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CENTRAL AMERICA

CHARLES MORROW WILSON

Challenge and Opportunity

CENTRAL
AMERICA

London

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TO
PHILIP K. REYNOLDS

All photographs
in this book
by
IRIS WOOLCOCK

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Part One

THE COUNTRIES.

1

LOOKING SOUTH

MIDDLE AMERICA, roughly coincident with Central America, is the term I shall use for the family of contemporary nations which wait between the thresholds of South America and those of the United States. In a measure they are our doorway to the south. But they are more than portals. In many respects they are actually far more important to the United States than South America is. This premise will reappear many times throughout this book.

It is well at the beginning to make better definition of this encompassing term "Middle America." For purposes of this particular book it includes mainland Central America—the amazing countries of Guatemala (immediately south of Mexico); British Honduras, an imperialistic slice off the east seaboard of Guatemala; Honduras, which adjoins Guatemala to the south and east; El Salvador, a tiny, fertile, and densely peopled republic which separates most of Honduras from the Pacific; Nicaragua, the largest of the Central American states, which adjoins Honduras to the south; Costa Rica, immediately below Nicaragua; and last, Panama, the final and narrow link between two momentous continents.

Middle America includes also the islands of the Caribbean—foremost among them Cuba, Hispaniola (Haiti and the Dominican Republic), and Jamaica—and the Lesser Antilles, the Bahamas, and several hundred other tropical or subtropical islands of varying degrees of importance or unimportance. This book does not attempt to cover the ever-astonishing field of Caribbean islands. It includes

chapters on Cuba and Jamaica, and various references to other islands of the Caribbean. Also it suggests the Republic of Colombia as being of Middle America, believing Colombia to be one in blood and fundamental economy with the nations of Central America. Mexico, which geography books frequently place under the heading of "Central America," is not included. My reasons for omission of Mexico are strictly nongeographical. I don't know Mexico commendably well, and besides, books about Mexico have been falling from the presses like hailstones on an Arkansas strawberry patch.

"Middle America," as herein portrayed, represents a land area of perhaps one and a quarter million square miles, a land surface considerably larger than the portion of the United States east of the Mississippi. These lands are enormously important to the United States today, and their importance increases by rapid leaps. There is scarcely a square mile of all Middle America which is not actually or potentially vital to defense of the Panama Canal, and to speak more generally, of the United States.

Within these "doorway lands" arose what may well have been the maximum pre-Columbian "cultures" of this hemisphere. Within them one may learn fragmentary but exciting details of vanished empires and waned civilizations.

Further, these lands are trade associates of the United States—as much so, in some instances, as individual states of our Union. We in turn are trade dependencies of theirs. In the past they have had reason to distrust us and to accuse us of crassest dollar diplomacies. Now that the tropical air is no longer murky with such accusations, there appears our supreme opportunity for launching to the immediate south a first just and durable foreign policy. For if the Americas are to survive, the Americas must stand together—today and tomorrow. If this is to be, we of the United States have no choice but to draw or grapple Middle America still closer to us with bonds of friendship which must be more powerful than steel. The day is here when good health and good life for Middle America are one with good health and good life for the United States.

By colonization, legal interpretation, and division of citizen nationalities, most of this Middle America is begotten of an earlier Spain. It is pre-eminently a succession of lands of Spanish blood and tradition, of dominant Catholic faith, of architectures born of old Spain and older jungles; a fascinating conglomerate of ancient cities and civilizations, of new frontiers, wet jungles, dry highlands, imposing mountains, dwarfed forests, giant forests, desert, flowering wilderness, high and abrupt divides, of vividly green and immensely fertile valleys where vegetation is so exotically preoccupied with birth and growth that there is hardly time or space for death.

This part of America endures as a miniature world of spectacular contrasts in geography, soil, flora, climate, trades, transportation, and to a measure of peoples. Yet despite this almost infinite variety, and multitudes of paradoxes, these lands show qualities of distinguishing unities, arising from parallel histories, from common traditions engendered by more or less identical centuries of colonization and social establishment, from parallel resources in soils, corresponding roles in export and import trade, and the inevitable cadence of contemporary living.

