost, a filthy, flea-infested hovel, at sunset. Unable to face the 'house,' I spread my saddle on the ground outside, rigged up my cheesecloth mosquito net over it, and spent the night like that.

"Sleep was out of the question. Vampire bats, obscene evil creatures, kept fluttering round, clinging to the net, trying to force an entrance. As they usually attack man in any exposed extremity, I was very careful to keep as far from the net as possible.

"Clouds of mosquitoes kept up an incessant hum; the jungle was full of eerie noises. Jaguars grunted constantly; the pheasantlike chachalacas suddenly started a raucous clatter that was taken up by every individual and echoed queerly into the distance.

"Caymans (alligators) 'woof-woofed' in a near-by swamp; a *ñacurutú* eagle-owl gave its bloodcurdling, unearthly snore at intervals; a species of nightjar, picturesquely known in Guaraní as *chexy-jhary*, or the 'soul of the old woman,' moaned disconsolately.

"Finally a bell frog let off an ear-splitting peal just by my head, and made me jump so violently that I nearly brought down the mosquito net on top of me.

"I couldn't stand it any longer. It was three o'clock, so I decided to face the insect-ridden shed that did duty as kitchen and brew some maté.

"The moon rode serenely in a cloudless sky; a little later the morning star rose, sparkling like a live jewel. A rattle of maize in a bucket and the soft call of 'ko-ko-ko!' brought the horses trotting up to be saddled. They had been bitten badly by vampires, in the usual place behind the withers, but the wounds were soon washed and disinfected.

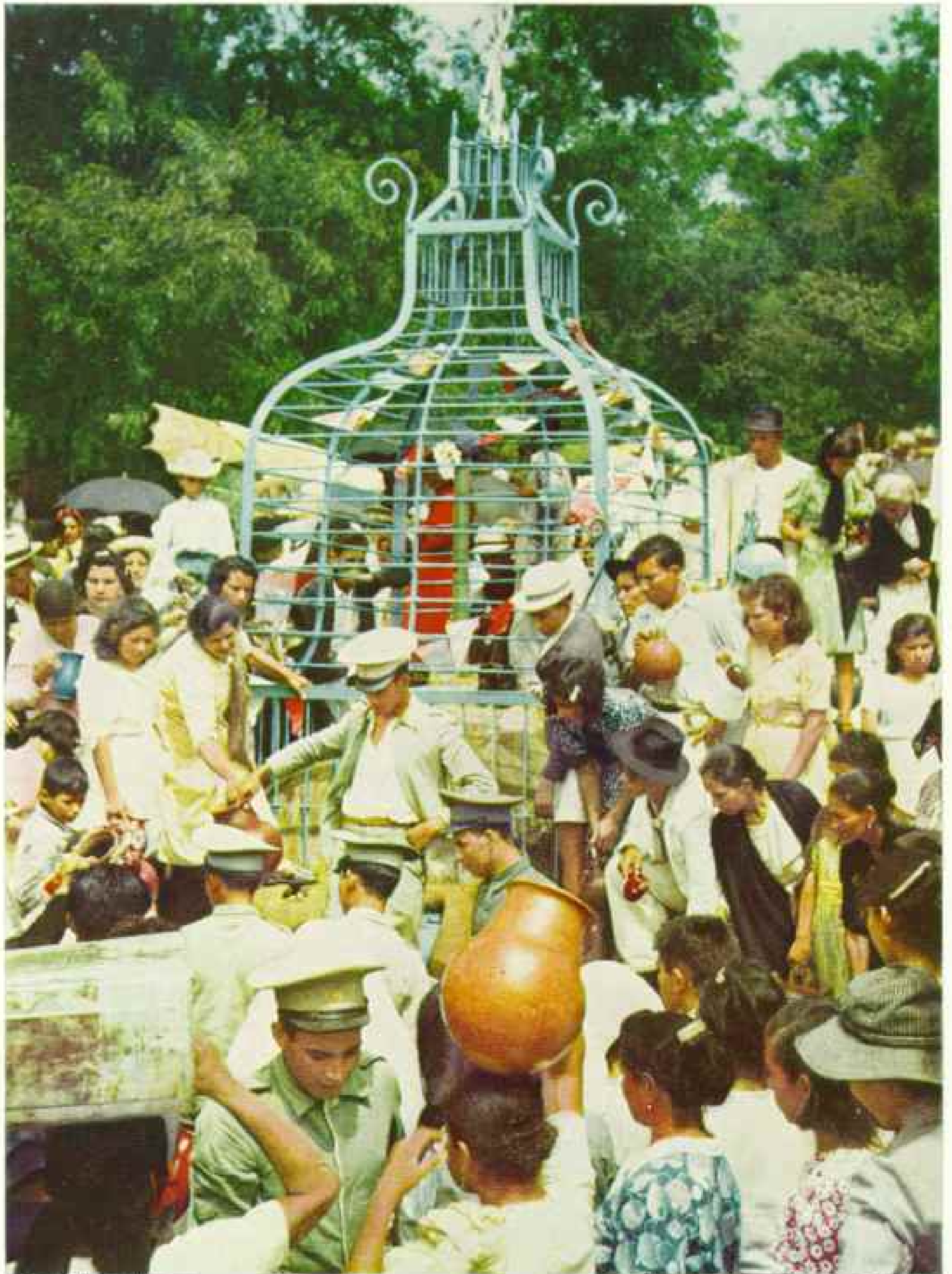
"Gradually the east paled; then daylight rushed upon us, and up came the glorious sun heralded by a fanfare from the birds. All the uncertainties and discomforts of night were wiped out at a stroke.

A Boundary Rider in "Green Hell"

"Shortly after setting out, we were met by a boundary rider, a businesslike figure as he sat his flea-bitten gray. The man was leather-aproned and leather-legged, with huge spurs on bare feet. His maté gourd and hold-all were strapped to the saddle behind him. After greeting us, he made his pithy report.

"That big dam in West Paddock has dried up, Señores. I knew that the contractor who made it was no good. I have had to open up the fences, and now the cattle we have worked so hard to classify are boxed again.

Color Cruising in Paraguay

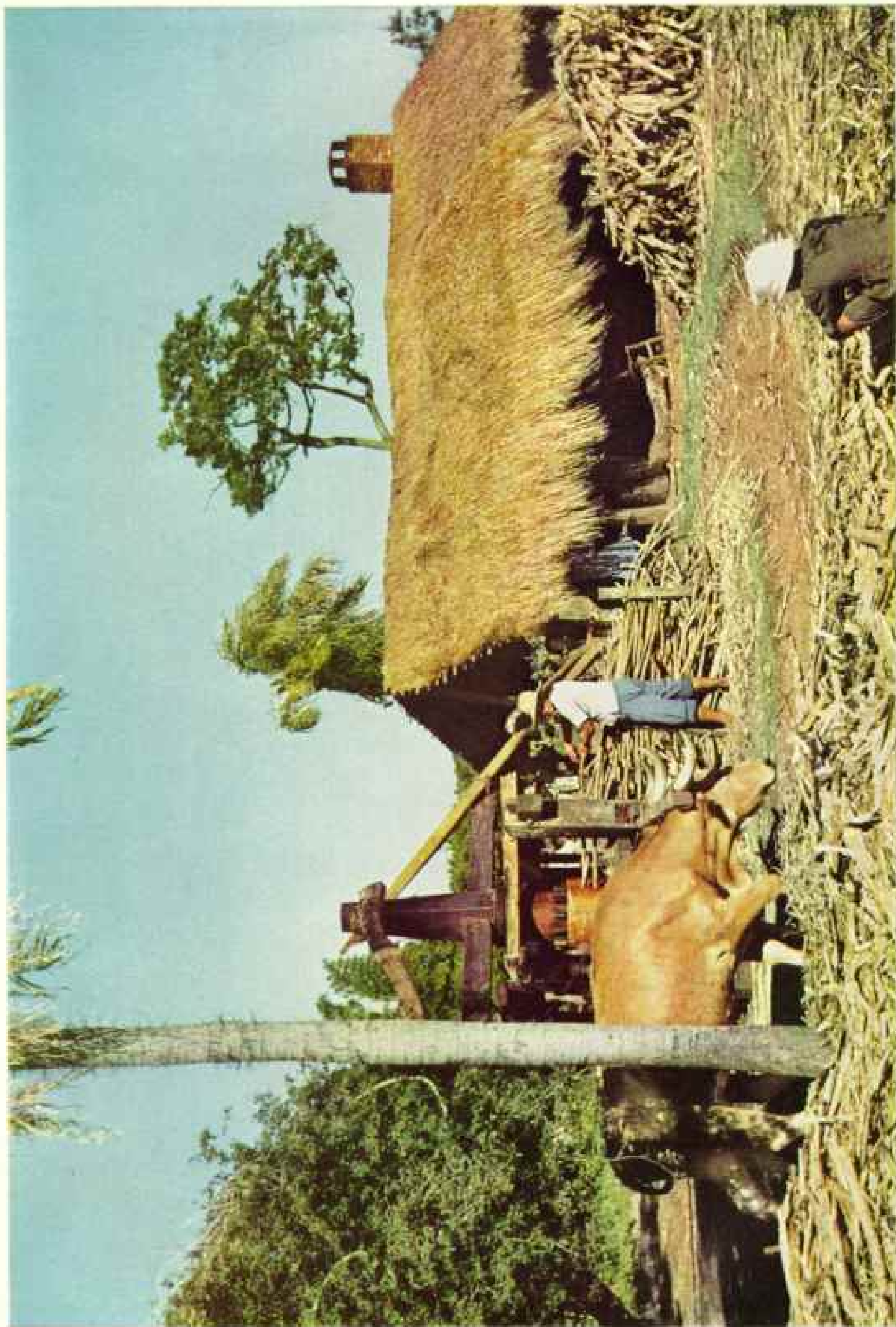


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Kodachrome by Frank Javna from Three Lions

Devout Paraguayans Drink from a Cage-enclosed Well on Fiesta Day

Dressed in holiday best, Caacupé townspeople crowd about the soldier who fills their jars, big and little. They are observing the annual festival of the Caacupé Virgin. Legend tells that the well is on the site where a saint performed a miracle long ago.



© National Geographic Society

Illustrations by Frank Johnson from *Three Little*

Beneath the Blazing Tropical Sun a Primitive Sugar Mill Still Crushes Cane by Ox Power



© National Geographic Society

Asunción Market Is a Vegetarian's Delight

Barefoot vendors bring their own produce to town. Some shade their heads, but let the sun beat down on corn and tomatoes, melons and onions.



Reproduction by Ferns J. Hobbs from *Thru the Lanes*

Gaudy Souvenirs Brighten a Market Corner

Assorted toys, jugs, baskets, and saints' figures await Asunción buyers. No two are exactly alike in color or design.



Colonial Simplicity Marks the House of Congress at Asunción

On the site of the old *Cabildo*, or town hall, the Congressional Palace also houses the Ministry of Interior. The tree roses, foreground, are a special botanical development.



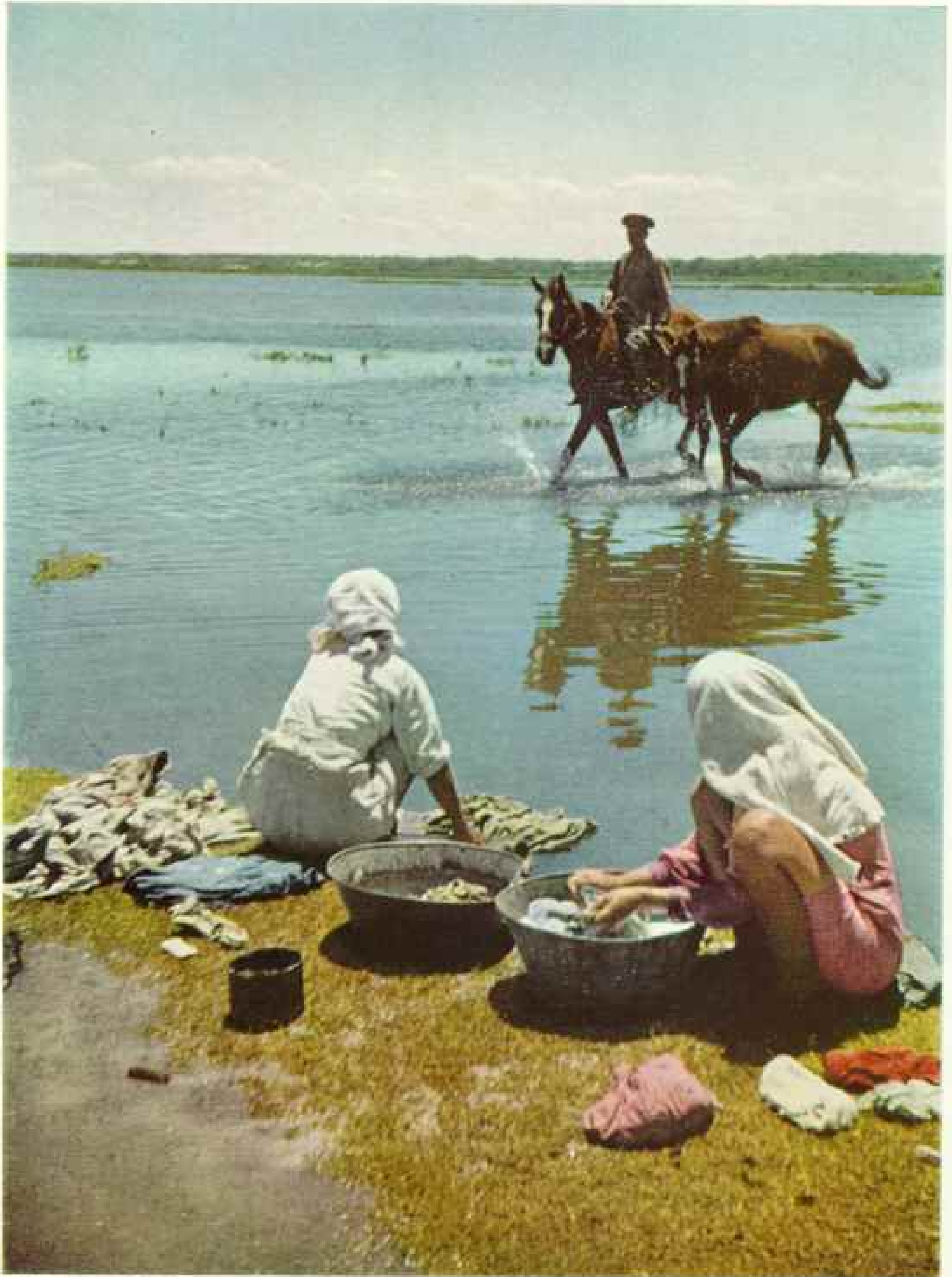
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Reproduction by Permiso from Three Lines

Time and Traffic Slow Down in Rural Paraguay

The white, tree-framed *ranchito*, with red-tiled roof, is typical of better-class country homes. A cross, such as that at the right, usually denotes the scene of an accident or other local tragedy.

Color Cruising in Paraguay



© National Geographic Society

Reproduction by Peris Jacobs from *Three Lions*

Beyond the Paraguay Lies the Chaco (Hunting Ground)—Alluring and Mysterious

A tangle of palms, creepers, and lianas covers its banks. Indian nomads roam its thickets; queer animals and birds abound. On the Asunción side, foreground, are the fertile, developed plains where most of the Paraguayans live. The leisurely rider is taking Army horses to a bathing spot.



© National Geographic Society

Coloboma W. Paine-Jacobs from *Three-Lines*

Like a Ballroom "Paul Jones" Is This Traditional Indian Dance

Workers in the American quibracho factory at Puerto Pimaco, on the Charo side of the Paraguay River, stage a show for the manager and his photographer guest. Their reward was a feast provided by the company.



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"At Home" in a Covered Wagon

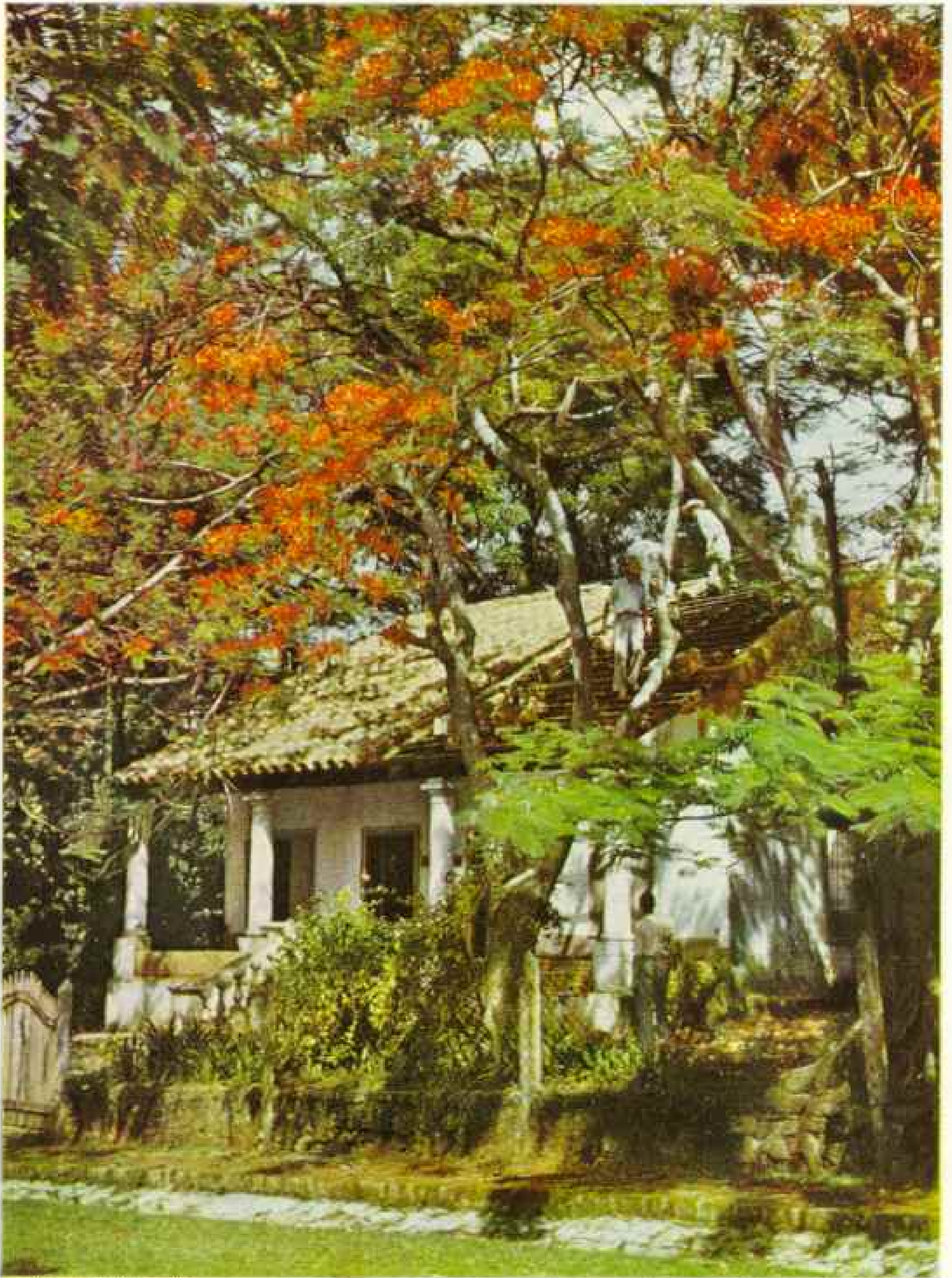
These country folk are attending the Caacupé-Virgin fiesta (Plate 1). Often they live in their ox-drawn, hide-topped wagons.



Reproduced by Perm Jacobs from *Tappe-Liana*

Through a *Bombilla* She Sips Paraguayan Tea

The pungent national drink, made from dried leaves of the yerba maté tree, is served in a vegetable gourd.



© National Geographic Society

Kodachrome by F. P. Jones from Three Lions

Tile Roofers of San Bernardino Work in the Shade of a Flamboyant Tree

On Ypacaray Lake, 16 miles east of Paraguay's capital, the town was originally a German settlement. Now it is the country's smart pleasure resort. In recent years many handsome residences have been built in settings color-splashed with brilliant tropical trees and shrubs.

"Jaguars, too, have been causing some damage among the calves. There is a big fellow with a spoor as large as an elephant's. I have been hunting him for days, but he has been too cunning for me and has got one of my best dogs into the bargain."

"I have always maintained that one must never be surprised at anything that may happen in 'Green Hell,' but this morning I was hard put to it to remember my own advice.

"For, no sooner had we left the boundary rider and topped a rise of ground, than suddenly the most exquisite panorama lay before us. From the everlasting forest and palm the whole nature of the country had changed and was utterly un-Chacolike.

"Below us gleamed a narrow, horseshoe lagoon, barely a hundred yards wide. High, parklike land stretched away on either hand, studded with stately trees that grew down to the water's edge. Here and there tall palms thrust up feathery heads.

"The whole place teemed with bird life. In the crisp, still air, with early-morning sunlight glinting on placid water that formed a perfect mirror for tree-encrusted shores, the combination might have been a picture straight out of fairyland. Whereas Palo Santo swamp [referring to another entry] had been tremendous and impressive, this was infinitely more cozy and friendly.

"Old 'daddy' jabiru storks waded about sedately or stood asleep on one leg; a heron remained motionless until with swift dart he speared a fish; a flock of snowy egrets observed us with lazy interest.

"Here a group of *pato real*, or Muscovy ducks, preened themselves at the bank's edge; there some Brazilian teal and whistlers squabbled noisily in the water. Long-toed jaçanas chit-chattered fussily all over the shop; crested screamers lumbered off with their loud, melodious cry of 'chahalee-chahá!'

"Roseate spoonbills were content with looking beautiful, while gull-like skimmers cruised along slowly just above the surface of the water, intent on their breakfast.

"Kingfishers, bitterns, water hens, plovers, ibis, and herons—mostly of many species—completed the glorious array of water birds.

A Panorama of Birds

"But if the lagoon presented such a delightful sight, the banks and surroundings were even more fascinating. A black, red-crested woodpecker cocked an inquisitive eye from behind a tree trunk; toucans stared down their ridiculous beaks at us superciliously; a sickle-billed wood hewer suddenly popped round from behind a palm post, and

after a quick, bright look, popped back again.

"Vultures circled like specks in the vault of the blue; ungainly chachalacas fled from tree to tree, almost overbalancing as they alighted. A large blue tinamou ran across the trail; blue- and yellow-breasted jays squawked off at our approach.

"Everywhere hung the beautifully woven nests of the orioles. Several species of parrots or parakeets chattered in the palm tops; a clump of *aromita* bushes, a variety of acacia, was full of cardinal finches and cowbirds, singing wonderfully. Little firecrests, woodpeckers, wood hewers, widow birds, tyrants, cowbirds, finches, pigeons, doves, humming birds—an infinity of little birds—vied with each other in their paean of praise to the glory of the morning.

"On one solitary tree perched black vultures, redheaded vultures, an aloof king vulture with his dirty white coat and turkey gobbler's head; eagles, falcons, and hawks. It might have been the bird-of-prey aviary of the zoo, dumped down there without its cover.

"So concentrated was all this bird life that it seemed like some supersanctuary of the future, set in perfect surroundings by a master artist. The only thing that jarred upon the sensibilities was the sinister snout of a cayman showing occasionally just above the surface of the lagoon. The whole effect literally made me gasp with pleasure, and formed a picture I shall never forget."

Flood and Forest

A few days later we disembarked at the tiny settlement of Porto Esperança, railhead of the Brazilian Northwest Railroad.

I had almost used the word "landed," which would have been highly inappropriate, as it was the flood period and everything was submerged three feet or more under water.

Marooned for 24 hours in the upper floor of the inn, we moodily threw stones at the fish cruising in and out of what had been the bar, or watched the activities of the railroad laborers, most of whom were Negroes and half-castes.

The place throbbed with unusual life, for an ambitious scheme had just been launched for spanning the Paraguay with a mighty bridge, extending the railway to Corumbá and from thence to Santa Cruz in Bolivia.

Early next morning we boarded the train, which swayed precariously and emitted little soggy noises as it crawled across that huge submerged plain, 30 miles wide.

In many places the flood was flowing vigorously over the rails, and the embankment was sadly undermined. *Paratodo* trees, bare and



By Christopher H. Gibson

With a Beak Almost as Long as His Body, "Bill" Toucan Accepts a Titbit

Toucans live chiefly on fruits and seeds. Occasionally they enjoy mice and reptiles. They are found only in the Western Hemisphere. This pet is an inhabitant of the Paraguayan Chaco.

gaunt, thrust sparsely out of the water. Shoals of fish shimmered in the vicinity of the culverts; now and then caymans swirled away from the approaching iron monster.

So wild and desolate was the scene that it required little imagination to vision weird amphibians sneaking forth from their primeval slime to do battle with one another.

It is impossible to compute the area of these flat alluvial plains in the Corumbá territory, which usually become submerged during the winter months, for they are studded with strange outcropping hills and ranges that are, in reality, islands. An extremely conservative estimate would be 30,000 square miles.

There is the authentic case of a river steamer which lost its way in a nocturnal storm during the flood period and found itself stranded in the heart of a jungle!

Lest these seem unreasonable statements, it may be remarked that Matto Grosso, densely forested, for the most part, in the north, and extraordinarily like its neighbor Paraguay in the south, has an area equal to about half the entire Argentine Republic.