In the main this Middle America is begotten of agrarian and social traditions that were part of a great Spain which no longer exists. Its dominant language is Spanish. So are its gracious gestures, its superb and traditional hospitalities, which remain social essentials—not mere veneers of etiquette. For the most part it is a Spanish America that separates us from still another Spanish America, far greater in area but generally parallel in essential history and tradition. If viewed only as a portal, this Middle America is more than a geographical gateway into South America. It is also a commercial and social way—of ever-informative vistas, from which the alert entrant may absorb valuable learning.

The Middle American mind is also brilliantly revealing. It is inclined to be a mediary mind. Its traditional viewpoint, history, reservoirs of belief and philosophy are rather basically those of continental South America. But physically and commercially, Middle America is closer to the United States than it is to dominant trad-

ing centers of South America. Middle American interest (as reflected, for example, by its more successful newspapers) consistently pays more heed to news of the United States than to news of any other American republic outside domestic boundaries. The prevailing direction of export and import trade is dominantly north, with a great majority of tonnage and dollar totals going into the United States. Middle American fashions and miscellaneous goods now show a preponderance of gringo influence. Infiltrations of North American songs, dance steps, games and sports, slang, merchandise, machinery, and inevitable gadgets do not obliterate the Middle American "way." But they do prove an undeniable influence, which grows with increase of commercial ties, and interdependencies of finance, credit, and other mutual interests.

This book as a whole is comparatively specific. But here at the beginning I beg leave to generalize further as regards that superbly important, infinitely challenging institution which we may term the Middle American mind.

While beginning a book about Middle America, perhaps it is well to ask: "Who is the man of Middle America and what goes on within him?"

A composite picture is rarely blessed with absolute accuracy. Its merits, if any, are those of reasonable approximation. Granting this, let us try to picture the common citizen of Middle America in composite.

The chances are that his ancestral roots are conglomerate. A few drops of this blood and a few of that. All of the Americas are melting pots—Central America, South America, and North America alike. It is highly probable that this theoretic average Middle American has a less or greater measure of Indian blood. It is still more probable that this Indian ancestry is one of which to be legitimately proud. Indians were first sons of Middle America and among those Indians great civilizations were begotten, great cities were raised, enlightened governments and social orders were created a thousand years ago, indeed even fifteen or sixteen hundred years ago—while most of Europe and presumably most of North America were sav-

age wilderness. In many parts of Middle America Indian blood still predominates, with hundreds of thousands of national citizens directly descended of the Quiches, the Mayas, and other Indian nations whose eminence may never be sufficiently appreciated by our contemporaries.

Besides Indian (or regardless of Indian), there is also the blood of Spaniards, and with it the tradition and temperament of an earlier and a greater Spain. This theoretic composite man of Middle America is as proud of this Spanish blood as his South American brother is. The ways and attainments of colonial Spain remain very real to him, and their current implications are far-reaching.

With the blood of Spain goes the musical and illustrious Spanish language. With occasional and minor exceptions—(principally Jamaica and the lesser British West Indies where dialectal English is spoken), Spanish is the contemporary and ancestral tongue of all Middle America. It is perhaps the most beautiful language of man, and the most eagerly adopted. By common preference, and in several countries by statute, Spanish remains the approved language of these doorways to the south.

This theoretical and composite Middle American probably knows English, or at least some words and phrases of English. He may have studied our language in his schools. He has almost certainly heard English spoken in motion pictures. He may have worked with or for the gringos. It is probable that he likes our language. But it is almost certain that he likes his own better and we can never know him sufficiently until we know his language.

With his language there comes a usage of civil etiquette; to the newcomer a rather elaborate routine of curtsies and bows, of handshaking, hat lifting, and gracious gestures both oral and physical. These gracious gestures are indigenous to the language and life of this Middle America. Perhaps they are symbolic of the traditions of agrarian Spain merged with those of Indian aristocracies.

But in all they are a bona fide mode of expression which calls for repayment in kind. Handshaking, amiable gestures, and gracious toasts belong in the everyday language and life of Middle America. If one is to know and to appreciate the lands, one does

well to shake hands—with *gerente* and office boy alike; to avoid brusqueness and to refrain from introducing salesmanship or blunt trade talk into social conversation. The social propriety of Middle America is well rooted. Without pretentiousness or evasion it endures as a folkish gentility. Indeed, it portrays and interprets a certain caliber of American democracy.