Suddenly the plain was left behind and we were in the forest-clad hills. As the train climbed and snaked, we found ourselves

hemmed in by a thickly woven tangle of bamboos, ornamental palms, and giant trees festooned with lianas and other vines.

Occasionally we crossed a stream full of darting fish, or skirted a small swamp, its encroaching walls a solid mass of crimson, mauve, and white creepers.

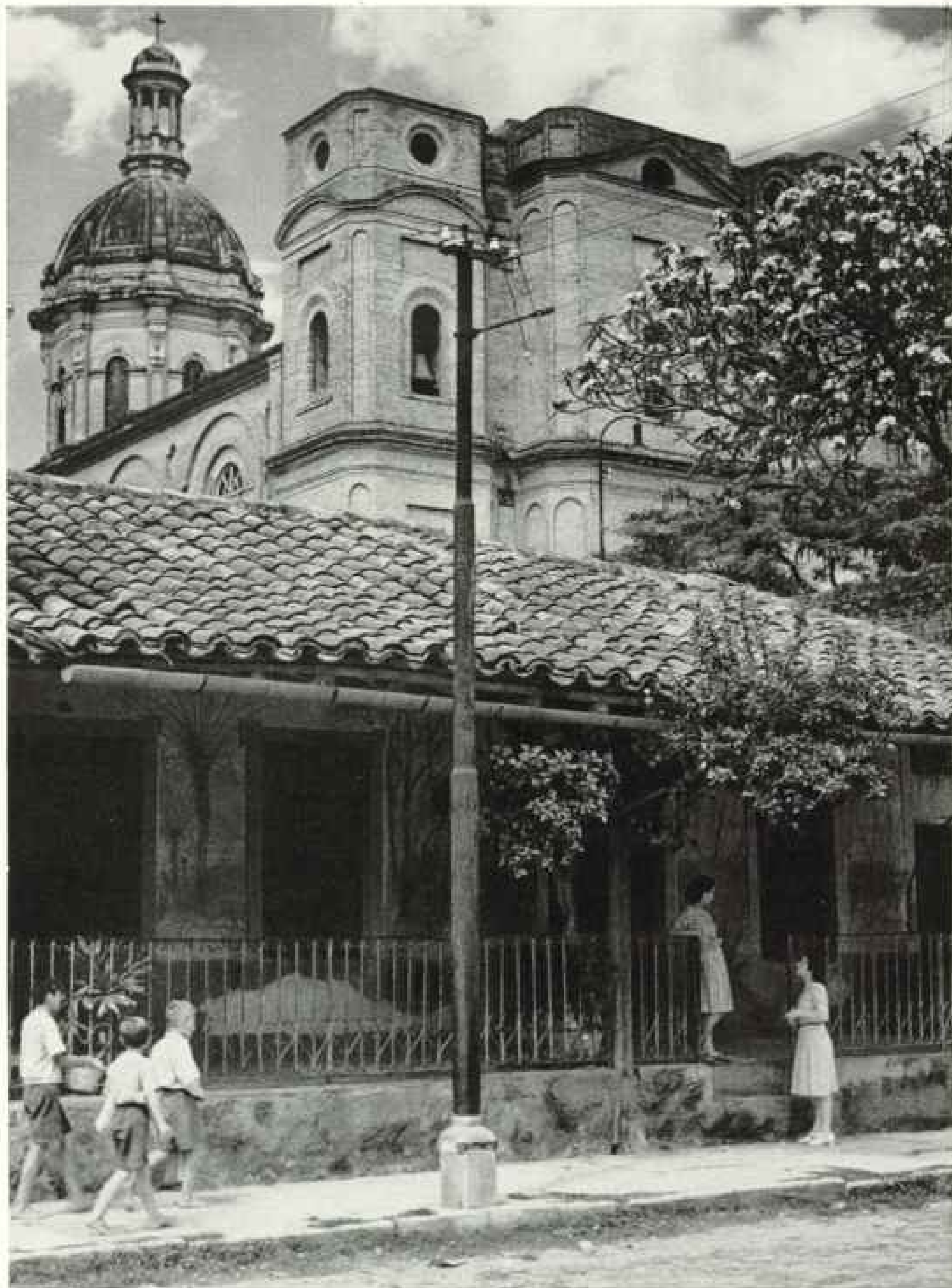
Scarlet and royal blue macaws blazed in the treetops; iridescent trogons flashed through the undergrowth. We gazed, fascinated, for four breathless hours at the riotous scene.

Motoring through a Natural Zoo

A drive of 30 miles over a well-made private road, hewn in a straight line through the forest, brought us to the steading of the property we were about to inspect. Undulating country, with narrow open valleys, surrounded us.

The motor road created a false impression of civilized security. This was quickly dispelled when a band of white-lipped *jabali* (peccaries) streaked across our front, followed a moment later by three deer. Farther on an uncouth giant ant bear was waddling by the roadside, forepaws turned in clumsily, great flaglike tail swinging slowly from side to side.

Before the steading lay a fair-sized swamp, spanned by a hardwood bridge and giving an



A Flower-decked Home Nestles below La Encarnación, Largest Church in Asunción

This edifice, in the heart of the capital, was built to replace an early Dominican structure which burned in 1889. Above the low tile roof, plumeria is in bloom. A jacaranda grows below it. Bougainvillea climbs over the eave. Young ladies follow the latest shoe styles; the boys prefer barefoot comfort.



Between Trees and Cowboys, a Herd of Mixed Breeds Mills in Vain to Escape the Roundup

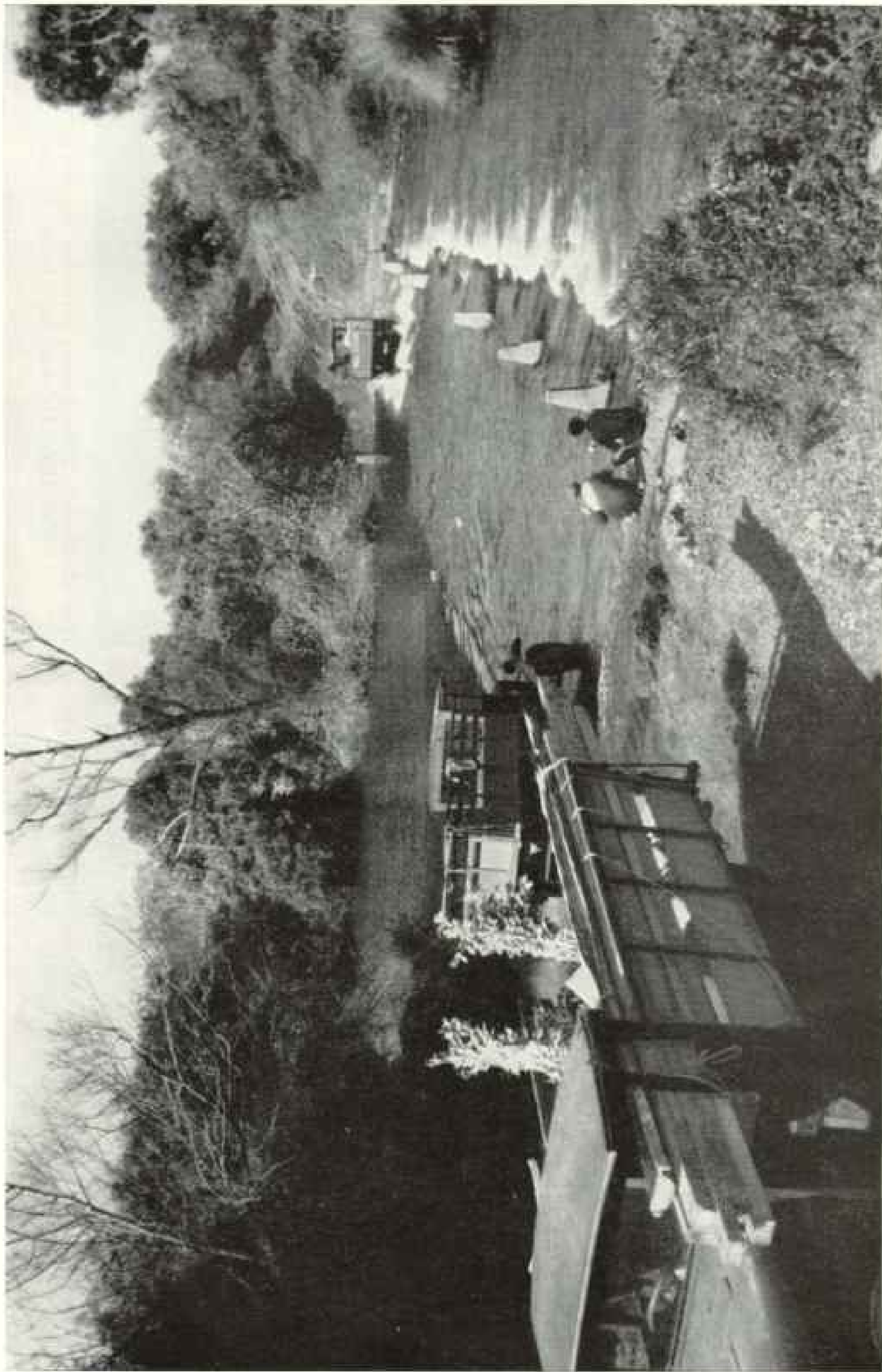
Cattle raising is important in settled eastern Paraguay as well as in the vast scrub and marsh country of the Chaco, where this picture was made (page 464). Meat extract, tallow, canned and jerked beef are leading exports. Hides total almost half a million yearly.



Golden Comb and Earrings Are of Delicate Filigree—The Style Dates from Spanish Colonial Times



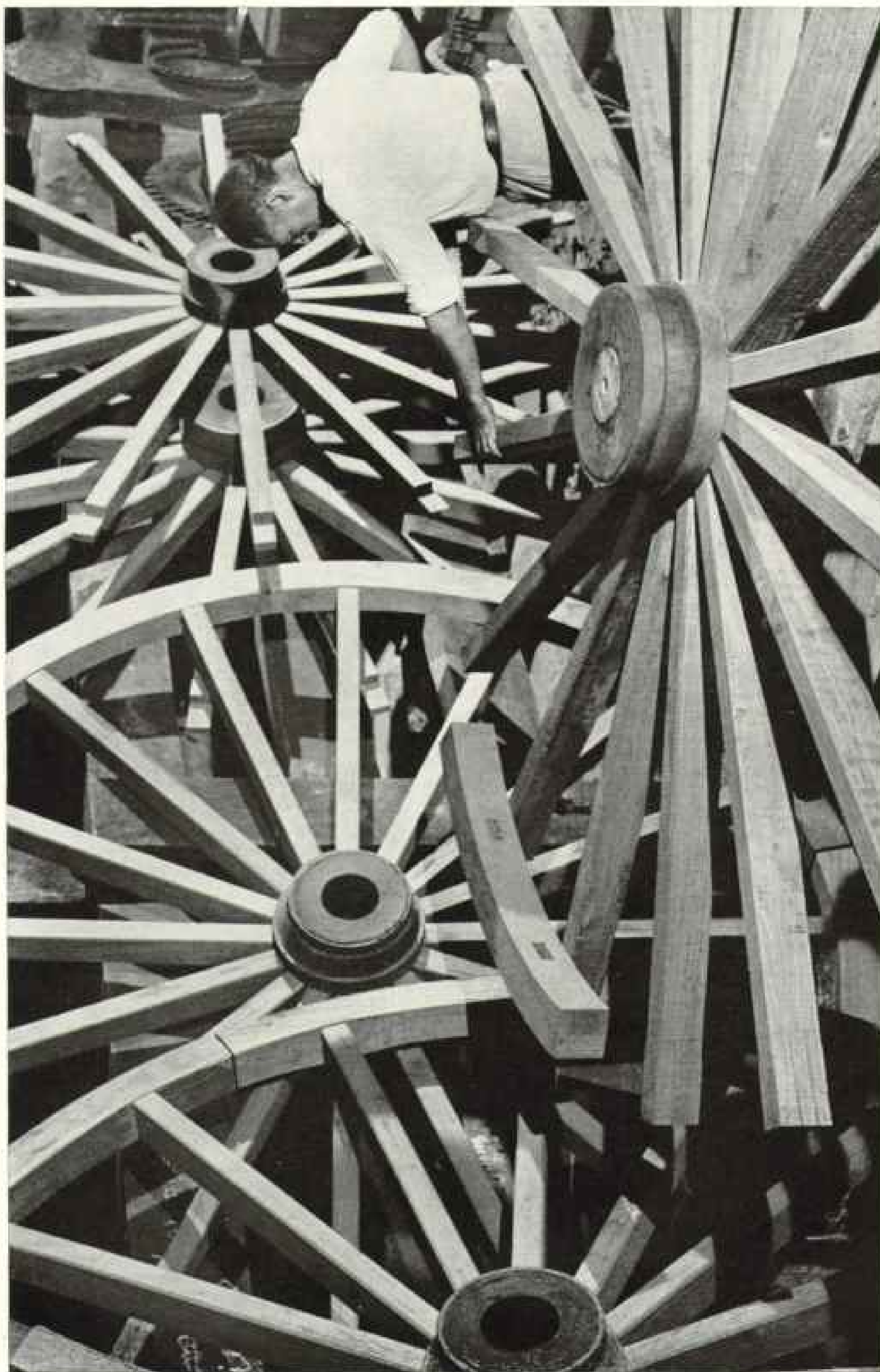
Like Modernistic Fifth Avenue Hats Are the Heron Plumes and White Beads of the Chaco Indian Headdress



Vincent Brown

Guided by a Line of Concrete Posts, Trucks Go Splashing across a River Ford

Dry weather presents no problem, but flood time is likely to stall carburetors and spark plugs. The newest truck carries leafy bundles of yerba mate. (page 462). Lumber is tied to its side. Two men watch the procession in expectation of some excitement.



Giant Wheels for Ox carts Are Fashioned by the Wheelwright in a Quebracho Mill at Puerto Pinasco

This plant, operated by an American company, turns out tanning extract and other wood products. The wheels themselves are often made of quebracho, meaning "ax-breaker." As soon as iron fires have been shrunk over the felines, the new wheels will be ready to carry quebracho from forest to mill.

effect of space and "elbow room" that was all the more welcome after gazing for hours at the close forest ramparts.

Hundreds of caymans lay scattered along the shore, basking, loglike, in the bright sunshine and oblivious of the washerwomen banging and thumping clothes within a few feet of them. Now and then one would grunt sleepily, open an agate eye, and return to its former comatose condition.

Many birds waded near them unconcernedly, still intent on catching the day's food supply. Line after line of egrets was already winging its way in to the night's nesting place, until the trees surrounding the swamp were blanketed in a coat of purest white.

The swineherd was softly blowing his horn, recalling his charges to their sties, away from the danger of prowling jaguars.

Such is Miranda Estancia, a magnificent estate of half a million acres lying within the confluence of the Miranda and Aquidauana Rivers. Here are raised fine zebu cattle, preferred breed in Matto Grosso because of their fertility, hardihood, and resistance to disease and insect pests (page 484).

The zebus were imported originally from India. By a process of careful selection, a type has been evolved which is viewed favorably by butchers and freezers alike.

Extensive cedar and hardwood forests are being exploited more and more as the country develops.

Matto Grosso is rich, too, in gold, platinum, precious stones, manganese, iron, and in a number of other resources which have barely begun to be tapped.

In the extreme south, throughout the affluents of the upper Paraná, the preparation of yerba maté, growing in its natural state over an area running into millions of acres, furnishes many men with employment. But cattle rearing is still Matto Grosso's leading industry, and is likely to continue as such.

"Rough Stuff"

Our visit afforded us everything that we had hoped for. Excellent roads, kept up at considerable expense by the owners, enabled us to finish our inspection work in record time. Shooting and fishing were first-rate.

Sasha Siemel, known as the "Tiger Man," who hunts jaguars with a spear, was encamped at an outpost with a couple of guests, each of whom had bagged a jaguar (page 488).

My two sons and a friend of theirs had joined Siemel's party. The younger ones, aged 12, were fired by what they had seen at the outpost. Upon their return they built a little camp in the forest near the house,

situated on a "mysterious" creek, in successful competition with Siemel's.

Here they cooked and ate unspeakable horrors; they explored and charted the creek for several miles in a crazy dugout canoe. Usual means of locomotion was a cayman which had been lassoed and tied to the prow. If the wretched brute showed signs of slowing up, it would be urged to renewed effort by fagots of wood hurled with unerring accuracy.

As the place swarmed with piranhas and a number of aggressive caymans, my intense alarm may well be imagined. Moreover, the boys picked up enormous quantities of ticks, which we in turn had to pick off each evening.

Nor was this all. My elder boy borrowed one of Sasha's tiger spears and used it as a harpoon on the caymans. Needless to say, they didn't like it and turned distinctly nasty.

Fishing in Remote Waters

A four-hour truck journey took us to the Barra (bar), westernmost extremity of the property where the Aquidauana River meets the Miranda, and in that remote region we enjoyed some memorable fishing.

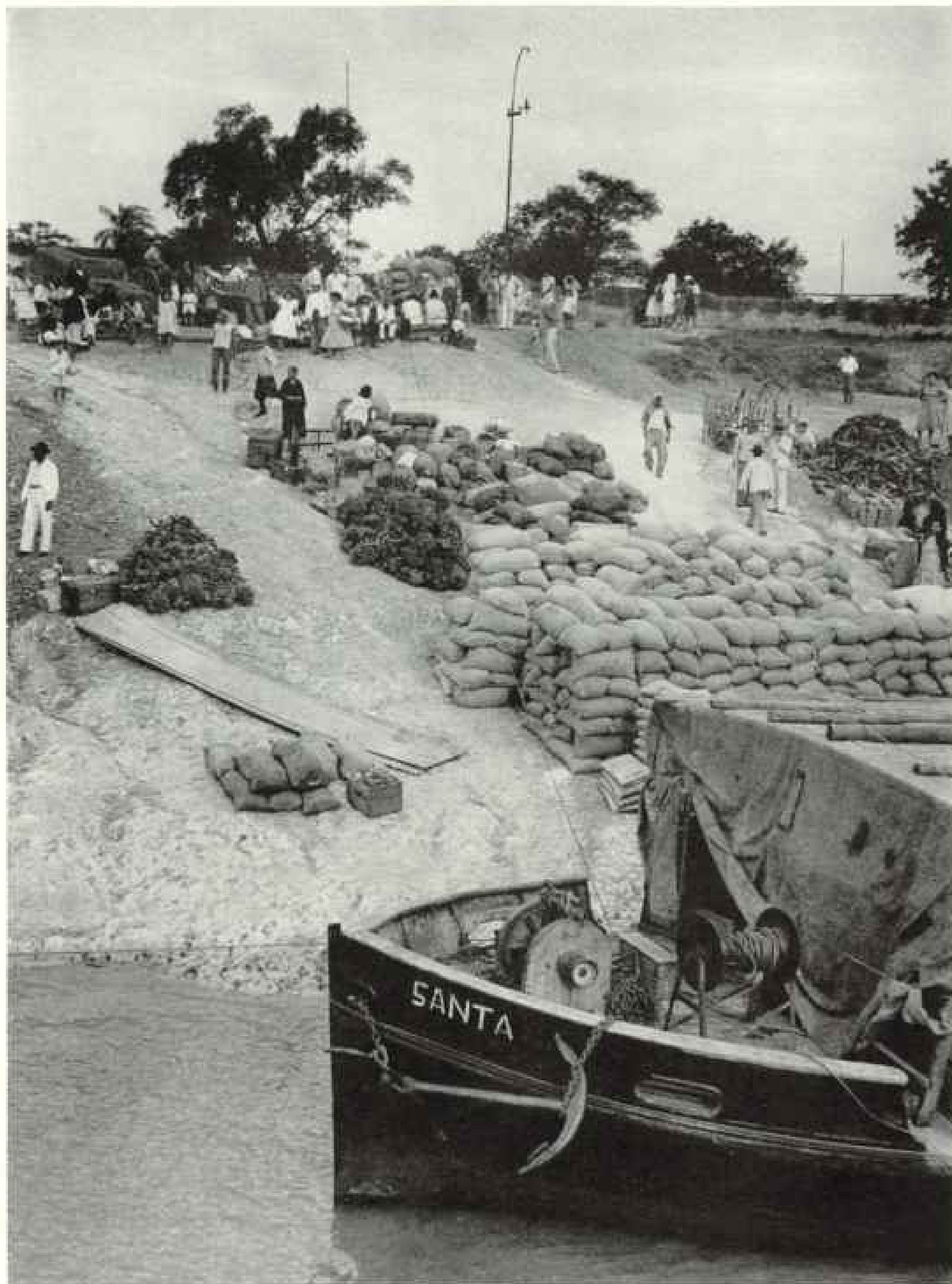
The river level was low. After a full day the boys and I relaxed, and sat watching water birds cruising like miniature motorboats in the shallows.

Just as the sun was setting, that moment which is always so poignantly sad in the Tropics, a strange figure came paddling up the river in a heavily laden dugout canoe, his only companion a dog motionless in the bow. They formed an inexpressibly lonely silhouette, which has engraved itself upon my memory. Pitching his tent on the sandbank opposite our shack, the stranger came across to chat with us.

He proved to be a well-educated Austrian, burned black by the torrid suns. For the last ten years he had roamed all the waterways of Matto Grosso, eking out a precarious livelihood by hunting capybaras (the largest existing rodents) and otters and subsisting mostly on fish. He would not have changed that queer existence for worlds.

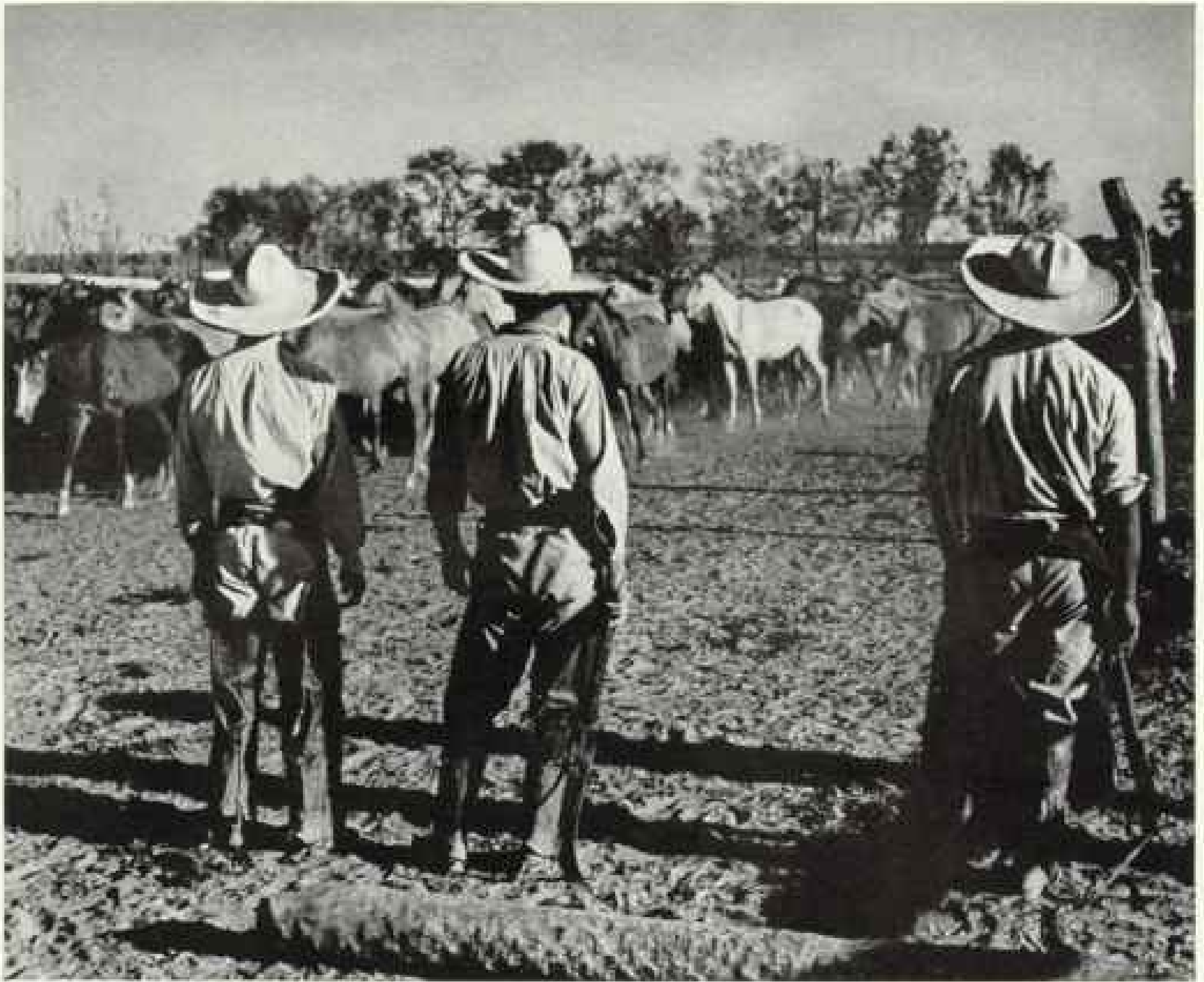
As we sat gossiping by the fire after the meal, he opened up in an amazingly interesting manner, showing us the poetry and love of Nature that was in him. Some of his yarns were so tall that they took a lot of swallowing, but his obvious sincerity carried conviction.