This theoretical average man of Middle America is not necessarily a *caballero* or *gran don*. Nor does he represent himself as such. But he is a good man—*un buen hombre*. His viewpoint is cushioned by an essential kindness and tolerance. He makes few, if any, exacting demands of life or of his fellowmen, and he expects that his merits of graciousness and courtesy will be returned in kind.

Broadly stated, and for rather logical reasons, the common United States-style estimate of the Middle American mind and scene has gradually changed from that of a bleary fiction pattern to a rather hysterical scramble of half-truths. On the whole, it seems to me that this dilemma results from misinformation.

Study of library files suggests that prior to the eighties and nineties, the United States public generally, even our national officials, possessed an absolute minimum of interest in anything pertaining to Latin America. Then by gradual succession news developments such as the spasmodic birth and babyhood of tropical railroading, first appearances of a pioneer banana industry, and the audacious antics of gringo soldiers of fortune, favored Middle America with a first spotlight of public attention.

Amiable fantasies, such as those written by O. Henry and lesser fiction writers of his day, begot a more or less standard chromo of Middle America as the realm of beachcombers, droll tropical tramps, and habituated revolutions. This era of casual fiction and minority fact was followed by one of grim rabble-rousing politics wherein certain of our presidents and Cabinet members became bedfellows in "dollar diplomacy," landed marines and meddled not too innocently in domestic affairs of Cuba, Central America, and other lands of the Caribbean. With the first World War, this rationalized piracy

became punctuated by occasional short-lived urges of "commercial fraternity," too many of which were too promptly abandoned.

With the desperate thirties and their fabulous harvests of totalitarianism, our variously jaded nerves were further thwacked by a rather peculiar epidemic of journalistic folklore contending that most of Latin America, at a first united urge, had swung Nazi. As Europe now blazes into renewed war, that reservoir of scare stories is further enlarged.

In Central America, particularly, one may sometimes observe the old oft-mentioned *mozo* trick known as "cheating the tortilla." (In literal Spanish "mozo" means "waiter," but in Middle America generally it is a term applied to the habituated common laborer.) The *mozo* takes a tortilla (flapjack) and wraps it around a strip of beef. When dinnertime comes he sits in the shade, and squeezes the wrapper of tortilla to make the hard beef slip upward into his mouth. Then he slips another piece of meat in the same tortilla and squeezes that up into his mouth. Thus the same tortilla lasts for a long time, and the nitwit game is called cheating the tortilla—self-evidently a misnomer. For the *hombre* isn't cheating the tortilla at all—he is merely cheating himself of the bread which should be eaten with the meat.

This "typical" Middle American is fully aware of the fallacies of tortilla cheating. But he is equally aware of the contemporary truth that tortilla cheating is being practiced in one way or another by numerous *hombres* who are not *mozos*. He can hardly help noting the throngs of gringo tortilla cheaters, the sons and daughters of Oshkosh and Sioux City who come down for holiday and sight-seeing tours and straightway and semipermanently become pickled, yell loud, curse loud, break furniture and windows, insult national citizens, disdain the Spanish language, and otherwise emulate the principle of tortilla cheating by robbing themselves of excellent possibilities of a first sympathetic understanding of these great and beautiful Americas.

Other newcomers and shortcomers indulge in even more morbid orgies of tortilla cheating—Nazi agents and habituated Fifth Col-

umnists, for example, whose acquaintance with Middle America becomes a bleary goose step in trite propagandas and alien, unnatural creeds. "Heil Hitler!" has no indigenous place in the Middle American language of today, yesterday, or tomorrow. Hitler doesn't live there. Neither do his neurotic daydreams of blood and conspiracies.

There are also the slinky Japanese who persistently breeze into Middle America, carrying padlocked brief cases and bizarre morning-sun fantasies in alleged "intelligence." These sons of the Mikado peer furtively, scribble in notebooks, then vanish as silently and as suspiciously as they came, having cheated tortillas and, most particularly, themselves. Also there are occasional composed Britishers with a private pocketful of crumpets and a purseful of hand-picked tea-balls and more "front" in the area of the chest than in the region of the cerebrum. They, too, are passing specimens of tortilla cheaters from without. So, too, are the Russians, who are preponderantly spies and preponderantly solemn and crazy—*Homo sapiens* to whom political belief has become a loud-spoken religion without shrines.

In the main these alien processions of alien tortilla cheaters are but cheating themselves. Their essential mission is to solicit and "convert." But this composite, if theoretical, citizen of Middle America is not a habituated joiner. He already knows his name, his faith, and his nationality. He burns with no particular ardor to join alien causes. He lives in his own world. He suffers no longing to be shackled or hog-tied with alien isms.

Therefore, the ism peddlers cannot count on him for lasting allegiance. If they do they face certain disappointment. Essentially they are calling from an alien world in alien languages. They are asking much without offering a sufficient swap.

And they are completely overlooking local connotations incident to a given ism. For example, in Middle America at large "communism" does not mean what it means in the Kremlin, in Reuters News Service, or on Union Square. In certain American countries, "communist" is merely what political ins call political outs between elections.

In general this composite man of Middle America is not a com-

munist or any other kind of political absolutist. His mentality is too enlightened for the trite dogmas of "mass classifications." He suffers no particular illusion that foreign isms of government and economy could be transferred bodily into his homeland. He is inclined toward the belief that dogmatic isms might fit better in cold, overpopulated lands of scant-larderred Europe; countries with big cities and overcrowded countrysides wherein the poor can readily starve; where grim millions wait close together in factories, shops, or armies and tread cobblestones, sidewalks, and pavements which could not conceivably grow beans or corn or plantain.

As a rule, men do not starve in the tropics. When one goes hungry in town and can no longer earn beans and bread for his women-folks and children, he can almost invariably find a bit of free land, use his own brawn and machete to fight back the wilderness, use his broad hoe to plant and till a subsistence garden or field. With a machete and a few reasonably energetic days he can build a shelter of *manaca* or other palms. He can catch fish from the rivers. If he has a gun he can shoot deer and waterfowl for meat. He can dip sea water and boil it for salt. He can feast upon abundance of native fruits, berries, vegetables and palm nuts. By skillful persuasion he can acquire a pig and a few hens. In any case, he can live.

By law and usage the lands of Middle America belong to the people. Therefore, when the ism-selling aliens come to the man of Middle America and say, "You must join the party and carry a green card in order to save yourself from starving," the Man of Middle America cannot believe them. He has never yet groveled for conversion to an alien political religion. He has never yet carried a green card. And he has never starved. Middle America's earth is still rich, and its springtime is eternal.

In various respects the preponderant American mind is mundanely realistic. It knows that livelihood without routinized work is definitely possible. But it does not habitually favor a life of leisure. Actually the prevailing Middle American estimate of work is grossly misunderstood by most North Americans. Since the days of

O. Henry, and before, it has been flagrantly misrepresented by innumerable gringo fictioneers. Actually, hard manual labor is extremely common to the American tropics. Speaking broadly, Middle American labor is superior labor, with a knack for quick adaptation to new tools and new techniques of work—even though the will to work is rarely synonymous with a chance to eat, as it is in most temperate lands.

Better than anyone else the Middle American knows that if he so wishes he can exist without working. Therefore, when he works he desires payment in money; not in membership or political communes. As a realist he appreciates the truth that isms do not as a rule pay wages, fees, or salaries in valid money.

For that matter, Middle America has grown weary of barter. Her store shelves are still crowded with unrevealed tons of barter goods acquired from Germany, with Nazi subsidy in most cases, but in lieu of hard bitable cash. In many trade centers warehouses are still painfully crowded with those barter goods and retail prices and profits are still sorely unbalanced as a result of the rather devious and now abandoned expedients of Nazi "official discounts" in order to stimulate export barter. Just as store shelves remain crowded with unsold barter goods, so numerous Middle American warehouses are congested with essential products which Germany's card castle of barter-credit can no longer buy.

Other ism peddlers have been even less munificent. Italians and Japanese have come only to sell—not to buy and not to pay wages. The Middle American knows well that wages paid by gringos and goods purchased by gringo cash without donations of propaganda, nickel cigars, secret handshakes, or numbered membership cards are today of more valid good to Middle America than seven oceanloads of sweetly scented propaganda eyewashes.