"I suppose this gigantic series of rivers and streams and creeks and limitless swamps is the most fascinating system in the world," I mused. "Why don't you write a really great book about it? You possess the ability and the knowledge."



Santa Maria Takes on Cargo near Concepción, 1,200 River Miles from the Sea

In landlocked Paraguay, two great streams carry trade. They are the Paraná, which borders Brazil and Argentina, and its tributary, the Paraguay, which bisects the country (map, page 461). Here bags of yerba maté and stems of bananas await shipment. The boatman obliterated the word "Maria."



Chaps and Ten-gallon Hats Ask, "Texas?"—Rawhide Whips Answer, "Paraguay!"

Whatever their nationality, these three are plainly members of the Canada-to-Patagonia cowboy fraternity. They are working on a ranch near Puerto Pinasco. One (right) wears a fringed leather apron over his chaps.

A flash of white teeth showed for a moment in the glow of the fire.

"Sheer greed," he grinned. "I want it all for myself."

Shortly before our arrival at Miranda, Jacques, a famous bandit, had passed through the estancia. Evidently pursued by military forces from the northwest, he had swum across the river at the Barra, being severely bitten in the leg by piranhas.

Here he politely ordered the boundary rider not to use the private telephone or try to communicate the news of his arrival by other means. As the order was backed up by seven cutthroats heavily armed with rifles and three machine guns, the man, in spite of his reputation for reckless courage, had been obliged to comply.

Jacques, his leg swathed in bandages, had then ridden to the estancia—for the party was well mounted—and passed a night there before moving on toward the south. But, strangely, he demanded no money.

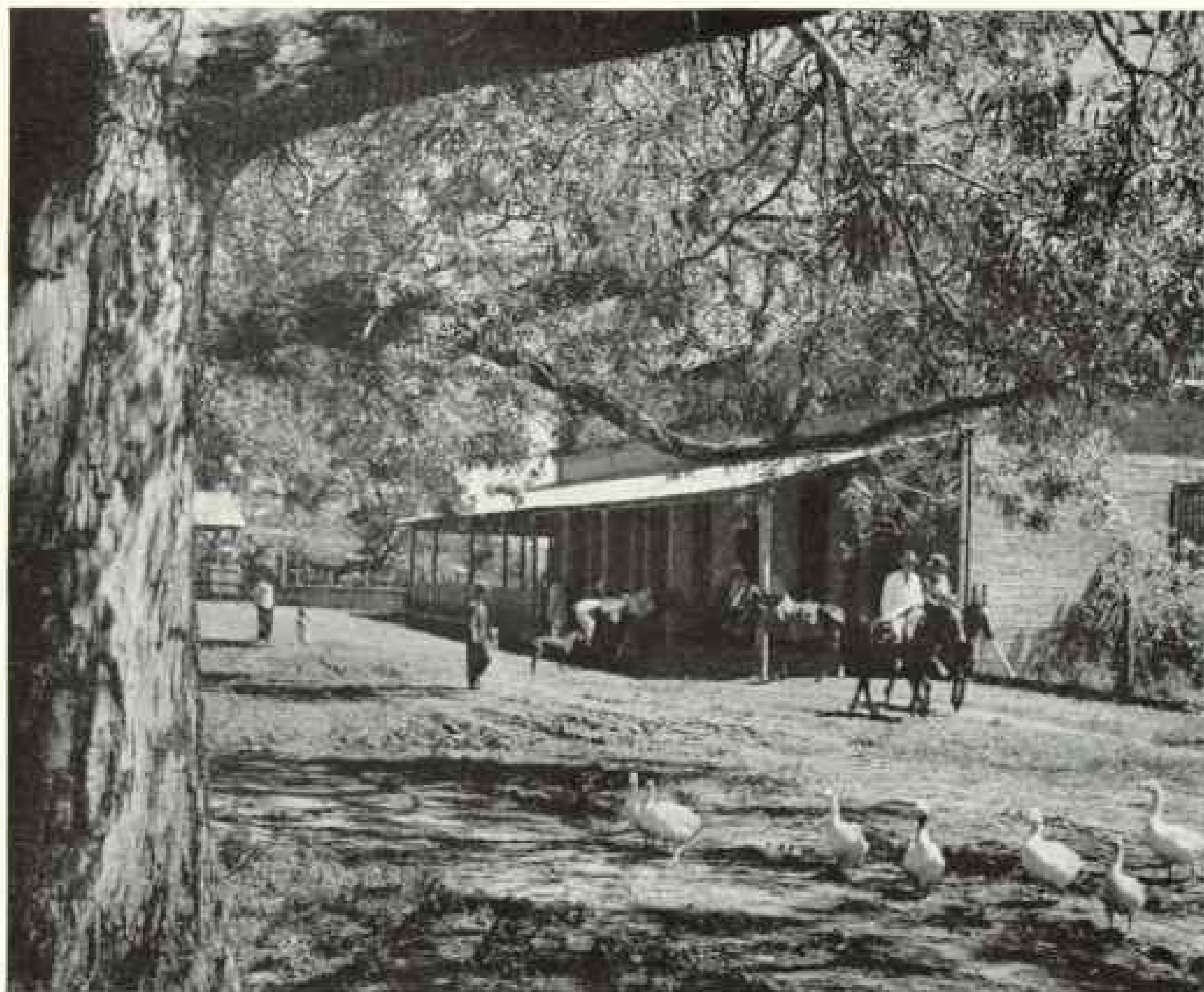
Soon after this episode, Jacques met his end at the hands of Brazilian troops, and his band was dispersed.

Jacques came of a good family and at one time had been a landowner on a grand scale. But with the many changes of government, and perhaps unjust taxation, he had fallen foul of the authorities and had not been powerful enough to withstand them. They had confiscated his lands; he in turn had declared war on them.

He killed only in self-defense, and demanded the "loan" of money only from "deserving" landowners and others when he ran short of funds. In a vast territory renowned for its desperate fugitive criminals, he alone practiced the art of polite brigandage.

Boom Town of Matto Grosso

On once more, by train to Campo Grande, five years ago a grubby little country town, now a city of some 20,000 or more inhabitants. It has two modern cinemas, each with a ca-



Geese—as if They Belonged on a Cattle Ranch!—Seek Eucalyptus Shade

Their presence attests European immigrant influence. Horses and dogs fit the scenery at this Paraguayan estate.

capacity of 1,500 spectators. Some say it will become the capital of Matto Grosso ere long.

Our aim was to strike the upper reaches of the Paraná and work our way back by that route. The first lap involved a long, tiring pull of some 300 miles over a wretched track. The country was open and undulating.

Vast stretches were broken only when we came with relief to a jungle-fringed stream or glimpsed a range of hills in the distance. And it was very hot and dusty, with that fine red dust that stains one's clothes and ruins them forever after.

Fortunately, our conveyance was a 1937 Chevrolet comfortably upholstered, while the chauffeur's driving was superb. Passing through the little village of Ponta Porã on the Paraguayan frontier, at last we reached our destination, Campanario, after a grueling drive of 18 hours.

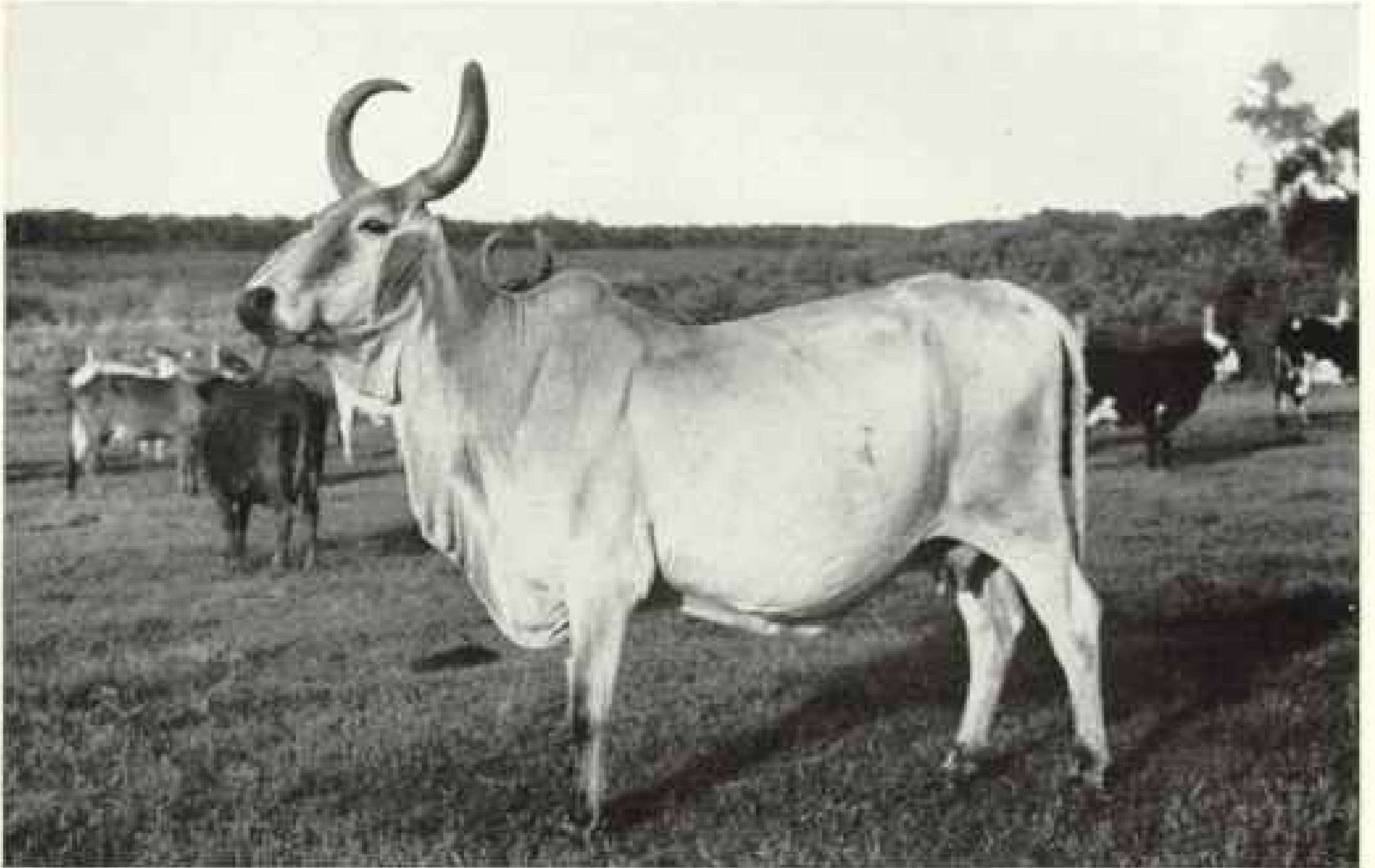
A stay of two days enabled us to appreciate the far-flung activities of the Mate Larangeira Company. Campanario, its headquarters, is pleasantly laid out, with trim,

tree-lined streets, substantial buildings, and a brisk air of efficiency, all the more remarkable when one considers its isolated situation.

Entirely self-supporting, it can supply you with anything from a button to a bed in a modern hospital. It constructs its own lighters for the transport of yerba maté. Adventurous voyages sometimes last as much as a month. It generates its own power, and provides you with a guesthouse and fine roads from which to view the local maté plantations. Surrounded by forest-clad hills, smoky blue with distance, Campanario is a spot that in all truth can be termed beautiful.

Luxury in the Wilderness

With courtesy and lavish hospitality, the company insisted on piloting us right through its properties. Our dreamlike existence ended only at Porto Mendes ten days later, for, after making our adieus at Campanario, we found a four-cabined houseboat, complete with saloon, bathroom, kitchen, cook, white-jacketed steward, and captain awaiting us at



In Brazil's Matto Grosso the Humpbacked Zebu Cow Is a Long Way from Mother India

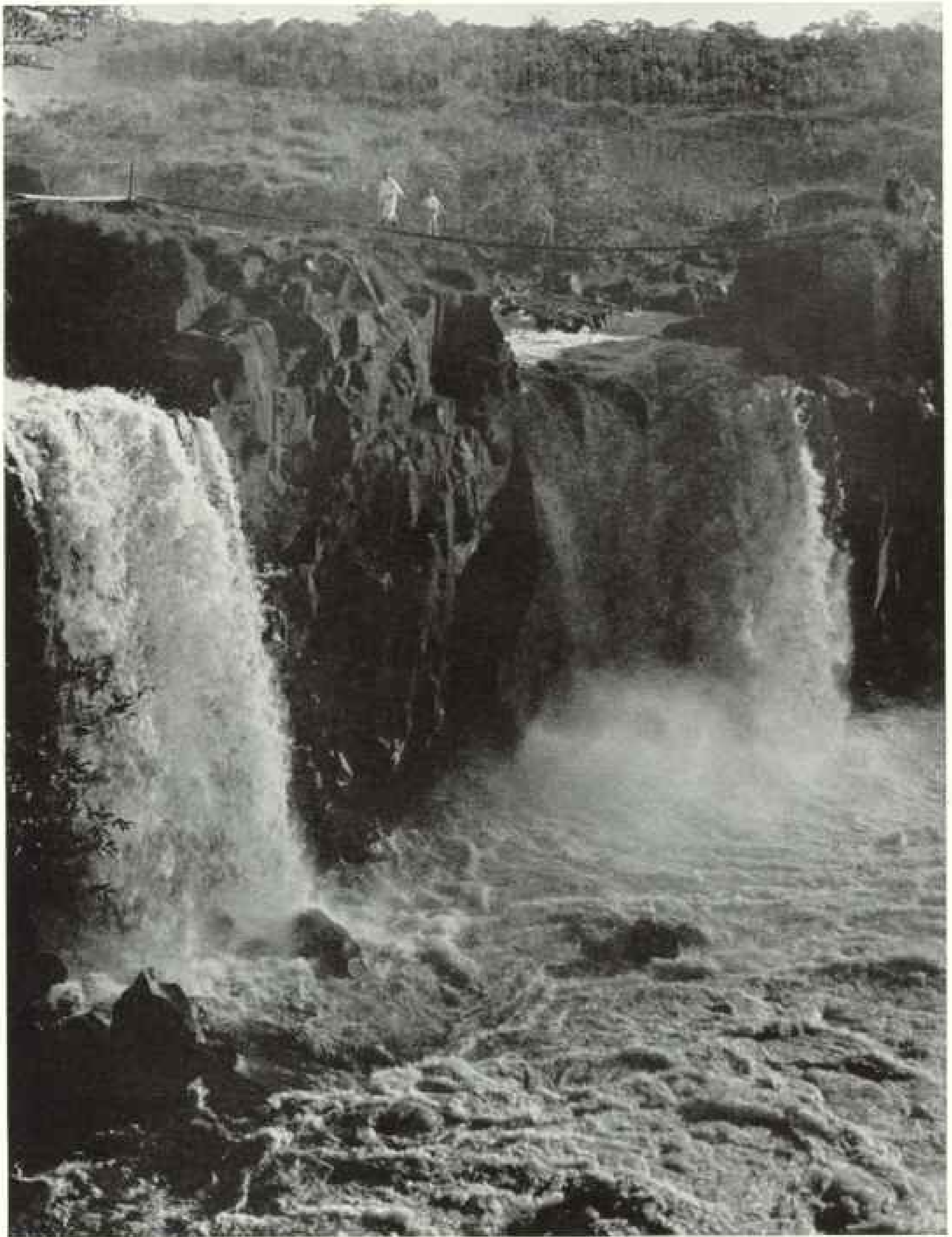
Drought-and-disease-resisting zebus are as popular in South America as they are on the United States Gulf coast. In India the white zebu bull is sacred to the Brahman caste; hence its second name, "Brahman." Miranda Estancia, a half-million-acre estate, owns this herd (page 480).



By Christopher H. Gilman

This Bloodthirsty Killer Is the Terror of Tropical South American Streams

Sharklike jaws and sharp triangular teeth identify the piranha. The least trace of blood attracts a ravening school. In a trice they rip live flesh from bone. Even injured horses and cattle are victims.



Sir Christopher H. Gilman.

Sightseers Warily Cross Guayra, by Volume the World's Most Stupendous Waterfall

Visible are two of the 15 vents through which the Paraná cascades a maximum 130 feet. A precipice three miles broad narrows into a gorge less than 300 feet from wall to wall. There a thundering torrent, racing 20 miles per hour, whips huge waves into rainbow spray. At extreme flood Guayra has eight and one-third times Niagara's volume. Paraguay and Brazil share this wonder, as Argentina and Brazil share the spectacular beauty of the more familiar Iguassú Falls (page 487).



W. H. Cotton

Indians and Oxen Beat a Path through Grass and Palms in the Trackless Chaco

For possession of this wilderness, Paraguay and Bolivia fought a sanguinary three-year war in the Chaco's "Green Hell." In 1938 Paraguay won title by arbitration. Here the man in cowboy garb prods the oxen with a long tipped stick.



Mr. Christopher H. Gibson

At Luncheon Cattle-rich Chaco Ranchers Laugh at World Meat Shortages

Paraguay, population one million, has some four million head of cattle. Here ranchers at Puerto Cooper, on the west bank of the Paraguay, display cuts roasted on long spits. Two cooks are identified by fringed leather aprons, their protection against spattering grease.

Porto Felicidade. Such luxury in the wilderness left us speechless.

Creeping down the Amambahy River, and then the upper reaches of the Paraná, we enjoyed three days of perfect bliss.

The weather could not have been more ideal, while the great river, with its network of exquisite islands, opened up vista after vista of breath-taking beauty. Perhaps the reflected surroundings and fantastic sunset color scheme formed the most remarkable feature.

So weird was the effect that, had you stood on your head and been able to lose all sense of equilibrium, you would have found it absolutely impossible to distinguish reality from its reflection. "Sailing into the sunset" had become a fact and not a mere phrase.

Guahyra—similar to the word for "bird" in Guarani—is the company's shipping center. Planned with the same luxurious care as Campanario, it possesses the added attraction of the Falls. It is said that "he who has not seen the Iguassú Falls has not seen South America," but I think that the person responsible for the quotation had forgotten the Falls of Guayra.

Twelve miles above the point where it joins the Paraná, the Iguassú River makes its mighty leap. Iguassú Falls is a poem in translucent amber which emerges from a verdant jungle in a series of delicate lace curtains.

Waterfalls of Enormous Volume

Not so ethereally beautiful are the Falls of Guayra, 120 miles above Iguassú, at the head of navigation on the Paraná. But their enormous volume and incredible power make up for what they may lack in natural surroundings (page 485).



Headwork Brings Home the Groceries

Fertile Paraguay, land of plenty, is epitomized by the housewife's bulging market basket. In it are corn, beans, lettuce, a fan, and a paper package. The papaya is a handful.

The mighty Paraná, about three miles wide at the crest of the Falls, stuns the eye as it thunders over a ledge more than 100 feet high in 18 separate cataracts. Then it becomes bottled up in a deep, rocky canyon, less than 300 feet wide, where it forms an indescribable caldron.

Most of the subsidiary gorges, between the islands which lie on the lip of the Falls, have been spanned with suspension bridges so effectively that one may wander along for a couple of hours and get a new vista at every step. To view the Falls as a whole, one must cross to the Paraguayan side.

The waters boil and foam through the canyon for about 35 miles. The Mate Laranjeira Company has run a light railroad down



By Christopher H. Gilliam

Slain with a Spear; a 9-foot Jaguar Is Nailed to the Wall between Lesser Cattle Killers

"Tiger Man" Sasha Siemel, whom the author encountered on his trip, is not the only jaguar spearsman. The hunter (left) displays the 6-foot weapon that stopped the 250-pound marauder on Miranda Estancia, Matto Grosso. A puma and a smaller jaguar are the other trophies (page 480).

the eastern bank to Porto Mendes, parallel with this unnavigable stretch.

Here we re-embarked for the last lap of our journey. The aspect of the river differed greatly from that of its placid upper reaches. Steep banks, densely clad in tall timber, shut in a narrow, twisting waterway no more than 300 yards wide.

Obviously very deep, very fast, and very dangerous, the channel presented countless hazards to the little steamer as she skirted ominous whirlpools or felt her way gingerly

around jagged outcrops of rock.

Lowering clouds accentuated our sense of puniness. When night fell and we proceeded steadily on our way, I became lost in admiration for the pilot's eyesight and nerve.

Next day the river was wider. Clearings in which citrus, sugar cane, tobacco, and yerba grew riotously became more frequent. Shipping increased in volume; newspapers only two days old came on board at Posadas. It was with very mixed feelings that we contemplated our return to "civilization."

Reprints of Insignia

The JUNE, 1943, issue of the NATIONAL GEOGRAPHIC MAGAZINE contained a 72-page presentation of Insignia of the Armed Forces of the United States, including the first comprehensive color reproductions of aircraft insignia. Members of the National Geographic Society may now obtain separate reprints of this material from The Society's headquarters, Washington 6, D. C., upon remittance of 25¢ per copy postpaid. If requested, The Society will mail reprints direct to any member of the Armed Forces in the United States at 25¢ per copy postpaid.

The presentation of decorations and medals, marksmanship badges, and identification insignia of women

in our armed forces which appears in this issue of THE GEOGRAPHIC will be followed in an early number by a colorful portrayal of insignia of the United States Public Health Service; Coast and Geodetic Survey; Army Transport and Harbor Boat Service, Transportation Corps, U. S. Army; Air Carrier Contract Personnel of the Air Transport Command, Army Air Forces; Civil Air Patrol; Maritime Service; and the American Red Cross.

When the third and final article has been published, all three presentations will be bound together in a separate booklet which will be made available to members of The Society at 50¢ per copy postpaid.

Burma: Where India and China Meet

In the Massive Mountains of Southeast Asia, Swarming Road Builders
Wage the "War of the Highways" for Free
China and Her Allies

BY JOHN LEROY CHRISTIAN

PATIENT Chinese workmen appear to excel at doing the impossible. In May, 1942, after five years of devastating warfare, the people of China were confronted with the tragic fall of Burma and the severance of the Burma Road.

Except for parts of western Arakan, the Chin and Naga Hills, and the distant headwaters of the Irrawaddy beyond Sumprabum, all of Burma fell to the Japanese invader. Thus was lost the principal base for Allied aid to China.

Less determined nations would have negotiated peace. But the indomitable Chiang Kai-shek insisted upon access to the democratic world by breaking open doors from Free China to the Indian Ocean.

New road, rail, and caravan routes were developed to the west and southwest from the heart of China. Old roads through Turkistan and Tibet were called into heavier service. Loaded transport planes took off from new airfields among jungles and tea gardens of Assam for Yunnan, where their cargoes continued along the untrammelled end of the Burma Road to Chungking, China's wartime capital.

Among the new routes under consideration, none are of greater interest than those leading across the wild terrain just north of Burma.

These new routes will pass through one of the least-known regions in all Asia, the area where India, Burma, and China meet.

Captain F. Kingdon Ward, the plant hunter, has written vividly of the "unimaginable difficulties of this terrible country." Yet somewhere through this anyman's-land, in an area 100 miles square where the frontiers of India, China, and Burma march together, must pass the alternatives to the now blocked Burma Road (pages 505, 510, and map, page 492).

Thus Burma, now a vast area of air and land combat, again becomes a focus of public attention the world round.

One September in the golden days of peace, Bernice Christian and I and our young son, Winslow, were astir early as our steamer, 24 days out of Liverpool, slowed down to pick up the pilot off the coffee-colored Rangoon River.

The tail of the monsoon was thrashing about in the Bay of Bengal, and it was anything but

smooth in the shallow waters off the Irrawaddy Delta. Through low-flying clouds the glistening, yachtlike pilot brig put off a ruddy Britisher who swung up the Jacob's ladder and took charge, chipper and exuding confidence from 22 years' experience bringing steamers up the tortuous channel.

Soon we passed Elephant Point. Rice fields with waist-high paddy appeared on each side; next came cultivators' huts, fishing sampans returning home with the night's catch, stolid water buffaloes wallowing in the mud flats of the river, and strange sights and smells that told us we had reached the Burma about which we had read so much.

Rangoon Means "End of the War"

As the ship neared Rangoon, we glimpsed through the morning mist the magnificent 368-foot gold- and jewel-encrusted spire of the Shwe Dagon Pagoda, Holy of Holies to Burma's Buddhist world (page 495). Since then I have seen it many times. Luminous with floodlights by night, dazzling by day, it greeted me from a distance of twenty miles or more as I returned from jungle trips.

The word "Rangoon" means, in Burmese, "End of the War." But the Japanese occupation of Rangoon has meant only the beginning of the "war of the highways" for Free China and her Allies.

After a few days in the sticky heat of Rangoon, we left by comfortable meter-gauge train for Mandalay and the blessed hills of Maymyo forty miles beyond.

The very first day in the summer capital of Burma I saw a ten-foot tiger which had been killed with a long Burmese *dah* (sword) by a Chin soldier. Mr. Stripes was stretched out before the Deputy Commissioner's court while the Chin, surrounded by his admiring friends, collected his bounty.

In Maymyo we put in nearly a year of hard work acquiring the foundation for a fair knowledge of the Burmese language before going on to Meiktila, where I was to be principal of Meiktila Technical School. Thereafter, Meiktila was home, with the exception of time for eight trips to India. Every hot-season vacation was passed in the remote parts of Upper Burma.