The Middle American is clearly aware of ism talents for trading big sparkly nineteen-carat words for essential goods. Should European isms come and United States business leave, he wonders where the cash would come from; also what or whom he might then be working for—in case he works. He reflects that in such an exigency

he might prefer not to work at all, but rather to merely live from his garden, woods, and jungle or hillside. But for one reason or another all orthodox isms of today say "work." They do not say just why, nor do they specify exactly who will repay the work in money. They merely say "work," and the Middle American is inclined to inquire, "but why?"

We may notice other attributes of this composite man of Middle America. He is a man of pride, of personal dignity which he forthrightly chooses to consider. This pride is an expression of loyalty and vice versa. It motivates his paying his bills, maintaining his apparel, supporting and cherishing his wife and his home, his government, and his party.

In these respects he is no different from his American brother of the United States. Like his gringo neighbor, he is an individualist, usually social and workably co-ordinated, but an individualist nevertheless.

Militant isms are ruinous to individualists. They are likewise destructive of pride. The Middle American is aware of these general truths. Furthermore, he is descended from great merchants and great bankers of old Spain and of great Indian nations who built long-lived cultures and aristocracies largely upon genius of trade. He is cognizant that progress, health, and happiness for Middle America are vastly more dependent upon solvent trade and valid money than upon any prescribed ism.

Ways and thoughts of men inevitably change. But in hot countries they are inclined to change more slowly than in cold countries. For many of us North Americans who view these *Americas del Sur* the foregoing generality is not easily credible. Superficially we see Middle Americans changing from muleback or bulcart to bright new airplanes and we exclaim at this astonishing transition. Here in the United States we have long been inclined to effect similar changes by means of comparatively short hops and evolutionary adaptations. In the matter of popular travel—since the days of the Founding Fathers travel modes have shifted from the saddle horse

to the chaise and light rig, to the stagecoach, the covered wagon, then to slow railroad trains, then to fast trains, to autos and buses, and finally to the airplane.

United States capacity for change is accelerated with passing years; nevertheless, it is inclined to be a transition by single steps. In various ways the Middle Americas today are being catapulted into spectacular changes. In matters of transportation, as an instance, Middle America during the past decade probably has become the most "air-minded" region of the world. Everyday citizens who have never ridden in an automobile, some who have never seen a train, happily embark in planes and willingly pay fare for travel in approximately any type of motorized crate that can raise itself from the ground. Eagerly they overcome travel impediments incident to roadless jungles, high mountains, and flood-torn rivers. The common man of the land shows comparable talents for speedy adaptations to numerous other modern goods—radios, typewriters, refrigeration, plumbing, electrical equipment, and so on.

Yet to a measure these realities are easily misleading. For the man of Middle America, far more than we of North America, is still one with the past. At heart he has remained humble and unpretentious. "Modernity," on the whole, has not seriously molested his elemental sincerity. It has not convincingly motivated his faking of aims or viewpoints. Conception of a bright new age has not dulled his imagery of an interesting and profoundly significant past. As a realist he is not easily tempted by the flattering promise of permanence. As an agrarian he is appreciative of the truth that jungle and mountains, flood plains and forests are more powerful than man; that they are older and also newer. He is clearly aware that the work of man is easily overcome by the potency of nature; that while man fights the jungle, by natural destinies the jungle may eventually take back man's work.

This realization is more than trivial fatalism. It is a truth of Middle American history which has been proved time and time again. Man is inevitably weakened by old age and death. The jungle is an institution of perpetual birth and rapid, buoyant growth. At a score of places throughout Central America you will venture upon great

ruins—temples, cities, markets, and fortresses built by the Quiches, the Mayas, and various other illustrious nations of tropic Indians, who have raised great civilizations within jungles and wildernesses which eventually took over man's work. In literal definition, the touted Spanish conquest of Middle America reflects the prowess not of Spanish arms, but of the ever-resolute jungle.

The Middle American mind appreciates more clearly than ours the vital continuity between old and new. Palm shacks of yesterday can be rebuilt tomorrow. Sun, moon, and stars shine as they shone a thousand years ago. Indian peddlers with head baskets of candy, with carts filled with colored liquors, country wives who hang their washings flat on the ground and pound hell out of them with clubs, rural brides and grooms who live happily upon earthen floors, crossroad bakeries of Divine Providence and butchershops of Holy Peace are as real to Middle America today as they were those centuries ago. Cities remain wrapped with many centuries and softened with the shadows of long ago—even though tin or tile roofs be cluttered with radio aerials. Old women still wear the traditional black. There is still prevalent strength of muscles—burden bearers with shoulder slings, forehead straps, and backs like those of prize fighters. Brawn keeps its role of vital utility. Freight and commerce still travel by human back. Bull drivers and pack-mule trains still trudge open roads. Cobblers, carpenters, and weavers still transport the materials of their trade by shoulder power. This Middle American is a contemporary citizen. But yesterday is definitely a part of his present as well as of his future. It is not to be forgotten or casually obliterated. The youth of this frontier to the south is welded into great age.