Willard Price

Oriental Sailing Craft Mingle with Steamships on the Rangoon River

In peacetime this gateway to Rangoon was busy with ships loading teak, rice, and oil. Japanese vessels here now are bombed frequently by American and R. A. F. flyers based in India.

Selecting a cook was a problem. Recommendation "chits" were of little use. One prospective cook presented a fat collection of testimonials, one of which said significantly, "This man is good. He is *too* good." Eventually we decided on a Burman instead of the usual Indian cook.

Our first cook in Upper Burma was a son of Shwebo, a city north of Mandalay and the home of Alompra (Alaungpaya), national hero of Burma and founder of Rangoon. When the first Christmas came around, Mrs. Christian gave Maung Po Thoung a large tin of California sardines in addition to another present. He was delighted and put the tin to heat in the oven of our English stove.

A Tin of Sardines Explodes

Soon we heard a resounding blast in the kitchen back of the bungalow. The sardines had exploded. The oven door was wrecked, and the kitchen and Maung Po Thoung's nerves were pretty much of a mess.

Eventually the cook got married. His wife, like a dutiful Burmese lady of the old school, walked discreetly behind her husband during the daytime and in front of him with a lantern at night to warn of possible danger.

His standard advice to us was, "Never eat duck eggs and watermelons at the same meal." Since we never ate duck eggs at all, his advice was easy to follow and he was satisfied.

Maung Po Thoung unhappily had a short temper. One day, unknown to us, he struck a villager in an argument over the price of a cartload of firewood. The cartman told the magistrate, and Maung Po Thoung was sentenced to ten days in jail.

At the end of his sentence he appeared for work again, smiling from ear to ear. Having done his time, he expected to be forgiven. He was.

Before we left Burma I got him a more exalted position as a postman, and I last saw him riding a bicycle delivering letters in Maymyo, the summer capital.



U. S. Army Signal Corps

Lt. Gen. Joseph W. Stilwell Chats with Generalissimo and Madame Chiang Kai-shek

General Stilwell, commander of U. S. forces in southeastern Asia, led the Fifth and Sixth Chinese armies in the Battle of Burma early in 1942. Forced to withdraw, he has vowed to return. General Chiang became provisional President on the death of the aged President Lin on August 1, 1943.

Life was interesting in Meiktila. Winslow and I once started out to the porch swing to take the air in the cool of the evening. Half-way out we decided to return for a lantern because of the danger from snakes. Sure enough, just under the swing on the veranda was a big cobra.

He reared erect and spread his hood. Looking for a weapon, I remembered a baseball bat in my study just off the veranda. I reached it through an open window and we finished the cobra.

When the Burmese speak of their corner of Asia, they call it "Shwey Daw Pyee," the Golden Country. In November, when the rice fields, lush green from May until October, turn a golden brown over the great Irrawaddy Valley, the country is truly golden.

It is golden in another way. In every Burmese city and hamlet rise gold-spired pagodas and monasteries from which, each sunrise, saffron-robed priests of Buddha

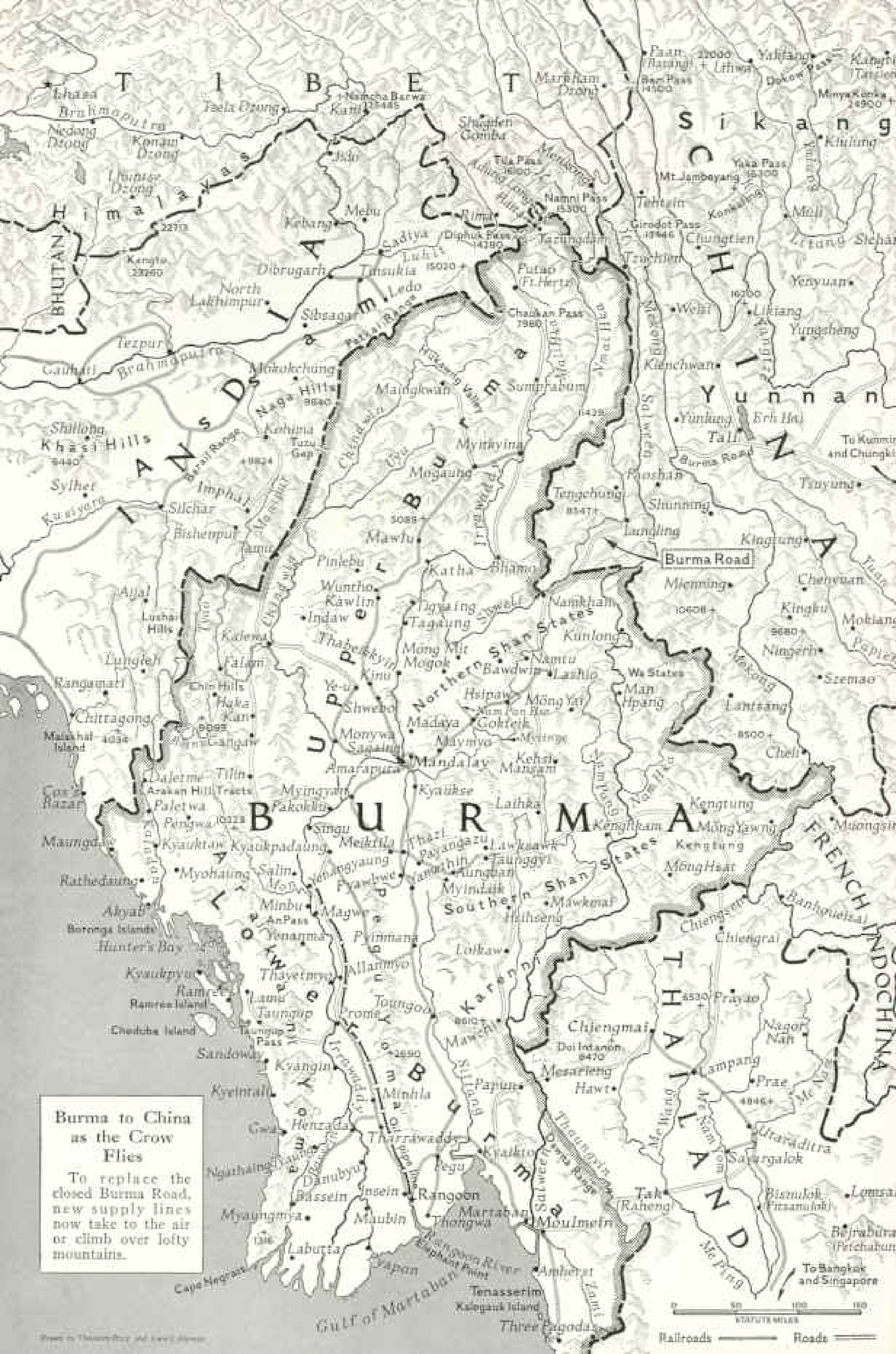
go forth on their rounds of the villages.

As we became better acquainted with the country, we made journeys afoot and afloat, by train and by steamer, from Cape Negrais and Moulmein to the borders of French Indochina, India, and Yunnan. Every year we sandwiched in a tonic vacation by car, foot, and mule pack train among the hospitable people and rulers of the blue Shan hills.

Month of Tagu, Small Boys' Delight

One year I passed the hot season in Meiktila superintending the erection of a new building. April came in like a blast furnace and went out like a Turkish bath. But a pleasant interlude was provided by the Thingyan festival during the Burmese month of Tagu.

These are the best days in the year for Burmese small boys. Everyone must be splashed with water. Boys in high glee douse buses and their passengers. Squirt guns, water pistols, and tire pumps are in demand.



Burma to China as the Crow Flies

To replace the closed Burma Road, new supply lines now take to the air or climb over lofty mountains.

0 50 100 150
STATUTE MILES

Railroads ———— Roads ————



John L. Christian

At 30 Cents a Night, the Author Traveled Comfortably in the Irrawaddy Delta

His Chittagonian "sampan wallah" holds the craft steady against a background of mangrove showing tide marks. Bedding and mosquito nets were spread under the cover. Stops were made only when the boatman paused to light up his bubble pipe.

A merry crowd, including all the ladies on the compound, paid me a visit and sprinkled me with water from silver bowls. "May you be cool throughout the entire year," was the greeting.

The evening ended with a grand dinner at the home of one of the teachers. Chicken curry and rice formed the principal dish, with at least a dozen other kinds of curries, condiments, and chutney. We all ate with our fingers or with Chinese-style spoons.

It was a bit of a shock to see a rooster's eye peering up quizzically from the curry, but the Burmese think the head of the fowl should always be included when making curry.

I complimented the hostess on a particularly tender morsel in the beef curry.

"Oh, that's beef lung," she explained. "We consider that a delicacy."

The next day there was a picnic on the lake shore, with peacock curry and rice.

The Burmese rarely eat peacock, as the bird is their national emblem. The turkey has been imported with the Burmese name *hsinchet*, meaning "elephant chicken."

Eventually we decided to set up an electric-light plant. During a trip to Rangoon we purchased a Swedish Diesel engine, a German

dynamo, British wiring and bulbs, American belting, and switches and fixtures from Czechoslovakia. We housed the entire outfit in a building made of Belgian corrugated iron.

All was delivered from the railway station in creaking carts whose wheels were seldom greased, since the noise is considered useful in keeping evil spirits at bay. We got good service from our international lighting plant.

Burman Has Irish Sense of Humor

Known as the "Irish of the East," the Burman is a pretty wise sort of fellow. He has an unflinching sense of humor.

A villager, discussing his village headman and the local *pongyi* (monk) with me, complained, "Our *pongyi* is most excellent and learned, but sometimes his advice is so hard to follow. I once asked him about a cure for my sick rooster."

"And what was his answer?" I queried.

"Sacrifice a buffalo." But who wants to lose a buffalo in order to save a rooster?"

The Burmans, although Buddhists almost to a man, find joy in the pleasures of the immediate present instead of some future nirvana.

Always a charming gentleman in his old



Joseph F. Black

Gold and Fearsome Is Mount Jambeyang, Mighty Peak West of Minya Konka, in China North of Burma

This view is from Lawatong Valley, in the Tonyi Besi district of Koukaling, looking east-northeast toward Yaka Pass from an elevation of 16,000 feet. The main peak, a pyramid of snow and ice, is hidden in the clouds. The stream on the right descends from Yaka Pass, 16,100 feet.



Inquirer's Agency

Today This Towering Golden Shrine of Shwe Dagon Is a Guidepost to Warplanes

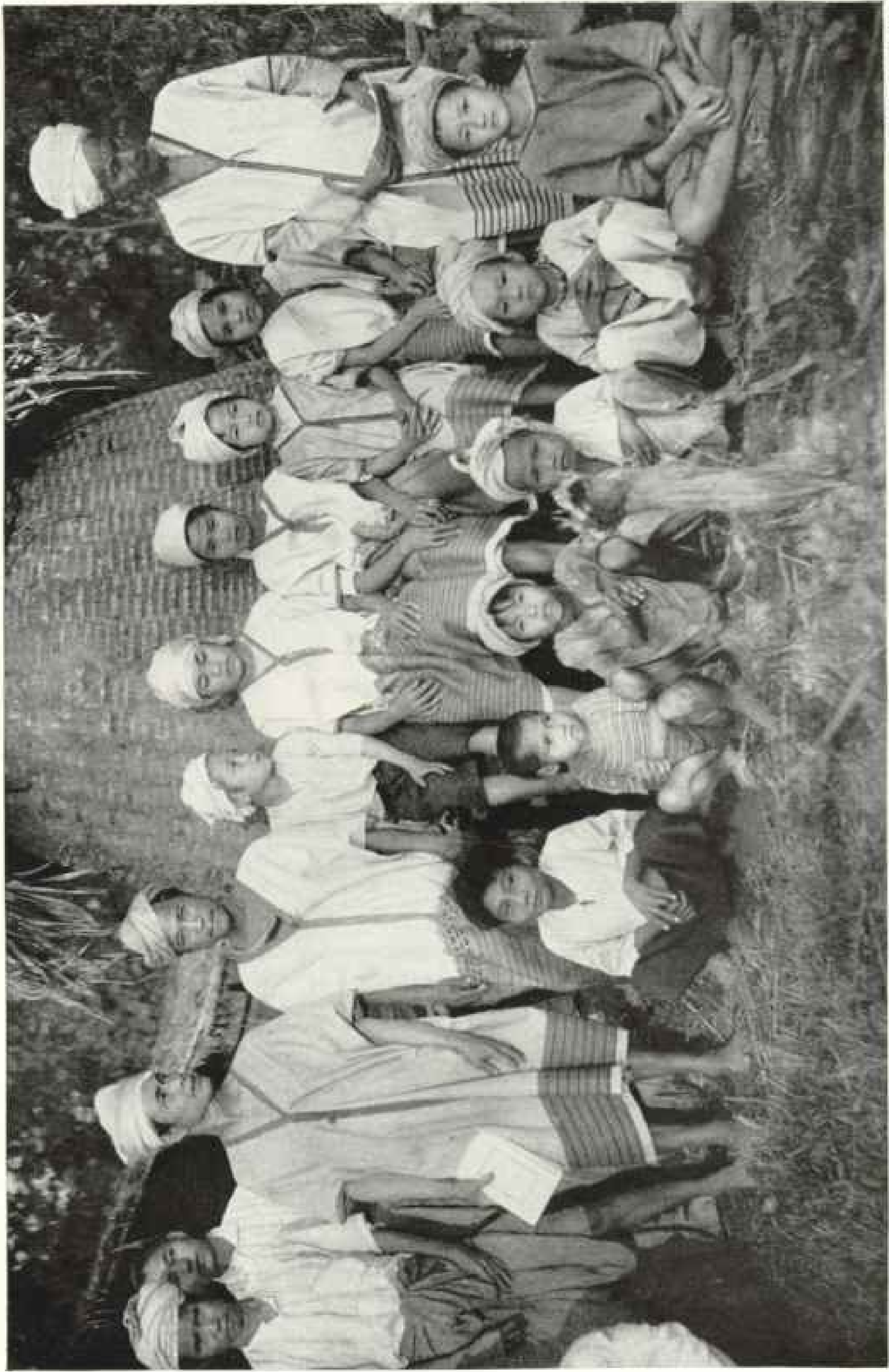
The gleaming 368-foot pagoda on a mound in Rangoon can be seen for miles. Around its base are massed shrines, chapels, and smaller pagodas, lavishly decorated. A *hti*, or umbrella, set with gems, topped the lofty, gold-covered spire until 1939, when an earthquake shook it down.



P. YOUNG

Garlanded, Crowned, and Dressed in Their Silken Best, Boys Ride to a Temple on Their Friends' Shoulders

They are on their way to a Buddhist temple to put on the yellow robes of priesthood. Each is followed by a parasol bearer. Young Buddhists often spend a short period as novices at some temple. After study hours each morning they go out with their begging bowls for food.



John L. Christian

Children of a Karen Village in the Toungoo Hills Gather in Front of a Rice Storage Basket

Unlike their Burmese neighbors, these people wear one-piece hand-woven garments resembling artists' smocks. The granary of woven bamboo, coated inside and out with cow-dung plaster, may hold 50 bushels.



James C. Dean

To Mrs. Christian a Padaung Woman Presented Her Hair Spike

She pulled out the silver ornament and gave it as a gesture of friendship. Of course she could not offer her neckpiece of heavy brass spirals, for without it she could not support her head. This meeting occurred in a small Karenni village (page 500).

age, the respectable Burman is shown much deference and delights in his honorary title of *payataga*—the endower of a pagoda.

One day a notice came round that a prominent Burman had died, and we were invited to the funeral. The coffin was placed in a carriage and pulled along by perhaps twenty people, who held ropes tied to the carriage.

Eventually we reached the cemetery, but a long halt followed. At last came the explanation: "We are waiting for the refreshments. The lemonade hasn't come yet."

Whole Village Flocks to Puppet Show

In the hot season we went to a Burmese puppet show. A Burmese theatrical show of any kind is an occasion. The entire village turns out, with its mats, pillows, blankets, grandfathers, aunties, and babies. The show lasts nearly all night. Anyone who gets tired just turns in for an hour or so, but always the show goes on.

Burmese puppets are worked by strings from above instead of by sticks from below, as in China. To me the most interesting part of the show was the fight between the tiger and the elephant. The elephant was painted a somber gray, but after one look at the

ferocious tiger painted with red and white stripes it was easy to pick the winner.

The roars of the tiger and the trumpeting of the elephant would have done honor to a Hollywood sound artist.

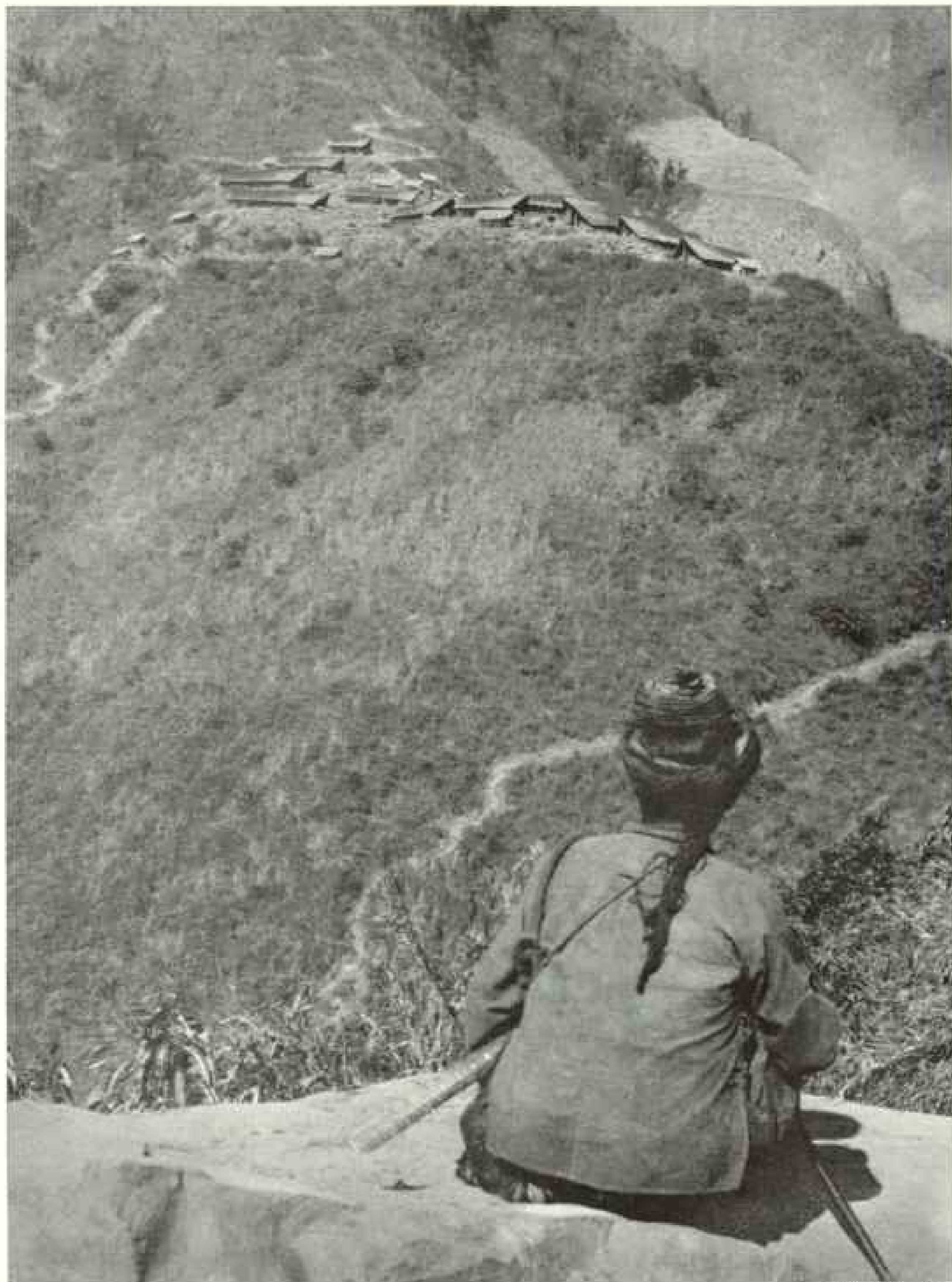
During a brief intermission in the principal show, an actor cleverly impersonated a Europeanized Burmese dandy who strutted across the stage. His opening lines were, "I wear a wrist watch, my friend," all set to Burmese music.

The orchestra down front consisted of a Burmese xylophone, a semicircle of gongs in graduated sizes and tones, a shrill Burmese saxophone, and a violin from which had sprouted a huge bell-shaped horn, the better to liberate its tuneful soul on the night air.

Burma, with almost the area of Texas and more than twice its population, was a political partner with India for more than a century before April 1, 1937. Then it became a separate political unit of the British Empire, with a status nearer to that of a self-governing dominion than a crown colony.

Where Women Have Brass Necks

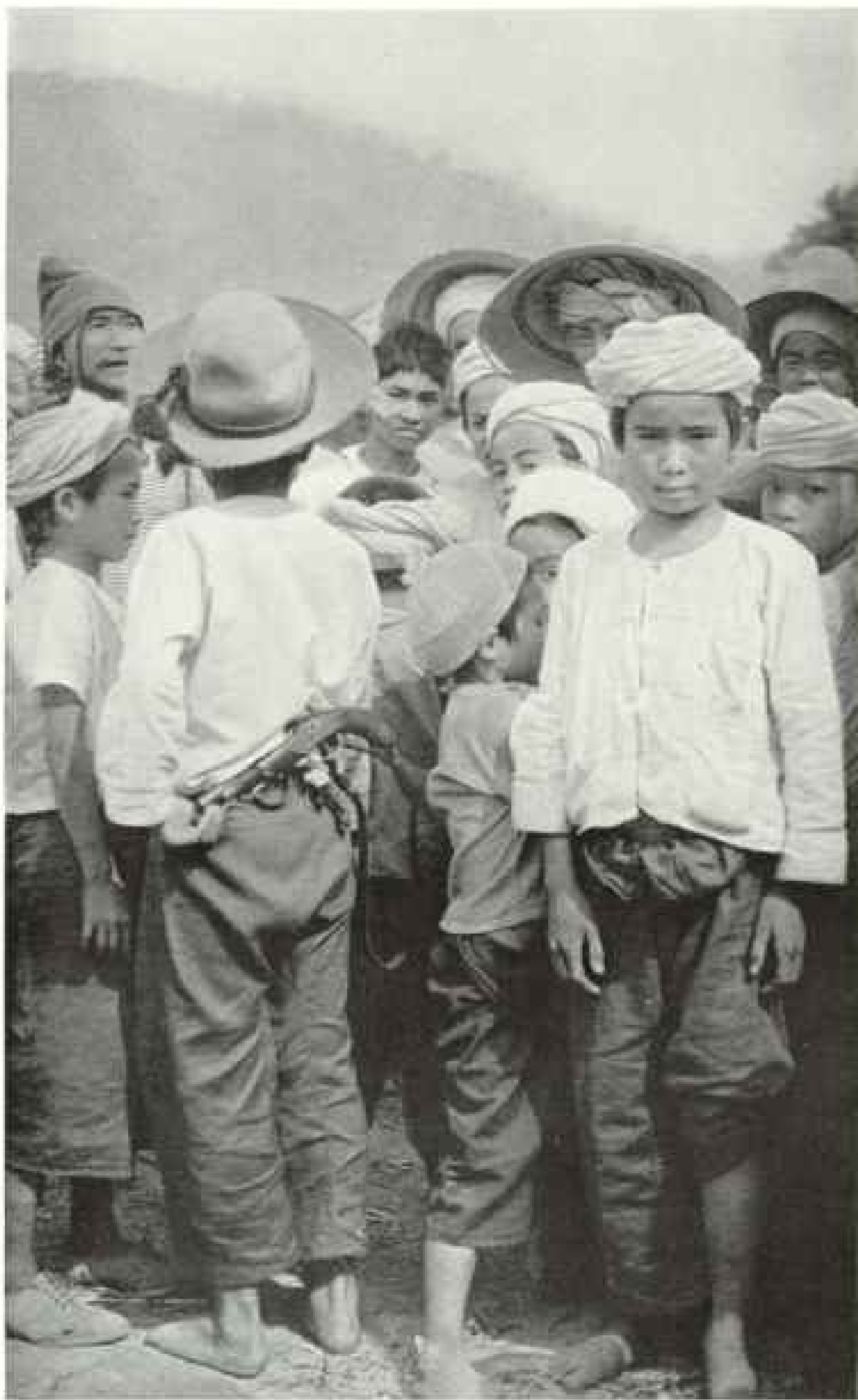
Absorption of the Burmese individuality by the more virile peoples of India and China



© Capt. J. H. Green

High on Steep Mountain Sides, Kachin Villages Have Few Visitors

Several tribal groups build such homes in the hills of Burma and Thailand. Having cleared narrow hill farms, they move after a few seasons to fresh soil. There is seldom a yard of flat ground. Springs usually are hundreds of feet above or below the villages.



John L. Christian

A Village Headman's Grandson Sports an Old French Pistol at a Fair in Kengtung State

Later in the day the author purchased the weapon for 60 cents. It was loaded! The boy was the pride of his grandfather's heart (page 509).

has been prevented only by the isolation provided by the Bay of Bengal on the west and the mountain fastnesses on the north and east.

In the Karenni States along the Thailand frontier are found the Padaungs, those curious folk who boast the famous "brass-necked ladies." Their women wear coils of shining

brass spirals, which stretch their necks until they resemble champagne bottles (page 498).

Arriving at Loikaw, capital of Karenni, we were soon comfortably settled in the Circuit House, the rest house for officials on tour. The British assistant resident, a jovial host from the north of Ireland, invited us to a pleasant dinner and dozens of stories about the Shan and Karenni States.

Joy Riding by Steam Roller

At ten o'clock the next morning we were invited to call at the residence of the hereditary chief, or Sawbwa, of Kantarawadi, largest of the Karenni States. The chief was proud of his American Buick and his British Armstrong-Siddeley.

"But," the Sawbwa explained, "we have bad roads out here and my motorcars don't go well on these bullock cart tracks. So I ordered out from England a steam roller, like one I saw once in Rangoon. I like to drive it myself. It has much more power than my Buick, although it doesn't run so fast."

On the Karenni trip we put up for one night in the hospital of a mission station.

One of the younger priests, who knew no English, came over in the evening to present us with a bottle of what we thought was Italian wine. We finally broke down the objections of the missionary doctor in the party and decided to have a small glass of wine each before we turned in. In the morning the senior priest asked us if we enjoyed

the bottle of honey he had sent over!

Incidentally, we learned not to buy honey in the bazaars in Burma unless we knew its source. The local belief is that the honey used to preserve the bodies of dead Buddhist monks until suitable funerals can be arranged may later find its way into the market!

The Arcadia Land of the Red Karens

The Karenni States were the only "protected States" in Burma. The Red Karens were really not British subjects, as were the Burmese and Shans, but owed their special citizenship to a treaty signed in 1875 between Great Britain and then-independent Burma.

Except for the huge tungsten mines of Mawchi, in Bawlake State, the land of the Red Karens is of slight economic or political importance. One sentence from an otherwise uninspired official report described the Arcadian nature of Karenni: "The State Police are inexperienced and not very bright. They have, however, little to do."

On another vacation we traveled by mule caravan from the huge Bawdwin and Namtu silver-lead mines, developed by Herbert Hoover from abandoned Chinese workings, through the Northern Shan States of Tawng Peng and Mōng Mit to the ruby mines of Mogok, and back to the Burma Railways near Mandalay.

We saw ripe persimmons on the trees beside the trail. Our Palaung guide protested our eating them, hinting darkly that they were



John L. Chittenden

Young Kaw Gentlemen Display Holiday Attire

Both are from Kengtung State. One wears Yunnanese shoes, the other European. Chest and turban ornaments are solid silver.

unlucky or even poisonous. We ate them and liked them; they were only one grade inferior to the wild persimmons I had eaten as a boy in Tennessee.

Rubies Marketed Like Radishes

The old ruby diggings of Mogok are perhaps the only place in the world where rubies,

spinel, garnets, jade, and other precious and semiprecious stones, polished or in the rough, are bought and sold in open market (page 505). It gives the spine something of a sensation to see such gems being sold by the carat next to a bazaar stall selling potatoes, garlic, and Chinese radishes.

No one can tell just how old these ruby mines are, but it is related that the Black Prince's ruby in the British crown jewels came from Burma in medieval times.

Centuries of mining have not exhausted Burma's stores of the world's finest rubies. The largest stone found there since 1900 is the magnificent "Peace Ruby," so called from its having been discovered on Armistice Day, 1918. This huge stone of 42 carats sold for \$3,200 a carat in the rough. It is now owned by one of the ruling princes of India.

Burmans in Mogok told us we must not talk about horses or elephants when we went out to the ruby diggings.

"If you do," they said, "the rubies disappear deeper into the ground and they are much harder to find."

Horses and elephants don't always work together that well. On the Thailand frontier the Karens told us not to ride our ponies near a herd of timber elephants that were being taken up into the hills to work teak logs.

"These elephants haven't been tamed very long," the Karens explained, "and they are very much afraid of horses."

Once in Mandalay, in the cool of the day, we climbed Mandalay Hill. Just ahead of us a Burmese girl was toiling up the hill, balancing on her head a basket of brick for a new pagoda. She complained of the weight of the basket and began to swear softly.

A good Australian friend in the party asked her if she thought it was proper to swear when working on a new pagoda for Buddha.

She put her basket down and replied, "My lord, please forgive me. I didn't know that you understood Burmese."

Strange Tribes in Upper Burma

There are really two Burmas. Lower Burma includes the vast plains, valleys, and deltas of the lower Irrawaddy, the Sittang, and the Salween. The mighty Salween, which has a rise of seventy feet during the rainy season, was unexplored by Europeans for 140 miles or so of its midsection at the northern tip of Burma until traveled by the Guibaut-Liotard expedition in 1936-37.

Lower Burma includes also the arm of Tenasserim, with its wealth of tin, tungsten, and timber—a thousand miles of shoreline and a thousand islands, reaching down the

Indian Ocean side of the Malay Peninsula toward Japanese-occupied Singapore.

Upper Burma is a different country. It consists, in the main, of the upper Irrawaddy and the longitudinal ridges and valleys that form a giant horseshoe of hills in northern Burma bordering Assam, Tibet, China, French Indochina, and Thailand. Here live peaceful Shans, the warlike Kachins, the head-hunting Nagas, the wild Was, and the stolid Chins.

Secure in their hills along the Indian frontier through which roads are now being pushed from India to Burma, the Chins are said by V. C. Scott O'Connor to be "the material out of which Buddhism and civilization between them have evolved the Burmese people; the Chin in short is the rough wood out of which the Burman has been carved."

The Arakan Hill Tracts adjoining India are likewise home to a multitude of obscure tribal groups. Sir George Scott, beloved philosopher-official of the hills of northern Burma, has said that the entire area contains "a collection of races diverse in features, language, and custom such as cannot perhaps be paralleled in any other part of the world."*

Far to the north, three British expeditions liberated more than 9,000 slaves between 1926 and 1930. An official report for 1931 expressed satisfaction that "no cases came to light during the year of slaves being sold or offered as human sacrifices" in the triangle between the Mali Hka and the Nmai Hka branches of the upper Irrawaddy.

A more recent report by the administrator responsible for the Naga Hills suggests, somewhat quaintly, that this area is still not too well pacified: "I was, however, able to fine several human-sacrificing villages for having carried out sacrifices in 1940-41, and much regrading of roads was done." And later in the report: "Except for several big head-hunting raids, the tribesmen were friendly and committed no acts of hostility to Government."

Near by on the upper Chindwin is the great Hukawng Valley, an almost empty country. It is one of the largest natural game areas and perhaps the finest shooting ground in the Orient.

Rich Jade Long Shipped to China

Going farther north, 37 miles from Myitkyina, we stopped at the little town of Mogaung. From this railway station it is a trip of 68 miles by car in the dry season (Burma should be visited from November to

* See "Among the Hill Tribes of Burma—An Ethnological Thicket," by Sir George Scott, NATIONAL GEOGRAPHIC MAGAZINE, March, 1922.

April) to the ancient jade mines.

Here Chinese miners for centuries have been getting out the richly mottled green imperial jade, the premier precious stone of China. The jade is found at intervals over an area forty miles long and five or six miles wide, in one of the most malarious parts of Burma.

Jade mining is a gamble, but who is more ready for a gamble than a Chinese miner? The stone is dug out in pieces ranging from the size of an apple to that of a kitchen stove. No one knows what is inside until it has been opened by use of a wire and ruby bort for a saw.

The old jade road through Yunnan is no longer used, but jade is shipped to Canton in peacetime by train and boat via Rangoon. Nearly all that trade has ended since 1937.

Burma jade has been for centuries a magnet attracting Chinese to Burma. The Chinese temple in old Amarapura (City of the Gods), Burma's capital before 1860, has a list of more than 5,000 Chinese merchants who, during the 19th century alone, perished in search of jade in Burma.

Pundya, our Telugu cook, did not always share our enthusiasm for travel in northern Burma. When urged to hurry, he would often reply, "Sahib, going slowly, coming nicely."

Leisurely travel up from the hot, sticky haze of the plains took us through Burmese towns picturesquely named Pyawbwe (Happy Festival), Thazi (Pleasantly Populated), Payangazu (Five Pagodas), Myindaik (The Watering of the Horses), Aungban (Garland of Victory—some long-forgotten victory), and Taunggyi (Great Mountain).

From the neat Gurkha gardens of Taunggyi



John L. Christian

Kaw Girls from Kengtung State Go to a Festival with Boy Friends

In return for a half-empty jam tin the party consented to let the author take their picture. These people live near the China frontier. The young swains wear shoes of the Chinese type. One has a queue.

we motored during the dry seasons over hundreds of miles of good roads to Bhamo and Namkham on the Chinese frontier or eastward to Kengtung, the only walled city in Burma. The road led on through the "Bangkok gate" to Chiengrai and Lampang in Thailand.

Hill Tribesmen on a Holiday

On the return trip from Kengtung we came to a wide plain dotted with villages and covered with rice fields.

Near the highway stood the corrugated-iron sheds of a district bazaar. By good fortune we happened along just as one of the principal festivals of the year was getting under way.

Hill tribesmen from miles around were there in their finery.

We persuaded two young Kaw gentlemen on pleasure bent to let us photograph them in their elaborate silver ornaments (page 501).

Outside the bazaar two very timid girls were coming to the puppet show with their boy friends. No amount of coaxing or offers of small coins could overcome their objections to being photographed. But the offer of a half-empty tin of strawberry jam brought them around in no time (page 503).

After the newness of the white visitors had worn off, we got out the movie camera and shot a few hundred feet of film.

Soon I espied a boy about twelve years old with a cap-and-ball pistol tucked under his belt in the rear (page 500). I asked him in Burmese if he wished to sell it.

"I'll run home and ask grandpa," he replied. "It is his pistol and he only let me wear it to the puppet show today."

The boy returned within fifteen minutes to announce, "Grandpa says it is an old gun and not much good. So if you want it for two rupees (sixty cents), you may have it. But be careful; it is loaded." I bought it on the spot.

News spreads rapidly in a Shan States bazaar. Within the hour I was offered a half dozen old pistols, mostly of French make. I bought them all at the same price.

The most interesting purchase was a home-made muzzle-loader carefully copied from the French gun. It had an octagonal barrel, probably made from a piece of drill steel from the Bawdwin mines. The bore wasn't quite round, but the owner assured me it was loaded and in working order. That pistol now belongs to Winslow.

No Lies Allowed Near a Banyan Tree

A bazaar in Burma, on the plains or in the hills, is an intriguing place. In the hills orchids are for sale at a dime a dozen. The bazaar girls aren't properly dressed up for selling, gossiping, or making eyes at the right boy until they have orchids in their hair.

But no banyan trees are found in the bazaars. These sacred ho trees are revered by Buddhists and Hindus, and locally by Moslems, and no good Buddhist would think of telling a lie within hearing distance of a banyan tree. In a bazaar the tree of truth might seriously cramp the seller's style.

While in Kengtung we bought some of its famous gold-embossed lacquer ware. We were directed to the house of the most skilled craftsman in the art, who was taking life easy on the veranda of his home.

Before he would show his wares, he insisted that we come up on the veranda for a drink of lime juice and a mango. Eventually we worked our way around to business, and he took us down to the workshop. This lacquer ware is made and seasoned underground.

We bought four bowls in lacquer and gold, one with relief figures of the Burmese signs of the zodiac. We purchased also a fine old Burmese palm-leaf book on magic and medicine, which I have since presented to the library of the University of California.

Moving across the Shan States, we were delighted with the sight of oaks, pines, chestnuts, wild apple, wild lemon, and other trees of the Temperate Zone.

There was a change also in the bird life. The "brain fever" bird, or large hawk cuckoo, whose constant calls in the hot season are enough to give almost anyone that sort of fever, was replaced by the "brother-in-law-call-the-dog bird" (the Indian cuckoo), by the beautiful crested hoopoe, and by varieties much like our robins and thrushes.

On one of our tours in the Shan States an itinerant silversmith set up a portable forge and smelter on the veranda of the travelers' bungalow we occupied and in the two evenings turned out a beautiful card tray from six silver rupees I gave him. He weighed the tray against six other rupees to show me that all the silver had gone into the tray. Later he made a silver-covered sheath for a ten-inch knife and fitted it with an ivory handle.

"You Can 'Ear Their Paddles Chunkin'"

Our favorite way of seeing King Thebaw's old kingdom was to travel by comfortable river steamers, 326 feet long, which ran nearly 1,000 miles from Rangoon up to Bhamo, the traditional gateway to China and now on a spur of the Burma Road. These are the steamers whose "paddles chunkin'" have been immortalized by Kipling's poem.

One never-to-be-forgotten night I lay stretched out in an Indian "long chair" on the deck of a steamer at Thabeikkyin, river port for the ruby mines, during the opening of the Buddhist Thadingyut festival.

The broad Irrawaddy was a river of fire for this "feast of lights," as thousands of little oil lamps in earthen pots floated down toward Mandalay, lighted by the faithful so that Buddha might see golden Burma should he visit earth again.

One hundred and thirty miles beyond Bhamo lies Myitkyina (Beside the Big River), on the Irrawaddy at the end of the Burma Railways—and almost the end of everything else in Burma.



David H. Dierbaum

From These Primitive Mines Come Many of Burma's Rich Red Rubies

Bamboo sweeps, weighted with baskets of rocks, remove earth from narrow hand-dug "wells." Miners then wash the gravel for precious stones. The mines extend several miles along the valley floor near Mógok in Upper Burma (pages 501-502).

From Myitkyina north, Burma is a sort of back-of-beyond country. Here the sturdy little locomotives turn around, and beyond the blue lie Sumprabum and Fort Hertz.

Northernmost post office in Burma, Fort Hertz (Putao) used to receive mail once each week by pack train from Myitkyina, 220 miles to the south. Stores came up once a year, always in November, and woe to the new official who underestimated the year's groceries!

But that was changed when the Government of Burma opened a motor road from Myitkyina to Sumprabum and beyond in 1940-41.

Americans Built a Bridge on a Bridge

We visited Shan land beyond Maymyo, traveling first by train to see, 80 miles east of Mandalay, the unique Gokteik Viaduct, vital link in transportation with Lashio and the end of the Burma Road (map, page 492).

Built by American engineers in 1900-1901, the 2,260-foot structure stands on piers, 320 feet high at the center, which rest upon a natural bridge. The natural bridge is in turn more than 500 feet above the Nam Pan Hse River, tributary of the Irrawaddy. It is a haunting place, deserted for miles around except for monkeys, barking deer, and jungle birds.

Later we went by car to Lashio, where, on rolling downs remarkably like the red hills of Tennessee, lived a small colony of British officials.

The Burma Road transformed Lashio from a sleepy frontier town into a beehive of activity, with hundreds of trucks arriving or departing daily in communication with interior China. Northward-driving Japs took Lashio on April 29, 1942, after a hard fight.

Between Lashio and the Chinese frontier, which was finally demarcated through the Wa States to the south on June 18, 1941, there

are hundreds of Chinese immigrants. Since they come from those parts of Yunnan most remote from modern China, many of their women still have bound "lily feet."

The Shan States, divided into six Northern and 28 Southern States, with capitals at Lashio and Taunggyi, respectively, were nominally under the rule of their own chiefs, or Sawbwas. The more important Sawbwas received salutes of nine guns.

Cars Need More Upkeep Than Elephants

The Sawbwas are picturesque links between the old and the new in Burma. One explained that the upkeep of his seven motorcars and twelve trucks was more than his father spent on a dozen elephants. Another took great pride in his electric-light plant installed by himself.

The Sawbwa of Mawkmai, near the valley of the Salween, had imported American tobacco seed and spoke with pleasure of his aromatic pipe and cigarette tobaccos as well as mild leaf to improve Burma's "whackin' white cheroots." Another Sawbwa had a model tea factory, and others were proud of their plantations of tung-oil trees.

There is a sprinkling of Oxford and Cambridge graduates among the younger Sawbwas. The chiefs lead a pleasant and useful life, respected and loved by their people. Everyone loves the Shans, an astute people of gentle charm.

In short, all of Burma was—at least until war intervened—a sort of Arcadian land where the Western World had intruded only in its more comfortable aspects. There was still a certain degree of beautiful indolence and pleasant living, with nothing that was really vulgar. The Burmans, Buddhists almost to a man, are lovers of beauty and pleasure for their own sakes, and they are undisturbed by excessive ambition.

Normally, there was little ill-feeling for aliens in Burma. The casual foreign visitor was assured of a welcome in pagodaland. The social structure is democratic; there is no caste and little of the grinding poverty prevalent among her neighbors in India and China.

Chance travelers to Upper Burma and the Shan States found a ready welcome. Throughout this entire area village bazaars are held every five days (Marco Polo first wrote about this custom), the day varying from village to village. People come from miles around to exchange goods and gossip.

In the more remote regions the European who visited the bazaars found himself the center of friendly attention by the village idlers—frequently the entire male population.

At the beginning of the last century Burmese levies invaded Assam, made that country a wilderness, and left their bones to bleach by thousands in the mountain passes.

Exploring the Wild Borderlands

The first Britisher to travel overland from Assam to Burma and the gates of China was Capt. S. F. Hannay, who reached Bhamo on December 21, 1835.

British officers explored upper Assam a century ago and decided that no practical route could be found for a caravan trail to China. A host of others came to the same conclusion from exploration on the China side of the mountains. Meantime, Prince Henry of Orleans in 1895 made the first long journey overland from the Gulf of Tonkin to upper India.

By 1895 Li Hung Chang, Chinese statesman and general, and Lord Dufferin had agreed to connect Burma and China by telegraph. A line was constructed through the jungle to India, and thus messages could be sent from Bombay to Peking.

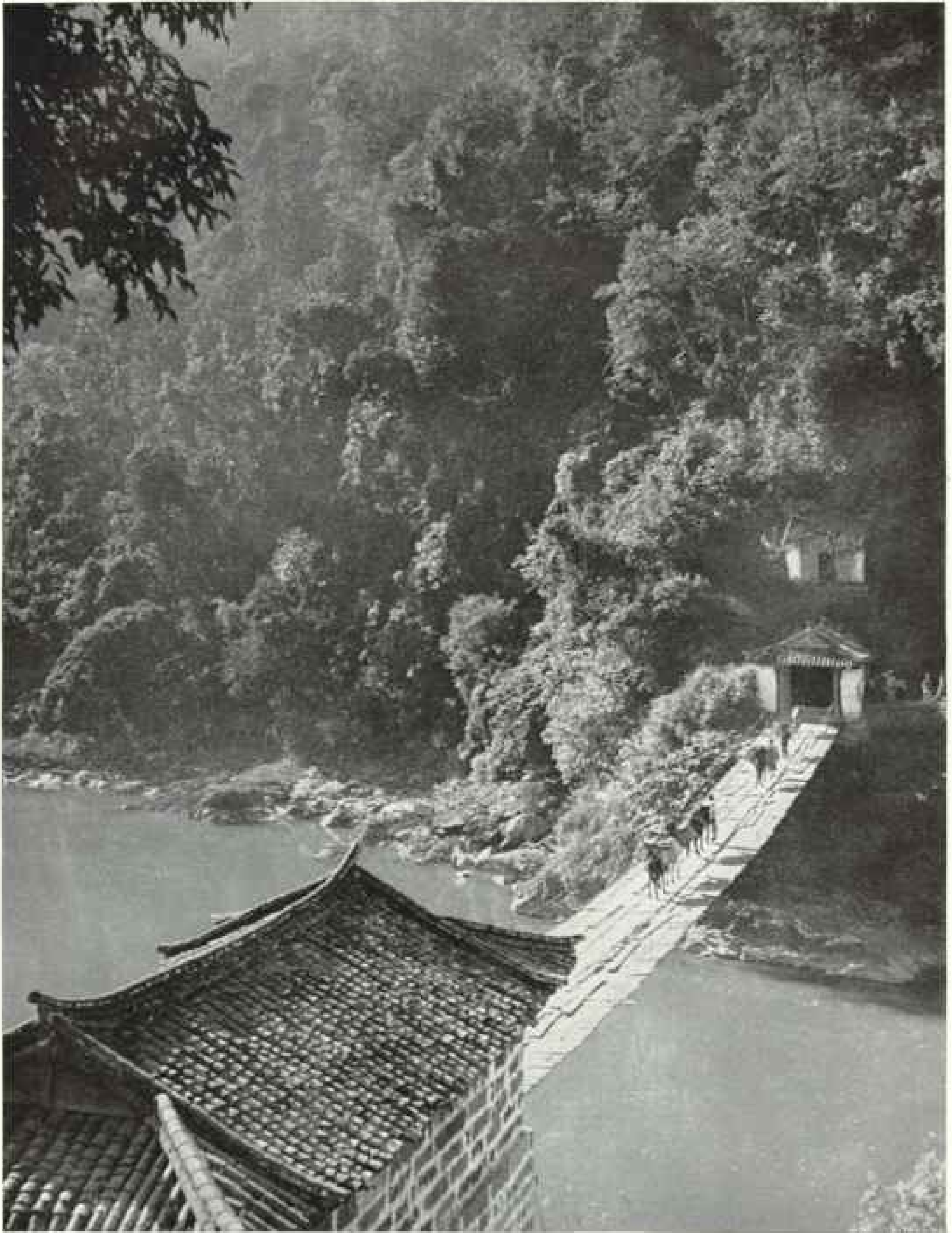
But plans for railways or highways from India and Burma to China were put to rest when Lord Curzon stopped construction of the Burma Railways at Lashio with the remark that all commerce from Burma to China was then being "successfully transported across the Salween in two dugouts." Thus ended the dream of a grand trunk railway from Calais to Shanghai by way of the railroads of India and Burma.

War in China revived railway transportation, which had come to a dead stop in southeast Asia about 1935. No connection had been made between any of the five great railway systems of southern and eastern Asia. India, Thailand, China, Burma, and French Indochina had thousands of miles of steel rails, but none of these systems joined any other railway in the area.

The Chinese, however, imported American mechanical equipment to supplement their hand labor and began in 1941 construction of railways in Yunnan northeast toward Kweiyang and Chungking and west toward Tali and Burma. Meanwhile, the British began an extension of the Burma Railways from Lashio to the Kunlong Ferry, along the old survey to the Salween. Closing of the Rangoon port again suspended this construction.

Air transport is taking the place of the plodding caravans of other days. Supplies for China are now being flown in from India.*

* See "American Wings Soar Around the World," by Donald H. Agnew and William A. Kinney, NATIONAL GEOGRAPHIC MAGAZINE, July, 1943.



Mules Cross a Stream by Cable Bridge

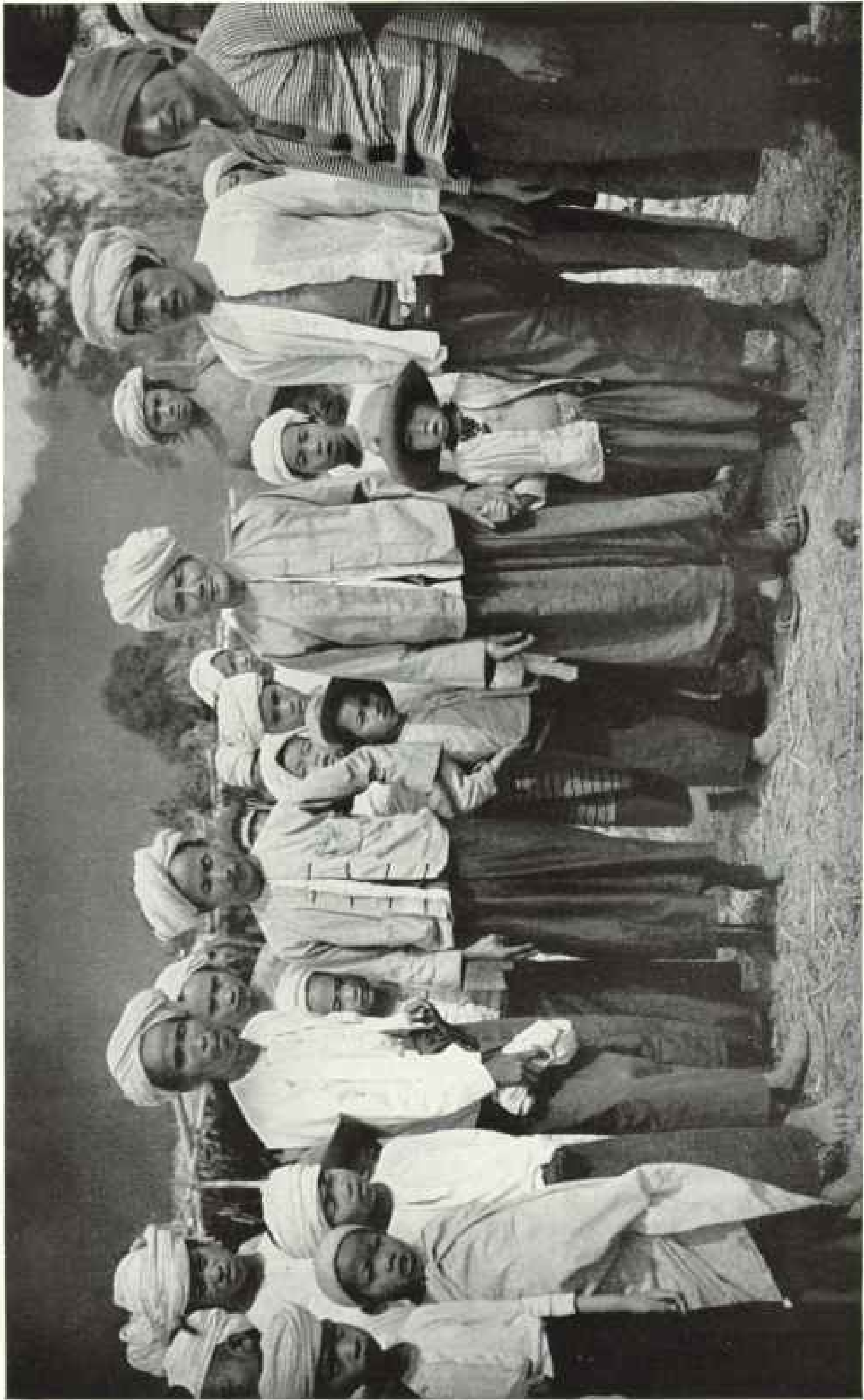
On the Yunnan side of the Shweli River, in territory that is impassable for wheeled vehicles, lies this section of the old China-Burma caravan trail. Mountain rivers are seldom fordable, and getting over them is a problem. Modern bridges have replaced many unsteady structures, which were supported by fiber ropes before steel became available. This span, laid on strong cables, is one of the better examples of the old type.