This figurative typical citizen is begotten of traditional establishment. His preponderant faith is Catholic. As a Catholic he remains loyal to his church and to its doctrines, an admirable loyalty which engenders an outstanding social anchorage. The elemental creed of the jungle fighter has been modified and enlightened by acceptance of a great faith which has endured through the centuries.

His state of independence is not arbitrary or highly touted. His concept of democracy is at least in substantial part economic. He is no habituated rebel. Discipline by church, by environment, and by demanding economy has long since quieted the push-over urges of a casual revolutist. So this mythical composite man of Middle America stands determinedly upon the earth of which he is an integral part. He is born of great traditions. He is descended of noble races. He is bound closely to his country not only by ties of tradition and faith but also by ties of urgent and momentary needs.

His obligations are enormous. Each day lends them increase. A ruinous European war is reaping havoc with markets for great Middle American exports such as coffee and timber, and with the agricultures and industries which support those exports. Economic destinies of this Middle America point preponderantly and inevitably toward the United States. But this man of Middle America is no dole seeker. He is not asking handouts. And he is no quitter. He desires to live and to trade more plenteously. Fiction formulas to the contrary, he is willing to work in order to realize that desire.

For he is clearly aware of the great challenges and the great problems before him. He knows the vast contemporary challenge of government. It is probable that in terms of domestic politics he is far better informed than his gringo brother to the north. He is more pertinently aware than we of the essential necessity for honesty in government. For he knows well that small governments today, if burdened with recurrent frauds and extravagances, are certain to collapse. He is becoming more vividly aware of problems incident to export trade, of hard-strained credit, and expanding buying power. He is eager to acquire additional consumers' goods, and capital goods which can facilitate local industries. He is clearly aware of elemental social obligations of his time and his country, particularly the obligations of the landowner who must somehow carry on with the ever-hazardous trades of tropical agriculture; who must pay, feed, and house the indispensable hundreds of thousands of farm workers, and in one way or another, produce, harvest, process, and ship the great tropical crops which must continue to be

the foundation of Middle American economy. Also the common obligation of tropical governments, landowners, and professions to aid actively in safeguarding public health.

Tropical disease is still a fear-conjuring ogre of this Middle America. Despite casual assertions to the contrary, tropical disease is never completely beaten. In one way or another it survives. Malaria, and more complex and ruinous malarial fevers, hookworm, skin diseases, a hundred other potential maladies of hot countries, are forever lurking in jungle shadows or in remote highlands. They can never be completely obliterated—neither the “bugs,” the mosquitoes, nor the all-menacing human carriers. Tropical disease must be fought—shrewdly and incessantly. The warfare is inevitably expensive, demanding money, talent, and costly equipment in huge amounts. It is a grand-scale essay in preventive as well as curative medicine, a continuing venture which requires field sanitations, mobile dispensaries, tireless public education as well as up-to-date hospitals and surgery.

This battle against tropical disease is forever costly in money. Yet it is absolutely essential. For if disease wins, governments, schools, public works, and general business inevitably lose. This hypothetical average Middle American also knows that if Middle American business fails or flounders long in feebleness disease will take over. In the tropics abject and far-spread poverty remains an open invitation to ruinous, fast-spreading malady.

This is another good reason why the Middle American today means business when he talks business. Solvent trade is synonymous with established government and sovereignty. Love of land and fidelity to government are among the oldest and most admirable of all mortal affections. This man of Middle America is one with a preponderant agrarian race. He is possessed of deep political convictions. He is more or less inclined to be nationalist in viewpoint. In any case he bears the paramount conviction that his land and his nation are his own; and that they are not to be taken over by others. However much he may desire trade and credit, he does not wish to forfeit his land and his citizenship in order to secure business.