For Years Padaung Women and Children of Loikaw Have Brought "Joints of Water" from the Well

In their baskets are sections of bamboo which serve as buckets. The little girl has a baby strapped on her back, and the boy has his burden slung on his side. The woman heading the line wears her spiral neckpiece (page 498). From early childhood youngsters are taught to carry things.

H. J. VOON



John L. Christian

Village Fairs in Kengtung State - Laos - Old and Young

A Shan village headman wearing the large turban (center) clasps his grandson by the hand. The youngster views the author-photographer with open-mouthed wonder. The Shani belong to the same racial stock as the people of Thailand.



"If I Lie, May the Tiger Eat Me"

© Capt. J. H. Green

"May the water spirit swallow me up; may the lightning spirit strike me; and may I die a violent death." Such is the oath taken by this Northern Kachin as he ceremoniously holds his *doh*, or sword, over his head.

War in Asia has made it evident that there are no "impassable jungles," no "impenetrable jungles," and no uncrossable mountain ranges.

China's plans for new outlets to the world began taking shape after shipment of war supplies was suspended from Hong Kong and over the French Yunnan railways. Next, the clandestine trade became more difficult through the minor ports of Kwangtung, Fukien, and Chekiang.

A look at the nebulous area where India, Burma, and China join hands gives some idea of the difficulties to be encountered in opening a detour for the Burma Road (map, page 492).

On the India side, the meter-gauge Assam-Bengal Railway may be taken to Ledo or to the south bank of the Lohit branch of the

Brahmaputra opposite Sadiya. From Ledo the new highway could go over Chaukan Pass (elevation 7,980 feet) to Fort Hertz in Burma, a comparatively easy climb.

Should Chinese plans call for a highway even more removed from possible Japanese thrusts through southern Burma, the route would wind over the Diphuk Pass (14,280 feet) beyond the headwaters of the Mali Hka tributary of the Irrawaddy. This defile is known to the Burmese as Talok (Chinese) Pass. Here a highway would travel northeast and leave Burma by the Namni Pass (15,300 feet).

Roller-coaster Road over Towering Ranges

Both of these passes are closed by snow for at least three months each year. Until the beginning of the present war, Diphuk Pass had been crossed only a few times by Europeans.

But these routes from India to China have only begun to

solve their difficulties by crossing Burma. "As to the proposed southern trans-Asiatic railway," Capt. Kingdon Ward remarks, "it is certain it will never cross the Burmese hinterland."

China has surveyed some of these routes and has begun solving, in her once-forgotten southwest, the most colossal highway problems ever faced by engineers anywhere. To borrow a simile used by a correspondent of the London Times in describing the Burma Road, "A truck passing over the road is like an ant crawling laterally across a sheet of corrugated iron."

Nothing during the last decade so fascinated attention and admiration the world over as China's construction, within a year,

of the famed Burma Road.*

Begun in November, 1937, and opened for through traffic in December, 1938, the road was China's life line until March, 1942, when the Rangoon-Lashio railway, which feeds it, was cut a short distance north of Pegu, in Lower Burma. Day and night, fair weather and foul, trucks rumbled along it unceasingly, with the exception of the short interval from July 18 to October 18, 1940, when traffic in war materials was suspended.

It was a wonderful road, and, although tooth-loosening, it brought the Western World and the sinews of war to southwest China. Yunnan Province, which as recently as 1937 had only about 200 motor vehicles, now has hundreds of cars and trucks.

Inspired by the example of the Burma Road, thousands of miles of roads and trails have been built throughout all of forbidding southwest China.

Unfortunately, the seminomadic people, mostly of Tibetan stock, living where Burma, China, and India meet, cannot read. Nor do they understand maps and frontier lines so carefully drawn and pronounced final and good by the diplomats of Britain and China.

Carefully worded proclamations, in English, prohibiting non-British subjects from collecting medicinal roots and herbs and shooting musk deer on the southern slopes of the 20,000-foot peaks at the headwaters of the Irrawaddy were lost on itinerant Chinese and Tibetans, particularly when these proclamations were entrusted to timid headmen of the Hkanung tribe at the northern tip of Burma.

Tibetans from Tazungdam, Haita, and



Henry R. O'Brien

A Shy Kaw Hill Woman Visits Kengtung Market

Her wooden yoke is designed to support a basket of supplies. Ornaments are beads, seeds, shells, buttons, and tufts of red-dyed monkey fur. The Kaw tribes inhabit the mountains in Kengtung State. These picturesque costumes have largely been replaced by imported factory-made textiles.

Adung Long, among the northernmost villages in Burma, are so unaware of international frontiers that they regularly cross the 14,280-foot Diphuk Pass to Rima in Tibet to pay their annual tax.

Natives Grind Grain with Tombstones

I noticed in several villages along the China-Burma frontier two types of grinding stones in use by the village women: Chinese tombstones, and the smaller boundary stones that had been so carefully set up to mark the frontier.

* See "Burma Road, Back Door to China," by Frank Outram and G. E. Fane, NATIONAL GEOGRAPHIC MAGAZINE, November, 1940.

The Northeast Frontier, now vital to China, India, Britain, and the United States, slumbered long under the Pax Britannica. All Burma north of Myitkyina, Assam beyond Sadiya, and China west of the Salween remained a delightful land of primitive tribes and rare orchids and rhododendrons.

Sir Henry Yule, a Bengal engineer officer famous for his *Cathay and the Way Thither* and the *Book of Ser Marco Polo*, was a gentleman geographer for whom the frontiers of unknown Asia had great charm.

Yule first noted the fact, in his Introduction to Capt. William John Gill's *The River of Golden Sand*, that, although China and India (including Burma and Tibet) have a common frontier for more than 1,000 miles, at no time in history has a conqueror from India passed on to China, nor, with one minor exception, from China to India.

Mountains Form a Chinese Wall

Nor did the conquests of Genghis Khan, Kublai Khan, Tamerlane, or any of the Great Moguls ever include parts of both countries. The reason for an almost complete absence of trade and contacts between these neighboring countries is to be found in the nearly impassable mountains where China, India, and Burma converge.

Such cultural and commercial contacts as did occur were made usually across the northwest passes. Only the present gladiatorial combat in east Asia has intervened to disturb the ancient calm of the Northeast Frontier.

Here the magnificent Himalayan range, after dividing India from Tibet in a grand arc punctuated by such peaks as unconquered Everest, 29,002 feet, turns south and forms a tumbled mass of parallel ridges and valleys running southeast through Burma and the great peninsula of farther India.

This greatest of all barriers to human travel separates the world's two most populous countries, India and China, which between them are home to more than a third of the human family. The mountain wall on the India-China-Burma frontier is pierced by only one river in India (the Brahmaputra) and in China by the Salween, the Mekong, and the Yangtze in that unique place where these three mighty rivers are compressed within a distance of some fifty miles.*

Ever since early merchant adventurers to southeast Asia learned that at one point the Yangtze is within 650 air miles of the upper reaches of the Bay of Bengal, whereas it is 4,400 miles by sea from Calcutta to Shanghai,

this region has been one of intriguing interest.

Indeed, some of the early geographers, puzzled by the emergence of the mighty Brahmaputra, Irrawaddy, Salween, Mekong, and Yangtze from the same area, pictured them as having a common origin in a great lake on the frontier between China and Tibet.

Carts have been driven from the valley of the Don to the borders of Korea (Chosen) by the great conquerors of northern Asia. Mongol horsemen have ridden their sturdy ponies over the same route. But no wheeled vehicle, cart, or patient wheelbarrow ever has crossed to China from India by the northeastern route, and the number of European travelers who have passed overland from Hindustan to Cathay by this short cut can be counted on the fingers of two hands.

Always cautious about the Khyber Pass in the famed North-West Frontier Province, the Government of India has been hardly aware of its China boundary. A British statesman thus summarized the official attitude: "The condition of the Northeastern Frontier has caused no Governor-General a single sleepless night."

The malarious valleys on the China side of the boundary are almost deserted. New routes from India will lead through Sikang Province, the only Chinese province having a population of less than a million.

Vast China and India Join Hands

The visit of Generalissimo and Madame Chiang Kai-shek to India in February, 1942, marked the end of the old policy of isolation. Soon diplomats of the two countries will again travel or fly over the ancient Ambassadors' Road through northern Burma as ministers from Chungking and New Delhi.

Within two months after Rangoon became unsafe as a port of entry for goods destined for Free China, the first load for the Burma Road via India arrived in Kunming. The military authorities have not disclosed the exact route taken by these goods. But the important point is that supplies have arrived in China in increasing volume by air and land. And more will follow.

Perhaps Lin Yutang was correct in writing that across the roof of Asia, "India, the mystic of Asia, and China, the gentleman of Asia, will combine to frustrate Japan, the warrior of Asia."

* See "Through the Great River Trenches of Asia," by Joseph F. Rock, NATIONAL GEOGRAPHIC MAGAZINE, August, 1926. The area is truly a sort of Mother Nature's strait jacket.

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President Chesapeake and Potomac Telephone Companies

ERNEST E. NORRIS

President Southern Railway System

JOHN OLIVER LA GORCE

Associate Editor of the National Geographic Magazine

ORGANIZED FOR "THE INCREASE AND DIFFUSION OF GEOGRAPHIC KNOWLEDGE"

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

Articles and photographs are desired. For material the Magazine uses, generous remuneration is made.

In addition to the editorial and photographic surveys constantly being made, the Society has sponsored more than 100 scientific expeditions, some of which required years of field work to achieve their objectives.

The Society's notable expeditions have pushed back the historic horizons of the southwestern United States to a period nearly eight centuries before Columbus crossed the Atlantic. By dating the ruins of the vast communal dwellings in that region, the Society's researches solved secrets that had puzzled historians for three hundred years.

In Mexico, the Society and the Smithsonian Institution, January 16, 1939, discovered the oldest work of man in the Americas (or which we have a date). This slab of stone is engraved in Mayan characters with a date which means November 4, 291 B. C. (Spinden Correlation). It antedates by 200 years anything heretofore dated in America, and reveals a great center of early American culture, previously unknown.

On November 11, 1935, in a flight sponsored jointly by the National Geographic Society and the U. S. Army Air Corps, the world's largest balloon, *Explorer II*, ascended to the world altitude record of 72,395 feet. Capt. Albert W. Stevens and Capt. Orvil A. Anderson took shift in the gondola nearly a ton of scientific instruments, and obtained results of extraordinary value.

The National Geographic Society-U. S. Navy Expedition camped on desert Canton Island in mid-Pacific and successfully photographed and observed the solar eclipse of 1937. The Society has taken part in many projects to increase knowledge of the sun.

The Society cooperated with Dr. William Beebe in deep-sea explorations off Bermuda, during which a world record depth of 3,028 feet was attained.

The Society granted \$25,000, and in addition \$75,000 was given by individual members, to the Government when the congressional appropriation for the purpose was insufficient, and the finest of the giant sequoia trees in the Giant Forest of Sequoia National Park of California were thereby saved for the American people.

One of the world's largest icefields and glacial systems outside the polar regions was discovered in Alaska and Yukon by Bradford Washburn while exploring for the Society and the Harvard Institute of Exploration, 1938.

He's looking for
a U-boat . . .
in the sky!



ROARING OUT OVER THE ATLANTIC, a huge Navy Patrol Bomber heads for a tiny patch of ocean . . . the spot where an enemy U-boat is reported to be lurking.

How will the fliers find it? Not by looking at the water . . . but at the sky!

Through a bulging blister on the plane, one of the officers points a strange-looking instrument at the sun or a star. It's called a sextant. Attached to it is a highly-precise navigational time and stop watch.

The sextant will give him the altitude of the sun or star. The watch will tell him the time—down to a fraction of a second.

When he snaps a trigger, both of these measurements will be recorded, *instantly!* Together, they'll enable him to plot an arrow-straight course to the objective.

Once it took two men to do this vital job. But the Hamilton navigational time and stop watch—the first of its kind built in America—enables one man to navigate a plane swiftly and accurately.

Hamilton workers are now fully engaged in building the navigational time and stop watch and many other precision timepieces for our armed forces. And though few Hamil-

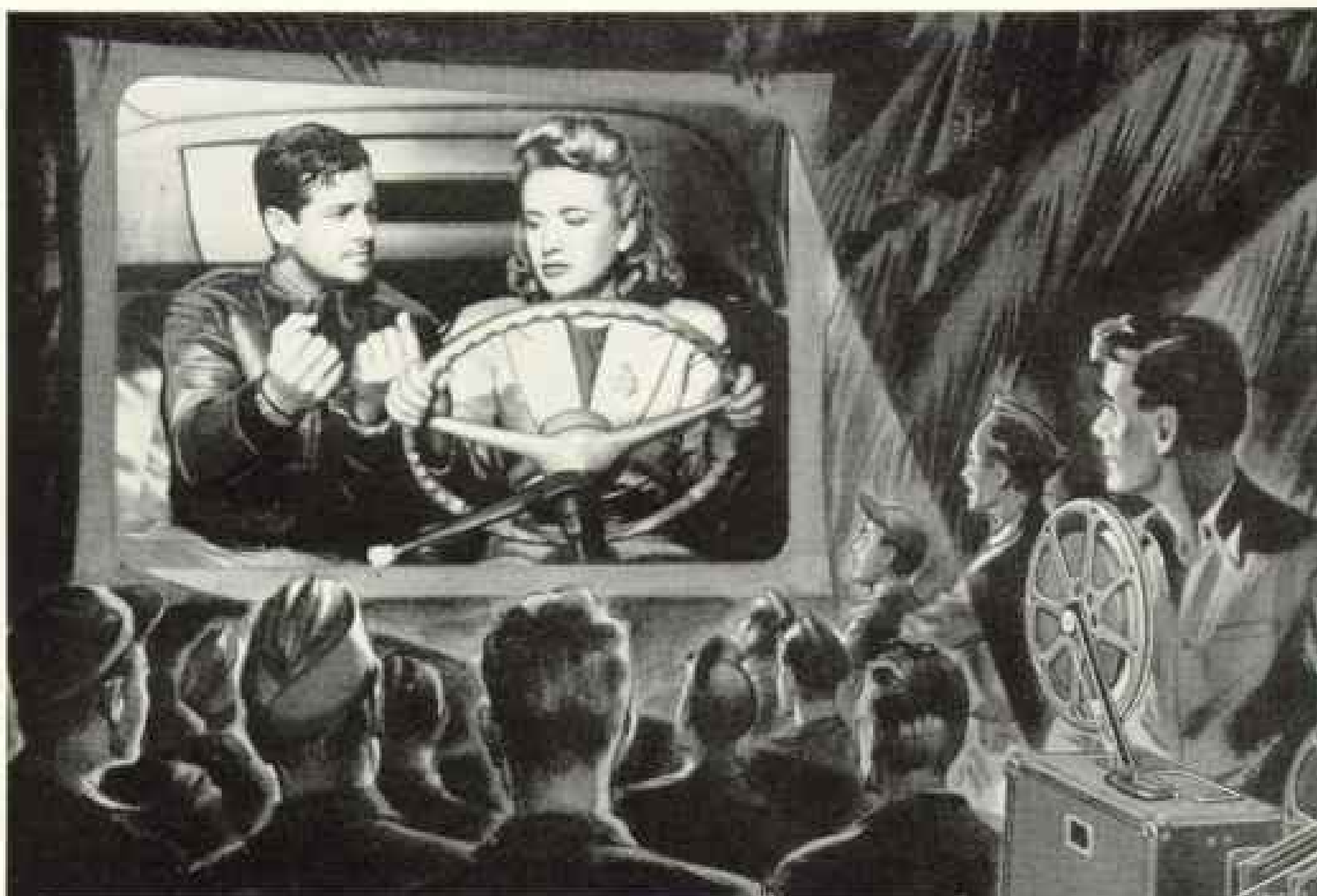
tons can now be made for civilians, this wartime experience promises a postwar Hamilton that will more than earn the title: "The Watch of Railroad Accuracy."

Buy U. S. War Bonds 
Now—Help America Win on Time!

© 1943 BY HAMILTON WATCH COMPANY



HAMILTON *makers of The Watch of Railroad Accuracy*
NOW MAKING ACCURATE WAR TIMEPIECES



**Eight reels of
MORALE
...to help win a war!**



Urena Depp, Solotow, with Priscilla Lane and Robert Cummings, A Universal Picture now available through the Bell & Howell Film-sound Library for churches, schools, clubs, private homes, and other approved non-theatrical institutions.

Any soldier back from a fighting front can tell you. He may not call it "morale" . . . that's just a ten-buck word for the *lift* he felt when he saw familiar movie faces on a screen two thousand miles from home.

His officers know that feeling. They know how valuable it is in winning battles. That's why Film-sound Projectors travel with the troops wherever there's a job of fighting to be done. That's why Film-sound Library sends so many full length Hollywood features to the fighting fronts.

But that's only part of our job. We build the cameras used to record actual battle action . . . and the projectors to show to men in training at Army camps and Naval bases the results obtained through various strategies. We also make special devices of many kinds that we don't talk about except to Army and Navy men.

That's what we are doing . . . to the very limits of our skill and energy . . . and other jobs must wait until the war is won!



* Trade-mark registered

*Opti-onicsOPTics...electrONics . . . mechanICS. It is research and engineering by Bell & Howell in these three related sciences to accomplish many things never before obtainable. Today, Opti-onics is a WEAPON. Tomorrow, it will be a SERVANT . . . to work, protect, educate, and entertain.

BUY WAR BONDS

Filmo

Bell & Howell Company,
Chicago; New York; Holly-
wood; Washington, D. C.;
London. Established 1907.



Products combining the sciences of OPTics • electrONics • mechanICS

PRECISION-MADE BY

Bell and Howell

"I LOOKED INTO MY BROTHER'S FACE"

Even now, I can't sleep.

All night long the distant thunder of the guns was like the sad sound of surf along the shore at Manasquan where we spent last summer. And all night long I heard again the words I said bending over the litters as the wounded came in . . .

"Where are you hurt, soldier?"

Now, not even the blessed numbness we pray for in this place can keep me from living over and over again the moment when, sponging away the dark red mud, I looked into my brother's face.

He said, "Don't cry, Sis." And suddenly we were children again, playing nurse and wounded soldier on the battlefield of our yard back home, and I was crying because it seemed so real and I was scared.

I grew up last night.

Out here, I've seen my share of war. Women strafed in the streets . . . hospitals bombed . . . ripped sheets, splintered beds, the living and dead tumbled together. And I've stood it, because I'm an Army Nurse and that's my job.

But a nurse is a woman, first. And when someone you love is wounded, something breaks inside, and the war hits home.

Hits home to you . . . and to your mother and dad in the little Iowa town where you were

born. Hits home to the heart of America.

And then you know why we're out here. Not for glory. Not for new worlds to conquer. Not for the sake of great, high-sounding words . . .

But to make sure we keep on having the kind of America my brother and I grew up in . . . to make sure we'll always have a hand and a voice in helping to make it an even better land to live in. To make sure that we'll come home to the America we've always known . . . where we can make our lives what we want them to be . . . where we'll be free to live them out in peace and kindness and security.

That's what my brother and I are fighting for.

Keep it that way until we come back!

Here at Nash-Kelvinator, we're building 2,000 h.p. Pratt & Whitney engines for Navy Vought Corsair fighters . . . making intricate Hamilton Standard propellers . . . readying production lines to build Sikorsky helicopters for the Army Air Forces . . . working day and night to make sure our sons and brothers will soon be coming home again . . . to make certain that someday soon we'll turn again to peaceful things, to the building of an even finer Kelvinator, an even greater Nash.

NASH KELVINATOR CORPORATION

Kenosha • Milwaukee • DETROIT • Grand Rapids • Lansing

THEY GIVE THEIR LIVES;
WE LEND OUR MONEY.
BUY MORE WAR SAVINGS
BONDS AND STAMPS!



NASH

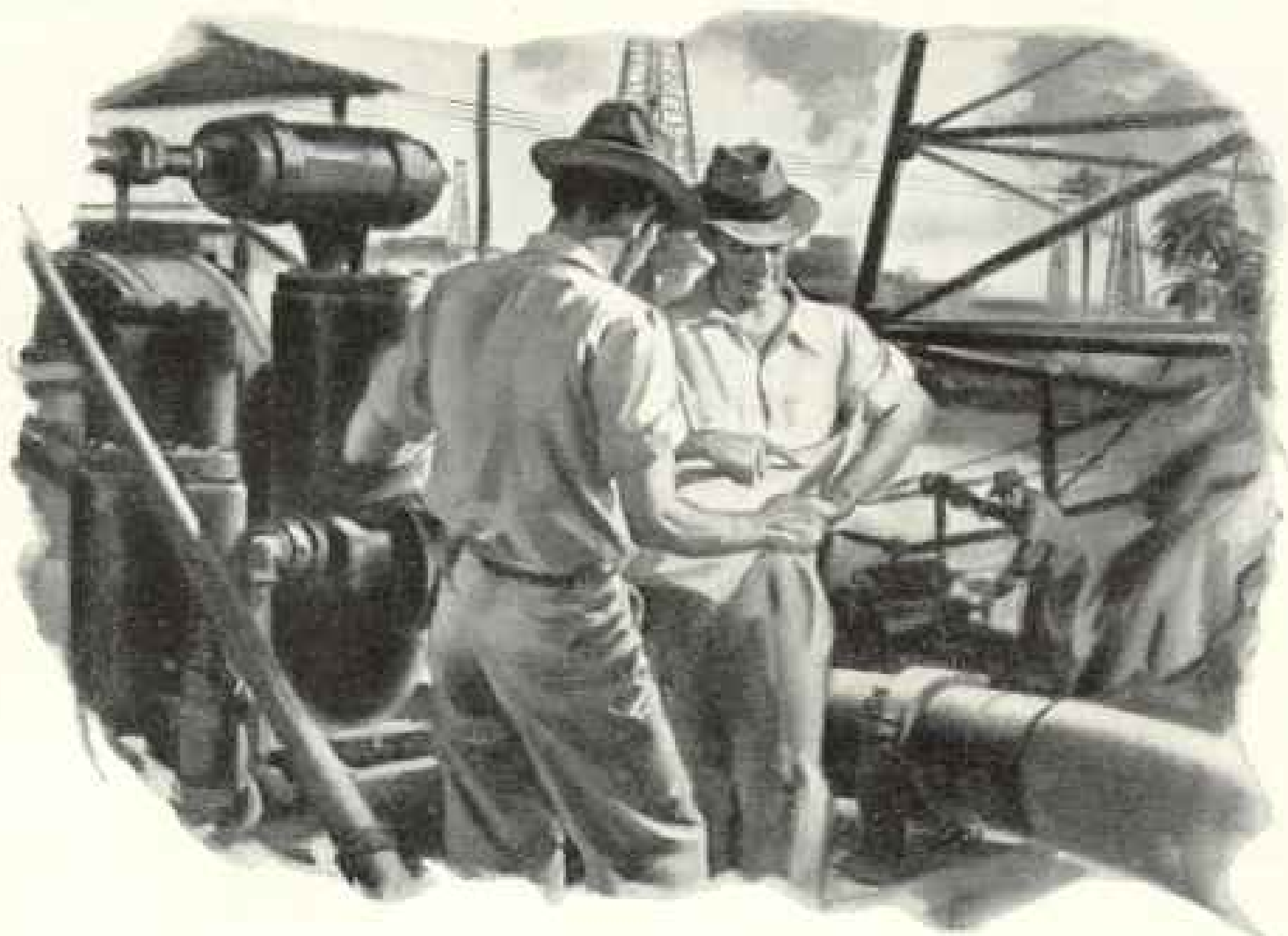


AUTOMOBILES

KELVINATOR



REFRIGERATORS AND ELECTRIC RANGES



In Venezuelan Oil Fields, Oil-Resistant SYNTHETIC RUBBER lasts 10 times longer!

THIS is a story that begins back in 1939, two years before Pearl Harbor had turned America's thoughts to synthetic rubber. The scene is Venezuela, in one of the world's richest oil fields.

Down there, oil men were having constant trouble with a small but essential rubber fitting, known as a slush pump valve insert, used on every well. Even when made from the finest natural rubber, these inserts were failing after a few hours' service — due to the highly abrasive nature of the sand-oil mixture circulated through the slush pumps, extreme heat, and the natural disintegrating effect of oil upon rubber.

A large manufacturer of oil field specialties brought this problem to Goodyear. Laboratory experiments indicated that a valve insert made of Chemigum-N — the oil-resistant type of synthetic rubber patented by Goodyear in

1927 — would give better results. But the customer wanted proof in the field.

Accordingly a year's test was made by the customer in the Venezuelan oil fields. At its conclusion a Chemigum insert had been developed that averaged *ten* times longer service, under these exceptionally severe conditions, than the best natural rubber product. Today Chemigum slush pump inserts are giving similar performance all over the world.

The "know-how" that produced a superior oil-resistant synthetic rubber for this difficult service—*two years before the war*—explains why Chemigum-N is now used for so many military products where resistance to oil is essential. When peace comes, both industry and the public are going to have many new

Goodyear products built of Chemigum that will excel the best natural rubber in many ways.

CHEMIGUM

GOOD YEAR

THE GREATEST NAME IN RUBBER

Chemigum (pronounced Kem-ig-um)
— T.M. The Goodyear Tire & Rubber Company



BUY WAR BONDS AND STAMPS

"The earth and I are friends now"

Last year I never thought of the earth except as something to walk on. But in the spring I turned up sod and planted seed. Summer—I got friendly with the land.

Well, it's autumn now. And something *good* has happened to our family! We've weeded and watered and hoped *together*. And said our table blessing over our own harvest.

It seems to me that my family has come back to some important things. Come back to one another, and to our good soil. We're all closer now. Closer to the men whose prayers are tied to earth and sun and the early frost. We know now what's in a farmer's mind when his fields are sick with blight.

Yes, now we *know* something about this earth. Respect it. And respect the people who tend it. And we know that the fruits of the soil are hard-earned and hard-won.

This is our land. As it was so many years back—when the harvest of the land alone sustained our people. . . . Our land . . . our harvest.

In appreciation of the big job being done by our partners, the professional farmers of America . . . and by the new millions of amateur farmers, this message is presented.

Dedicated to the wider use and better understanding of dairy products as human food . . . as a base for the development of new products and materials . . . as a source of health and enduring progress on the farms and in the towns and cities of America.



**NATIONAL DAIRY
PRODUCTS CORPORATION**
AND AFFILIATED COMPANIES



Copyright 1943, The Pullman Company

"Tomorrow night — Fort Knox !"

"We're a little late tonight, folks!

"Just time to remind you that this broadcast has come to you from Great Lakes Naval Training Station, outside Chicago. Tomorrow we'll be with the boys at Fort Knox, Kentucky. 'Til then, this is Harry Von Zell saying—*Good Night!*"

Then a tired troupe of entertainers hurries to the Pullman car that's been "home" to them for weeks.

Like scores of other radio, screen and stage stars who are giving time and talent so generously to brighten training camp routine, these folks travel almost constantly. So do huge numbers of civilians engaged in war activities. And thousands of service men on leave.

In spite of this record-breaking traffic, Pullman's usual high standards could be maintained if *all* sleeping cars were in regular passenger service. But they aren't. Many have an even *more* essential war job. Made up into special troop trains, they move an average of almost 30,000 men in uniform a night.

So, with more people seeking space in *fewer* cars, "going Pullman" is not what it used to be.

Fortunately, most wartime passengers don't seem to mind. Hard-pressed by long hours and heavy responsibilities, they prize simple rest and relaxation far above the *extra* services of peacetime Pullman travel. To them, a good day's work *tomorrow* depends on a good night's sleep *tonight*.

And that's *so* important to *so many* people that when you plan to "go Pullman," please:

Ask yourself: "Is my trip *necessary!*" If it *is*, then . . .

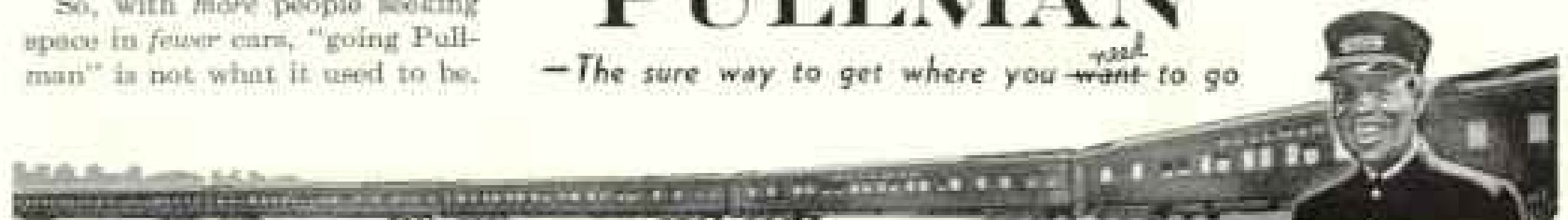
Ask your Ticket Agent on which days trains may be least crowded on the route you want to take. Try to go on one of those days if you can.

Travel light and give yourself and fellow passengers the room that excess baggage would take.

Cancel promptly, if your plans change, and make the Pullman bed reserved for you available to someone else.

PULLMAN

—The sure way to get where you ^{need} want to go



Rushing the Rations



IT is early morning. Stars still hang in the sky. Folks are deep in slumber. But at the many great freight terminals of the Pennsylvania Railroad all is bustle and activity . . . *the rations are rolling in!*

Fresh meats from great packing centers . . . crisp vegetables and juicy fruits from lands where the warm sun shines . . . butter from creameries . . . cases of canned goods from canneries . . . the foods so essential to wartime energy and health.

Over the lines of the Pennsylvania Railroad more food is moving than in any year within memory . . . particularly to great industrial centers and Atlantic ports, for shipment overseas.

But that is only half the story. In the face of rising costs, *the railroads today are hauling food at virtually the same low freight rates prevailing in 1939.* That helps materially to keep living costs down.

Of course, to keep this tremendous tide of food flowing in from every part of the country often means delays for passenger trains and less vital freight shipments. But these are days when "first things must come first." And food certainly is a *first*. So if your train should be a little late, please remember that vitamins for the overseas or home front may have had the right-of-way.

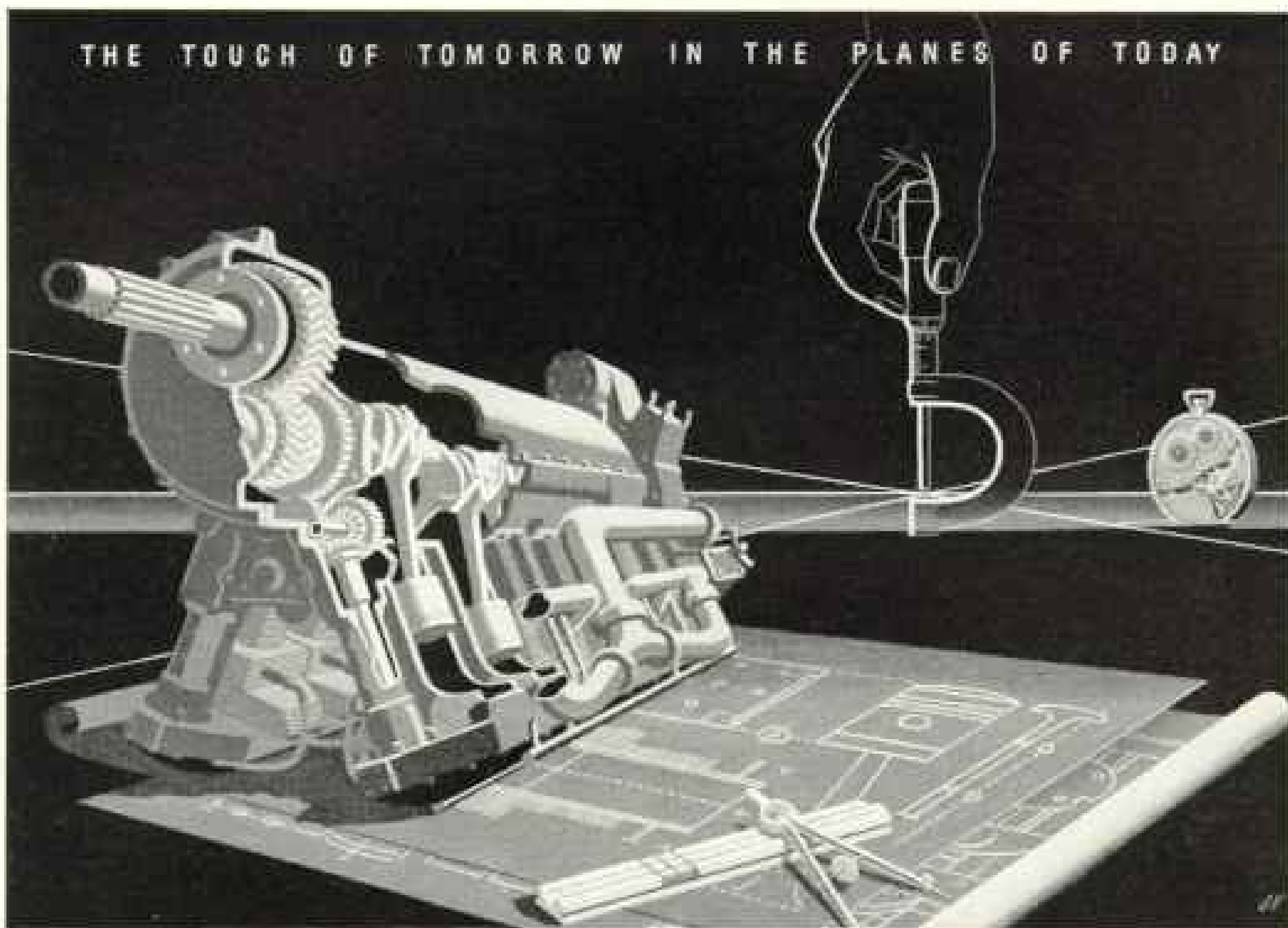
PENNSYLVANIA RAILROAD

Serving the Nation

BUY UNITED STATES
WAR BONDS AND STAMPS

★ 34,742 in the Armed Forces ✨ 47 have given their lives for their country

THE TOUCH OF TOMORROW IN THE PLANES OF TODAY



How Precise is Precision?

Maybe *your* yardstick is a fine watch. *Ours* is a Ranger 12-cylinder in-line, air-cooled engine. See the comparisons between the two listed below.

A whole battery of fine laboratory instruments, plus the genius of craftsmanship, are responsible for the Ranger's outstanding precision performance.

There's the spectroscope, for example—so sensitive it can spot a particle of metal as minute as seven parts in a hundred thousand. Fairchild uses it to explore and to control the metals in Ranger engines.

A quarter million volt X-Ray is another Fairchild key to secrets that are hidden beneath 4 inches of solid steel. It tells our engineers which metals can "take it."

Under a metallurgical microscope our technicians can read the history of any metal . . . tell how it was processed during manufacture.

With electrical instruments they can detect a flaw one ten-thousandth of an inch in depth that *could* become a bottomless pit of danger.

A beam of black light is played over machined surfaces to expose the structural "criminals" that may lurk within.

These and hundreds of other present-day miracles are routine matters for Ranger engineers and scientists. Result—the Ranger Engine . . . combination of precision and power . . . another Fairchild "touch of tomorrow in the planes of today."

A QUALITY WATCH

PARTS—about 350.

PRECISION measurements—wheel pivot held to a tolerance of 1/2 of 1 per cent of its diameter.

SPEED of moving parts—balance wheel oscillates 5 times per second.

A RANGER ENGINE

PARTS—*exactly* 4,137.

PRECISION measurements—impeller shaft held to a tolerance of 1/10 of 1 per cent of its diameter.

SPEED of moving parts—fastest part revolves 520 times per second.

BUY U. S. WAR BONDS AND STAMPS

 FAIRCHILD

ENGINE AND AIRPLANE CORPORATION
30 ROCKEFELLER PLAZA, NEW YORK

Ranger Aircraft Engines Division, Farmingdale, L. I. • Fairchild Aircraft Division, Hagerstown, Md., Burlington, N. C. • Gurnee Division, New York, N. Y.



Serge Koussevitzky, painted for Magnavox by Boris Chaliapin

The boy who ran away . . . for music

FROM what mysterious source does the *gift of music* descend on a growing boy? With Serge Koussevitzky, neither heredity nor environment was influential. Born in 1874—in a provincial little Russian town—young Serge found that his musical ambitions met with so little parental sympathy that he was finally forced to run away from home.

For nineteen years, his inspiring personality has guided the destinies of the famous Boston Symphony Orchestra, which he has fashioned into a superlative instrument for the interpretation of great music.

To enjoy all the subtle beauty of a Koussevitzky recording, you should hear it reproduced by a Magnavox radio-phonograph. Because of its


unsurpassed tonal qualities and unique clarity, this is the instrument that many of the most illustrious musicians of our day have chosen for their own homes.

Today no more Magnavox instruments are being made because the talent and craftsmanship which

created these superb radio-phonographs are devoted to the production of electronic and communication equipment for the armed forces and music-distribution systems for warships. In the postwar era Magnavox will again take its place as the pre-eminent radio-phonograph combination.

The Magnavox Company, Fort Wayne, Ind.



 Buy War Bonds For Fighting Power Today—Buying Power Tomorrow

Magnavox • *The choice of great artists*
RADIO PHONOGRAPH

“Ears for Victory”



AWARDED TO PLANT 2
OPTICAL DIVISION

MILITARY RADIO
BY

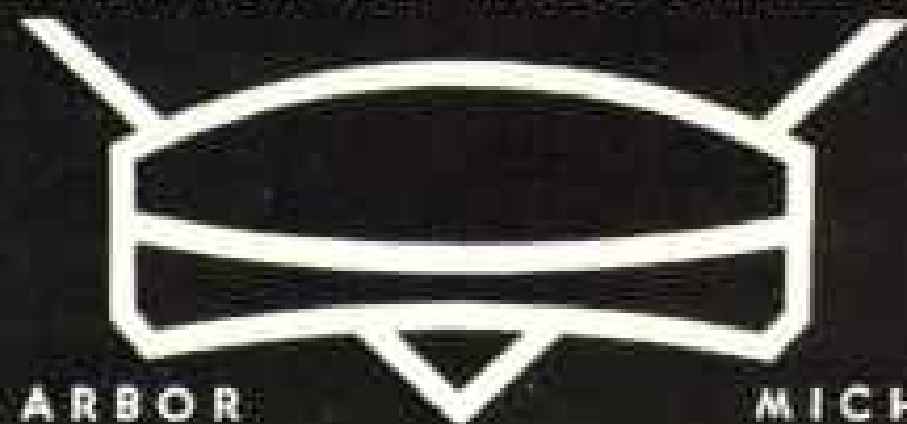
argus

INTERNATIONAL INDUSTRIES, INC.

FINE AMERICAN
CAMERAS
•
PRECISION OPTICAL
INSTRUMENTS
•
AVIATION RADIO
EQUIPMENT
•
BUY WAR BONDS

ANN ARBOR

MICHIGAN





© 1943, The Studebaker Corporation

More and more Flying Fortresses are powered by Studebaker-built Cyclone engines

Clear-eyed, clean-hearted young Americans are up there in those Flying Fortresses—writing new chapters of a free world's destiny. Many of them were carefree school boys only yesterday. Today, they're pouring cringing fear into the souls of once boastful "supermen." To these gallant youngsters—and to their expert crews below that keep them flying—we of Studebaker pledge ourselves to go on producing more and still more of the mighty Wright Cyclone engines for these devastating Boeing bombers. We'll "give more than we promise" in the best Studebaker tradition. Meanwhile, civilian needs must and will wait . . . until Studebaker completes this wartime assignment . . . until the finer Studebaker motor cars and motor trucks of the brighter days of Victory can be built.

BUY
U. S. WAR
BONDS



Big Studebaker military trucks stand out in all the major war zones—Besides producing many Flying Fortress engines, Studebaker is also one of the largest builders of multiple-drive military trucks. We're proud of our assignments in arming our Nation and its Allies.

Awarded to Aviation Division of The Studebaker Corporation



Studebaker BUILDS MIGHTY
CYCLONE ENGINES
FOR THE BOEING **Flying Fortress**

RADIONICS*

“AYE, AYE, SIR.”

In old English “Aye” meant “Yes.” But the Navy’s “Aye, Aye, Sir” means far more. It really says . . . “Your order is understood and will be obeyed.” The Navy has given Zenith many “orders” since the war began. Our prompt “Aye, Aye, Sir” has, we believe, been justified by the “intelligence and initiative” (as the Navy says) with which these orders have been executed.



“the impossible we do
immediately . . .
the miraculous takes
a little longer”

—ARMY SERVICE FORCES

—in days of civilian radio, Zenith was proud of its long series of “firsts”—improvements which made radio history and established leadership in the industry.

—today our viewpoint has changed—materially.

—engaged exclusively in war production, the things we have been called upon to do—the tasks we have succeeded in accomplishing, make past improvements in civilian radio literally look like “child’s play.”

—the work of our engineers in radionics has made the “impossible” possible and accomplished the “miraculous.”

*—mark that word “RADIONICS” (with its subdivisions—Electronics, Radar and Radio)—it has brought into reality and being, devices which only a year or so ago came in the “impossible” and “miraculous” categories.

—today Zenith works in the science of radionics for our armed forces alone.

—in that bright “tomorrow” when peace returns—

—we can only say—the post-war radios that Zenith will produce will contain many interesting new developments.

—that statement is based upon experience which we can not now reveal—but you may take our word that it is a fact.

ZENITH RADIO CORPORATION, CHICAGO

BETTER THAN CASH

U. S. War Savings Stamps
and Bonds

ZENITH
LONG DISTANCE
RADIO
RADIONIC PRODUCTS EXCLUSIVELY—
WORLD'S LEADING MANUFACTURER



Straight steer *by Fisher*

The Army-Navy "E" flies above three Fisher plants for excellence in aircraft production and from two others for tank production, while the Navy "E," with three stars, is flown by still another Fisher plant for its unusual ambulance work.

TWO amazing instruments — the gyro horizon and the directional gyro — help to give the American bombardier his big moment. Both are designed by Sperry Gyroscope, and built by Sperry and Fisher Body.

In precision flying, these delicate indicating instruments help a pilot to keep on his designated target. In blind flying or night flying they help him keep the true course to his objective.

Precision beyond anything ever attempted by Fisher is a "must" in their manufacture. Rare and special skills are necessary every step of the way.

Craftsmanship gave us the answer, just as it gave us the answer to bomber, tank and anti-aircraft gun problems.

Craftsmanship has never yet let us down.

And today you may be certain that as long as there's a micrometer and a microscope left in the world, our men will do their best to give their brothers in the air a straight steer — by Fisher.

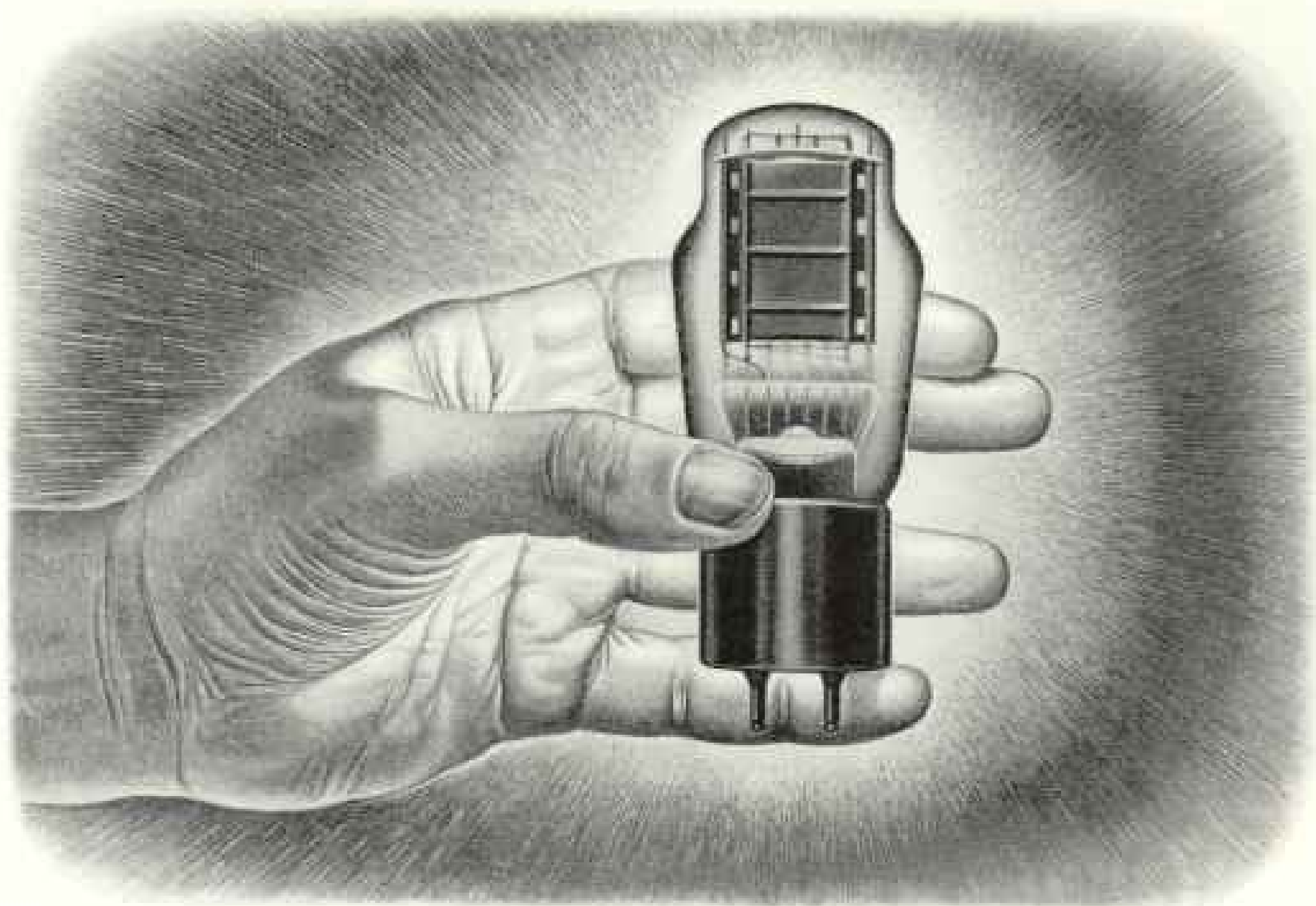


ARMAMENT
BODY BY

Fisher

D I V I S I O N O F G E N E R A L M O T O R S

"IT OUGHT TO GET A WAR MEDAL"



This little tube *can't* help you smell. But it *can* help you talk, see and hear. Right now, it helps direct guns, planes, ships. It ought to get a war medal.

It has given birth to a new art called Electronics.

In 1912, in the Bell Laboratories, Dr. H. D. Arnold made the first effective high-vacuum tube for amplifying electric currents.

Vacuum tubes made possible the first trans-oceanic telephone talk by the Bell System in 1915.

Vacuum tubes are now used on practically all Long Distance circuits to reinforce the human voice.

That's why you can talk across the continent so easily.

Over 1,250,000 electronic tubes are in service in the Bell System. Bell Laboratories developed them, Western Electric made them.

But both Laboratories and Western Electric are busy now with war — turning out tubes and putting them to work in many a device to find and destroy the enemy on land, in the air, and under the sea.

After the war, this Bell System army of tubes will work in thousands of ways for peace.

BELL TELEPHONE SYSTEM



HELP THE WAR BY MAKING ONLY VITAL CALLS TO WAR-BUSY CENTERS. THAT'S MORE AND MORE ESSENTIAL EVERY DAY.



IT'S A TOUGH PROVING GROUND

THERE'S hardly a General Motors wheel that isn't whirring exclusively for war.

Yes, the heat's really on. And while we can't tell you how many engines we're building, we can say this. You can find General Motors Diesels from African deserts to Burma jungles—and on the seas between. They're in tanks, trucks, landing and patrol vessels, tractors and many other tools of war.

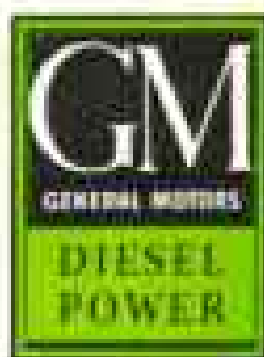
And although our plants have been greatly expanded,

and we're making these engines at many times the pre-war rate, they're still asking for more.

War's a hard taskmaster and a tough proving ground. But when the war is won, these enlarged production facilities for war's demands will mean more economical power for a better peacetime world.




New eras of transportation follow in the footsteps of war. Another new era of transportation is assured in the wake of this war. General Motors Diesel Locomotives already are establishing new standards.



ENGINES 11 to 250 H.P. DETROIT DIESEL ENGINE DIVISION, Detroit, Mich.

ENGINES 120 to 3000 H.P. CLEVELAND DIESEL ENGINE DIVISION, Cleveland, Ohio

LOCOMOTIVES ELECTRO-MOTIVE DIVISION, La Grange, Ill.



San Francisco to Salamaua

ROHR equipped Consolidated Coronados flown by Pan American to outposts of attack

Teamwork... a vital weapon of the United Nations... begins in war production factories and extends to fighting units on every front.

Teams of Rohr Production Fighters work around the clock preparing huge Consolidated Coronados for the next team... skilled flight crews of Pan American World Airways... on a mission of quick supply to far-flung forces of the Allies.