Herein arises a gigantic problem in Pan-American relations, a problem common to the United States and to most other American republics. It is today our prerogative and challenge to help our southern neighbors commercially without taking first mortgage on, or outright title to, their lands, chattels, and freeman's rights. In casual theory or dinner-table conversation the challenge is easily answered. In workable technique of routine business the answer is anything but easy.

But as one onlooker to another, I am convinced that suitable answers are possible. I can name at least one specific instance which now shows outstanding promise of satisfying solution. This is the "rehabilitation program" now being practiced by the United Fruit Company, now the greatest banana producers of the world. This company, representing capital of the United States, operates banana-growing divisions and other farm properties in Guatemala, Honduras, Jamaica, Costa Rica, Panama, Colombia, Cuba, Ecuador, and other areas of Middle America. In all, the company now owns approximately 130,000 acres in commercial banana farms. In addition, it buys millions of bunches of the fruit from independent native farmers and planters, as it has been doing for the past half century.

About five years ago banana properties throughout the American tropics became threatened by a new and malignant fungus called sigatoka. Defense against this, and other diseases, and unprecedented recent improvement in drainage, irrigation, reaping, and general mechanization of the American banana industry have combined to increase enormously the overhead costs and initial investments now essential to banana agriculture.

These huge demands for long-term credit and immediate cash were wholly beyond the finance capacity of hundreds of citizens of Middle America, even those who own good banana properties which they had previously operated with eminent success. Incidentally, such demands would have been completely beyond the buying power of the most prosperous of United States farmers. By 1937 it was common prophecy that the day of the independent banana grower was gone; that independent fruit would of necessity fade from the market.

But the United Fruit Company immediately undertook a plan of returning independent banana properties to production. The "rehabilitated" properties now include approximately 16,000 acres grouped in the republics of Guatemala, Honduras, and Costa Rica, and the work of farm salvaging is rapidly being extended. It proceeds with a minimum of red tape. Independent banana farmers, with acreage ranging from five or six acres to seven or eight hundred apply for rehabilitation, submitting proof of ownership of their land and past competence in banana production. In keeping with particular requirements of a given farm, the company, having accepted the application, advances money and credit, also the services of experienced engineers and technicians. The owner is thus enabled to replant or otherwise improve his farm, install irrigation and drainage and permanent spray systems, as his needs require, and to make any other improvements necessary for returning the farm or plantation to active and profitable production.

The owner retains both title and proprietorship. He sells the banana harvest to the company at a specified contract price, delivers the fruit at a given rail terminal or loading "spot." He thereby repays the loan with a percentage (usually a maximum of 20 per cent) of cash received for the harvest. He is not plagued by the possibility of foreclosure nor by the impediments of sterile interest which make the conventional farm mortgage one of the most ruinous of all credit institutions. Thus the proprietorship of a tremendously important crop is being saved for national citizens and a comparatively new principle of production credit takes life in Pan-American trade. This rehabilitation is proving itself good practical business as well as good credit theory.

In terms of present commercial needs of Middle America, I consider this rehabilitation an outstanding attainment. It is a first determined step along a little-tried path which may lead to vast improvement in Pan-American trade and Pan-American relations generally.

This purely hypothetical average man of Middle America is also a citizen of realistic expediencies. Though he is not unaware of problems of becoming he is specifically aware of the many urgent

problems of being. Part of his nature is inevitably that of the mystic. But he also reckons in terms of tangibles today, for his present is tied into the past and into his future. In any case, pragmatism without mysticism seems essentially contradictory to the tropical environment.

And tropical environment is enormously powerful. It demands a consistency in compromise, an essential discipline of routine. Speaking as a gringo with some experience in jungle prowling and tropical listening, I am much impressed by this vital discipline of the Middle American nature. I have discussed the topic at various times with various men and women of the tropics. When unavoidably obscure questions result in happily specific answers one begins to perceive a sort of bodily pattern for living in hot countries. To know this pattern is eminently worth while for one who contemplates travel or residence within Middle America; also for one who desires to understand the Middle American temperament. Few North Americans think of discipline as a part of the Middle American character. Actually discipline is a great part of the Middle American character.