Teamwork is the dominant spirit of men and women on Rohr production lines... determined to help cut the time to Victory!

HELPING TO WRITE THE  STORY OF TOMORROW

ROHR
PARTS & ASSEMBLIES

ROHR AIRCRAFT CORPORATION • CHULA VISTA, CALIFORNIA



Buy War Bonds and Stamps

No Achilles Heel

This slashed-in-two Flying Fortress* theoretically should not fly. There had been stiff fighter opposition. In the melee, a Messerschmitt, crazily out of control, crashed into it.

The German plane was destroyed on impact. The Fortress' fuselage was ripped diagonally from top to bottom. Control surfaces were carried away. The tail gunner, suddenly imperiled in his wobbling section, crawled forward over the narrow floor structure that held the parts together. And the Fortress flew steadily—back to her base for a perfect landing!

Often the question is asked about Boeing Fortresses: "How can they do it?" One Fortress came home with 2000 bullet holes, and with big areas of both wing sections shot away. Another had a hole in the fin "large enough for the navigator to walk through." Others return with rudder and elevator controls sheared by gunfire.

How can they do it?

One reason is Boeing design. The Fortress has no Achilles heel, no highly vulnerable spot for the enemy to attack. No one structural member has to carry the entire

load for its section; even when large portions of the plane are badly damaged, the Fortress usually is strong enough to remain aloft, fight off its enemies, and return home.

There are other reasons, of course—many of them. But they all stem from what has been termed the integrity of Boeing products. Soundly and conservatively engineered, honestly built, these products always have done more than has been expected of them. True today, it likewise will be true in peacetime tomorrow . . . if it's "Built by Boeing" it's bound to be good.

DESIGNERS OF THE FLYING FORTRESS • THE STRATOLINER • PAN AMERICAN CLIPPERS

BOEING

*THE TERMS "FLYING FORTRESS" AND "STRATOLINER" ARE REGISTERED BOEING TRADE-MARKS.

IN THE WAR OF NERVES, the ether waves play a big part. Friend and enemy fill the air with news and propaganda 24 hours a day. Often the broadcasts are intended for home consumption only, and may reveal strategic inner weaknesses of our foes. Sometimes a furtive signal flashes from a hunted "underground" station in an Axis-dominated land. It is important that our government be kept thoroughly informed regarding all this attack and counter-attack in the air. Yet to listen to and transcribe all the millions of spoken words would require a large corps of expert linguists on the spot all the time. Right there is where Dictaphone comes in. For Dictaphone can record *any* language, and remain on duty 24 hours a day!



MEET THE WORLD'S BEST LISTENERS

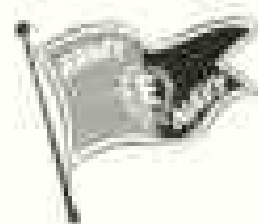
If you should go into one of the listening posts where foreign broadcasts are being recorded, you would appreciate the need for intense concentration and accuracy. And you would see a battery of Dictaphone recording machines catching every word for future reference and use. Such recordings may be transcribed at the convenience of the translator — as fast or as slowly as he desires.

Other Dictaphone equipment is now giving invaluable service in war plants and Government offices — helping to keep mental production flowing, saving time for key men and secretaries. Never has the ability of the Dictaphone method to handle stag-

gering volumes of work been proved so well.

Meanwhile, in the Dictaphone Research Laboratories, other marvels of electrical voice recording are being readied for use by the armed forces now . . . and by all business when our enemies have been crushed and we face forward to a new day.

Dictaphone Corporation, 420 Lexington Avenue, New York City.



DICTAPHONE

ACOUSTICORD DICTATING EQUIPMENT
ELECTRICORD RECORDING EQUIPMENT

The word DICTAPHONE is the Registered Trade-Mark of Dictaphone Corporation, Makers of Dictating Machines and Accessories to which said Trade-Mark is Applied.



Concourse, Union Station, Chicago

Crossroads of War... *America 1943*

HOUR after hour, day after day, you see them—crowding the concourses of the nation's great railroad terminals—file after file of men in olive drab and navy blue and forest green.

Over four million a month—entraining for camps—heading toward secret embarkation ports—coming home on leave. And more and more civilian travelers, on essential missions, swell the ever-growing throngs.

It's America at war—1943, and riding the rails as never before! What the railroads are doing "adds up to the greatest transportation job in history," according to Chairman Clarence F. Lea of the House Committee on Interstate and Foreign Commerce.

New passenger cars are not now available, due to wartime conditions. Yet, by dint of teamwork and resourcefulness and through sparing neither time nor expense, heavier and heavier demands are being met.

On The Milwaukee Road, for example, travel is running three, often four times higher than in recent pre-war years. Freight traffic is at new peaks.

Nevertheless, The Milwaukee Road's 35,000 loyal employees are not complacent simply because they are handling their wartime assignments with admirable efficiency. They know they must keep on fighting America's transportation battle unremittingly every hour and every day of this war.



SERVING THE SERVICES AND YOU

THE MILWAUKEE ROAD

★ Buy More War Bonds ★



**FALSE TEETH
WEARERS RISK
DOUBLE DANGER
BY BRUSHING
with makeshift cleaners**

Brushing your plates with tooth pastes, tooth powders or soap, may scratch the denture material which is *60 times softer than natural teeth*. These scratches cause odorous stains, film, and food particles to *collect faster and cling tighter . . .* resulting

in Denture Breath. Remember, you may not know you have it, but others *do!* Besides, brushing with makeshift cleaners often wears down the fitting ridges designed to hold your plate in place. With worn-down ridges, of course, your plate loosens.

**PLAY SAFE...SOAK YOUR
PLATES IN POLIDENT**

A safe, modern way to clean dental plates, partial plates and removable bridges is to soak them clean in Polident every day. No brushing, no danger, yet the daily Polident bath works into the corners and crevices no amount of brushing seems to reach; leaves denture sparkling clean, odor-free.

**DO THIS
EVERY DAY**

Place denture in Polident solution for 15 minutes, or longer if convenient. Rinse—and it's ready to use.

No brushing



"Now I go places . . . do things . . . enjoy life"

Millions call Polident a blessing. No fear of Denture Breath—no risk of wearing down and loosening the plate due to brushing. Today—get Polident at any drug, department or variety store. 3 oz. size—30¢; 7 oz. size—60¢. Money back if not delighted.

FREE! Booklet on Denture Care. Write Hudson Products, Inc., Dept. M-10, 8 High St., Jersey City, N. J.

*The Safe, Modern Way to
Clean Plates and Bridges*

POLIDENT



The More Women at War Work

The Sooner We'll Win



Westinghouse gives deadly accuracy to tanks in battle . . .

A special Westinghouse device exclusive to American tanks—a gun stabilizer—increases the accuracy of fire by more than 500 per cent. It enables them to fire, without stopping, as our tanks charge across even the roughest battlefield.

Westinghouse assures unerring accuracy of precision workmanship . . .

Accuracy to the five-millionth of an inch, to the millionth of a pound . . . checked and rechecked by the most delicate instruments known to science. Accuracy that helps give the American fighting man the best equipment of any soldier in the world.



Westinghouse wartime accuracy will build a finer peacetime world . . .



New standards of accuracy have grown out of the demand for better machines of war. These same new standards—undreamed of before the war—will mean far superior, longer-lasting equipment in your postwar home . . . even finer electric refrigerators, automatic home laundry machines, electric ranges and the host of other appliances that will make the name Westinghouse more than ever a household word for quality. Westinghouse Electric & Manufacturing Company, Pittsburgh, Pennsylvania. Plants in 25 cities . . . offices everywhere.

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Compact Shave Set \$1.00

You'll shave luxuriously wherever you go if you pack this Old Spice Shave Set into your suitcase or duffel bag. Equally convenient for home use because not an inch of space is wasted. Holds large tube of Brushless Shaving Cream and travel-light paperboard sifter tube of refreshing Talcum. Both scented with tangy Old Spice. Ideal for service men . . . and remember, overseas gifts *must* be mailed by October 15th.

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2. Be sure to make advance reservations. Tucson visitors are invited to use the free services of our 22-year, non-profit Sunshine Climate Club.*

3. Travel as light as possible. You'll need less luggage for Tucson's informal, outdoor life.

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Your place in the sun is TUCSON

HOW DID THE ANIMALS GET THEIR NAMES?

Dinosaur

means literally a
"terrible lizard"

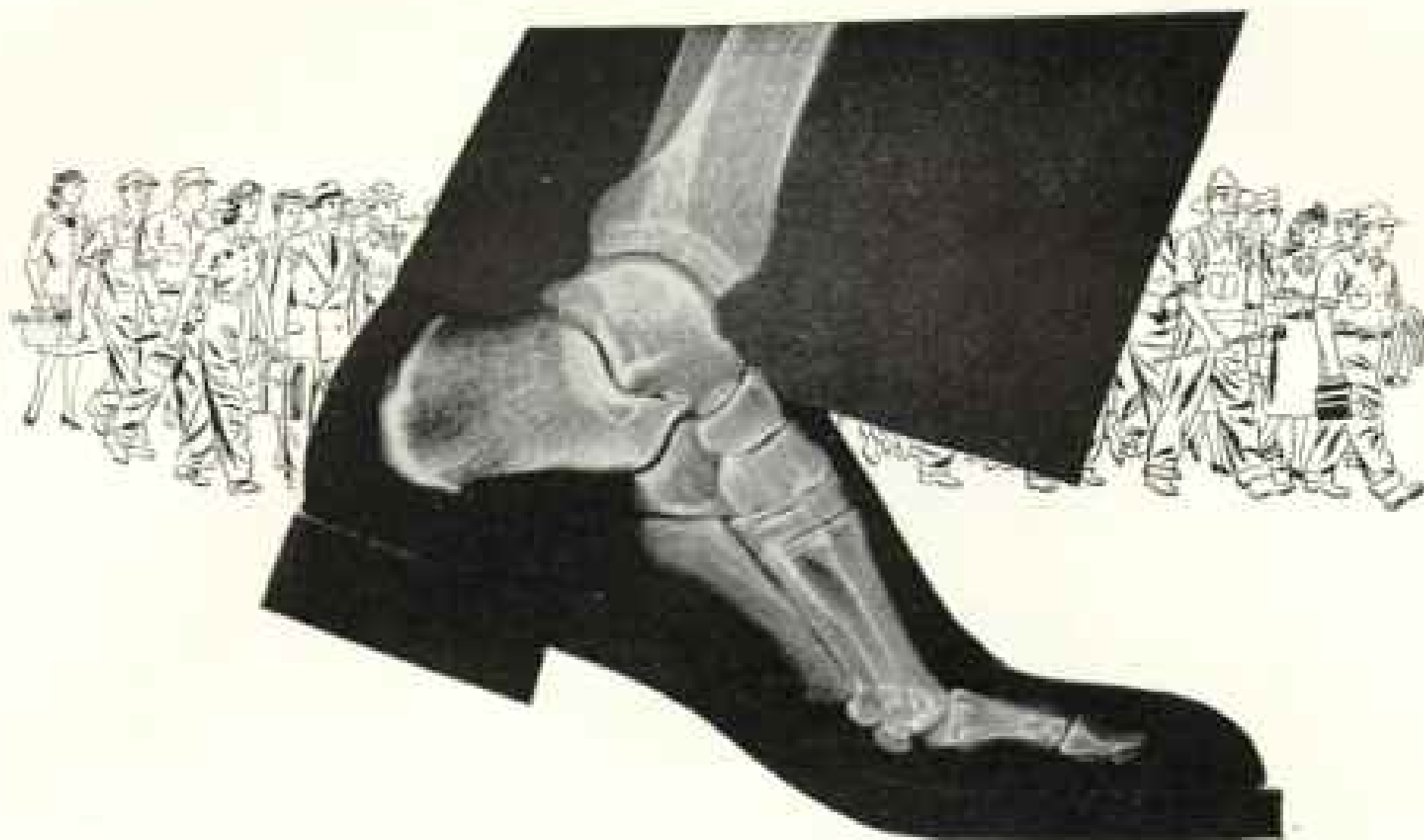
THE name dinosaur comes from the Greek words *deinos*, "terrible," and *saurus*, "lizard." Both you and your children will enjoy the hundreds of fascinating word origins in WEBSTER'S NEW INTERNATIONAL DICTIONARY, Second Edition. Its completeness makes it truly the foundation book for home education! 600,000 entries—122,000 more than in any other dictionary. 12,000 terms illustrated; 3,350 pages. Ask any bookseller to show you the MERRIAM-Webster. Write for free illustrated booklet of interesting word origins to G. & C. Merriam Co., 356 Federal Street, Springfield 2, Mass. Advertisement Copyright, by G. & C. Merriam Co.

THE GENUINE WEBSTER

WEBSTER'S
NEW INTERNATIONAL
DICTIONARY
Second Edition



"Buy U. S. War Bonds—They Identify You"



When civilian feet go on a wartime schedule

BECAUSE OF GAS RATIONING, Americans are learning how to walk all over again.

In addition, thousands are working long hours at jobs where they stand or walk, or operate a machine with their feet. All this makes it advisable to know more about your feet, their health and care.

Like any complicated machine, the feet can get out of order. Poor habits of walking or standing, or the wearing of improperly fitted shoes, if long continued, can force the feet out of shape.

Habitual toeing out, for example, either in standing or walking, is a common cause of weak or flat feet. Even perfectly healthy feet may rebel against unaccustomed hours of extra duty.

Corns, calluses, bunions, and hammer toes are indications that something is wrong. Perhaps it is the shoes you are wearing. Such danger signs indicate the need of a podiatrist-chiroprapist or an orthopedic doctor.

If your feet protest at the end of the day, perhaps your shoes are improperly fitted, or unsuited to your work. Your posture may be at fault, or your feet may not be getting enough rest. You may have sinking of the arches, so that your feet require more support than is given by ordinary shoes.

New shoes should be comfortable when you first put them on. "Breaking in" shoes really means "breaking in" your feet!

When you buy shoes, try on *both* shoes and test

the fit both standing and walking. Select shoes for the job they are to do! High, narrow heels are unsuitable for long hours of standing or walking. They may upset the body balance and cause strain in muscles of the feet, legs, and back.

Good foot health is important not only to foot comfort, but to the health of the entire body. It is difficult to get all the exercise you need when your feet are not in good condition. If the lack of exercise results in increased weight, the strain on the feet may become still greater.

The wisest course is to do everything to prevent foot trouble from developing.

Actually, your foot health can be better than ever under wartime's extra demands, if you observe the rules of foot hygiene and wear properly fitted shoes.

On request, Metropolitan will send you a folder about foot care, 103-N, entitled, "Light On Your Feet."

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75th ANNIVERSARY—1868-1943

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Why the Dodo Bird is extinct

WHEN THE PORTUGUESE landed on the island of Mauritius in the Indian Ocean during the 16th century, they found a strange, ungainly creature with disagreeable colorings. Although incapable of flight, it was a bird; and although somewhat larger than a turkey, it was related to the pigeon family.

This discovery was confirmed by later explorers, one of whom, an Emanuel Altham, wrote this note accompanying a specimen he sent back to Europe in 1628: "You shall receive—a strange fowle: which I had at the Iland Mauritius called by ye Pottingalls a Do Do."

And, in 1638, Sir. T. Herbert wrote, "Here and no where else, that ever I could see or heare of, is generated the Dodo, a Portuguese name it is, and has reference to her simpleness."

But the Dodo is no more. He exists only in a phrase, and there as the ultimate in oblivion: "as extinct as the Dodo." It seems that around 1644 colonizers brought dogs and swine to the island. These thrived and multiplied and soon exterminated the Dodo. This may not have been due so much to the fighting ability of the animals as to the docility of the Dodo and the fact that it laid its solitary egg in a clump of grass on the ground

where it could easily be trampled or devoured. The poor Dodo could neither fight, flee, nor lay its eggs out of reach. The last report of a live Dodo followed shortly.

Man, too, has been unable to adapt himself to the new hazards such as the automobile and other mechanical devices. When he comes in contact with either, it is a losing battle; he gets injured, sometimes fatally.

But luckily for man, along with these mechanical inventions came another, the invention of insurance. So that today, man need not suffer the financial losses always attendant upon accident, fire, and the other unpredictable mishaps which occur all too frequently. There are so many forms of insurance protection, each designed for some specific purpose, that they can be applied only by a specialist in insurance, such as the trained representatives of The Travelers.

The person who has not in some manner been benefited directly or indirectly by the institution of insurance is as scarce as the Dodo itself.

MORAL: Insure in The Travelers. All forms of insurance. The Travelers Insurance Company, The Travelers Indemnity Company, The Travelers Fire Insurance Company, Hartford, Connecticut.

Have a "Coke" = Welcome, Friends



... or how to get along in Alaska

The American soldier in Alaska meets up with many things that remind him of home. One of them is Coca-Cola. *Have a "Coke"* says he to a stranger, and in one simple gesture he has made a friend. In three words he has said, "You and I understand each other". *The pause that refreshes* works as well in the Yukon as it does in Youngstown. From Atlanta to the Seven Seas, Coca-Cola has become the high-sign between kindly-minded strangers, the symbol of a friendly way of living.

* * *

Next to mothers, wives, sweethearts and letters from home, one thing our soldiers overseas mention most is Coca-Cola. So you'll be delighted to know they frequently find it—bottled on the spot—in over 35 Allied and neutral nations 'round the globe.

"Coke" = Coca-Cola

It's natural for popular names to acquire friendly abbreviations. That's why you hear Coca-Cola called "Coke".



EAGLES OF THE NAVY—In breath-taking maneuvers—even a 9-G pull-out dive—Ciné-Kodak Special proved its reliability.



The Movie Camera that can take a "9-G pull-out" dive

WHEN our Navy made those two magnificent training films, "*Eagles of the Navy*" and "*Champions Training Champions*"—there was a good reason for choosing Ciné-Kodak to do the job.

The reason was that they needed a movie camera as tough, in its way, as the machines and the men were in theirs.

Take the "9-G pull-out" dive for instance. If you're a pilot, you're apt to "black out" during this dive. Your heart actually stops, for a few seconds.

But Ciné-Kodak doesn't "black out." Its precision-made governor and other working parts continue to run smoothly even when it hits the terrific jolt of a "9-G pull-out" dive.

Because Ciné-Kodak can "take it"—because it goes on operating with accuracy and dependability under incredibly rough conditions, it is used by our Army and Navy, Air Force and Signal Corps, to record actual fighting at the front, as well as for the valuable work of making training films.

* * *

If you are the fortunate owner of a Ciné-Kodak—be proud of its war record. Take care of it. Ask your Ciné-Kodak dealer to check and see that it's in A-1 working order. Use it, these days of limited film, to make black-and-white or Kodachrome movies of the home front . . . to show your soldier or sailor when he comes back . . . Eastman Kodak Company, Rochester, N. Y.

Ciné-Kodak



Eastman's Finer
Home Movie Camera

Radio after the
WAR

**What price
Star-Gazing?**

TO dream and plan realistically for the future is both good and necessary. However, to indulge in Star-Gazing through the wrong end of the telescope is an extravagance which no industry can afford. RADIO can point with pride to its miraculous progress made under the emergency of war. But to promise that the miracles of Radar and other Electronic development will be ready for delivery on V-Day . . . is to damage an otherwise glorious record. You can depend on it—

**The Future is Bright . . . But
Motorola Radio
Has its Eye on the Ball!**

The application of new Electronic knowledge to peacetime radio production will be a gradual and evolutionary process. We don't know exactly what the first post-war Motorola Radio will look like but *it will be a fine Electronic instrument.*

Expect Big Things From Motorola—THEY'RE IN THE MAKING!



For the development and production of Radio Communications Equipment for our armed forces, Motorola was awarded the Army-Navy "E" with added Star for continued excellence of performance.

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You'll hardly know your favorite vacation city when it is possible for you to visit us. It has grown up—and quite intelligently too, as you will agree when you see the new Harbor Drive along the bay shore. There's been no change in the wonderful climate, beautiful gardens and warm hospitality of its people, your friends.

BUY MORE BONDS—Anticipate another visit.
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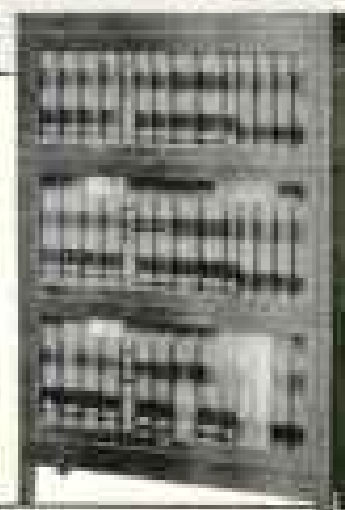
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till the lights go on again

THE railroads face tasks today that are difficult to picture.

Passenger traffic has just about doubled in the last year.

A troop train starts off every six minutes of the day and night.

A freight train starts off every four seconds.

All this must be handled with just about the same equipment the railroads had before the war.

That means greatly increased wear and tear on engines, cars, rails and other equipment. And till the war is over, and the lights go on again, adequate replacement will not be possible.

But the day is coming when this replacement will be imperative. And it is going to take billions of dollars.

Where will this money come from?

We think the right way to provide it is to permit the railroads to build up adequate reserves now which can be used to pay for new cars and locomotives, new track and other facilities to replace those now being worn out in war service.

If this is done, the railroads will be able to keep on providing the dependable, low-priced transportation which made possible the peacetime growth and development of this country, and which is now an essential part of the nation's war effort.

AMERICAN  RAILROADS

ALL UNITED FOR VICTORY

something has happened . . .

BY DAILY WIRE, by phone, by mail — we learn of the extreme urgency for Victor 16mm Motion Picture Equipment — Animatophones — from the Signal Corps, from the Navy, the Army, the Marines, the Air Corps, from Industry, and training schools — the world over.

There's but One Answer — that nothing can equal the Sight - Sound - Sequence advantages in 16 mm Motion Picture Equipment for training millions faster, faster, always faster.

It took a war to do it . . .

Some would have continued perhaps for generations with the "Little Old Red Schoolhouse" methods — others might have gingerly given it a haphazard trial — but today, all concede its unquestioned superiority as a teaching-training medium.

Wars are lost because of inadequate training. Every day faster and better training, highlighted with Sound Motion Pictures, is saving lives, bringing Victory closer. Every day quick, efficient training is speeding up war production. Every day 16mm Sound Motion Pictures are entertaining, building fighting morale of our Armed Forces.

In all—this is the greatest worldwide proof of the unbelievable accomplishments of 16mm Motion Picture Films and Equipment. Yes, something has happened . . . something that makes bright the future of teaching and training.

VICTOR—IN ACTION. Today Victor is supplying Victor 16mm Cameras and War Motion Picture Projectors to all military fronts, all home war training fronts—and in addition "round the clock" production of important radar, airplanes, and other highly technical war devices. Tomorrow —Victor, the active force in 16mm Equipment developments since the origin of 16mm, will supply your peacetime demands with the newest, latest war-borne improvements.



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You, as a businessman, may be compensated by your company

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All over America, this flame cuts time and gives to mass-production industries a means of manufacturing faster, better, and at lower cost. Since the white-hot oxy-acetylene flame cuts through metal as easily as a saw through wood, it makes steelworking as simple as carpentry! From the time steel is made . . . until it is finally cut up for scrap and sent back to the steel mills for a new lease on life . . . oxy-acetylene flames expedite its treating, cutting, and fabricating.

The oxy-acetylene flame is not new. Oxygen, acetylene, and many machines and techniques for treating, cutting, and fabricating metals have been made available to industry for years by THE LINDE AIR PRODUCTS COMPANY, a Unit of UCC. The present wide application of Linde's peacetime research and development . . . coupled with the great expansion of Linde's oxygen-producing and engineering facilities *before* the emergency arose . . . are contributing vitally to this country's mass output of the things it needs. These products and processes—plus new ones that are stemming from today's continuing research—are important among the mass-production tools that can be used in the future to bring you better cars, trucks, tractors, washing machines, refrigerators, and many other things for better living at lower cost.



LIQUID OXYGEN! The demand for oxygen today is great. Drier liquid oxygen has made it possible for mass-production industries to be supplied in bulk. Liquid oxygen—occupying only 1/802 of the volume of gaseous oxygen—is shipped by tank cars and tank trucks and converted to gaseous oxygen as needed.

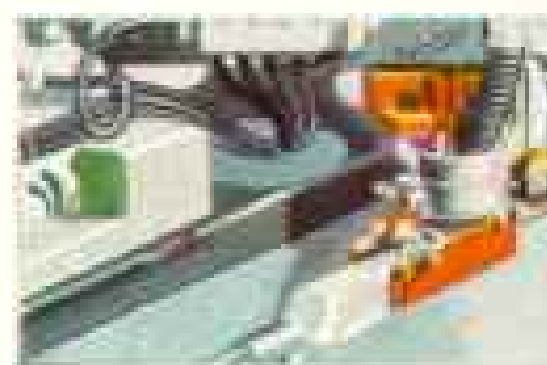


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MECHANIZED WELDING! "Enamels" electric welding automatically joins steel plates as much as 20 times faster than any similarly applicable method . . . and does it without noise, fuss, or sparks. This process complements the hand and mechanized methods of welding with the oxy-acetylene flame.



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The Linde Air Products Company
The Oxweld Railroad Service Company
The Penst-O-Lite Company, Inc.

PLASTICS

Bakelite Corporation
Plastics Division of Carbide and Carbon Chemicals Corporation