Not long ago I talked with a man of medicine in Cuba. The Cuban physician was enjoying his lunch. Sun-browned and habitually smiling, he was a pleasantly animated picture of good health and a good life. It is poetic justice that he should be. For during a quarter century of practice of tropical and subtropical medicine Dr. Teodore de la Torre, field medical director of the Cuban sugar divisions of the United Fruit Company, has done much to shackle malaria, traditional scourge of the tropics. With a deferential bow toward his papaya the doctor began to answer my questions about keeping well in the tropics.

If you're going to live well in the tropics you must have a reasonable amount of sleep. Eight hours a day is minimum for most people—or better eight hours with a siesta after lunch. Use the mornings. Get up early and do most of your day's work before noon. Know the source of your drinking water. Sleep behind screens. Don't worry excessively about malaria. There are mosquitoes, of course, billions and trillions of them. But mosquitoes themselves

don't make malaria. They merely take it from human carriers. The chance of taking malaria is comparatively slight.

Food is the biggest health problem for most newcomers to the tropics. The most common and, from a health standpoint, the most costly of the newcomer's errors is the paradox of trying to move Ohio or Michigan menus quite literally into the dominating tropics.

The doctor finished his papaya. A diet of ham and eggs may be an excellent fare for Sioux City, Iowa. Cream pies, sugar doughnuts, and baked beans are good fare, at least in part, for Boston. But the best rock-ribbed traditions of United States foods can't be carried bodily into the tropics, as time and gastric upsets continue to prove. A change of temperature, elevation, and humidity should be considered on the bill of fare and, alas, too often it isn't.

When in the tropics, the one reliable rule is to eat the food of the tropics, the staple dishes which reasonably affluent native people have successfully adapted during many years of satisfactory tropical living. It is true that the prevailing fares of the warmer Americas vary considerably by locality. You will discover a marked difference, for example, between the fare of the good medium farm home of Cuba and that of Colombia or Venezuela. You will also discover that native tropical foods, as a whole, are not particularly light foods. There is a persistent anchorage to starches such as rice, beans, water breads, starchy vegetable and plantain, or cooking banana. And there is great culinary accent upon fried foods—an actual majority of native kitchens don't employ baking ovens at all. But luckily the fierce and extravagant use of strong seasonings is not common to all Middle America. Fruit and melons are plentiful on the whole and plentifully used.

The doctor offers additional bits of dietary advice, respectfully presented and subject to due exceptions. While in the tropics eat sparingly of candy. Wash all vegetables with extreme care, particularly root vegetables and green vegetables which grow close on the ground. Careless preparation of food may lead to a costly visitation of amoebic dysentery. Use extreme care in choice of meat. As a rule meat is the faultiest ingredient of tropical fare. In smaller towns particularly, freshly slaughtered carcasses are frequently merely

swung up and offered for immediate sale in the hope that buyers may appear before it is too late. The first impulse of the observing newcomer is to turn vegetarian. But this course is not inevitable. With some searching and inquiry it is usually possible to locate a reasonably dependable source of meat. In shore areas it is generally possible to catch good fish and during some of the year to declare culinary dividends from native waterfowl, deer, and other edible game which is frequently abundant in grassy areas of the American tropics. Poultry, particularly turkeys and chickens, also thrive in most parts of Middle America.

In the tropics, as out of the tropics, the surest safeguard for good health is development of good resistance. Extreme plenty of sunlight is a great resource in health, as is well proved by the fact that the American tropics as a whole are a land of steadily increasing life span. And a land of good sleep. Another essential to a good life.

The Middle American day, as already suggested, is at its best between five and ten in the morning. As a rule these are the ideal working hours—early breakfast, early lunch, and an afternoon nap. It is well to quit work by at least four or four-thirty in the afternoon and to take some kind of moderate exercise.

Tennis is sometimes too strenuous for the newcomer—particularly in the lowlands. Golf played in moderation is a good tropics sport, but nine holes is enough. Rugby and baseball, tremendously popular games for the native population, are rather too strenuous for the newcomer. Bowling is one of the best games and dancing is another of the best and happiest of all tropical recreations, a true heritage of the land.

Whatever the game or sport, moderation is an essential adjective which also applies to drinking—oldest and most tried of all tropical recreations. In the tropics a normal body requires more drams and fluid ounces than the same body requires in a temperate climate. Upon first arrival in the tropics one is likely to be more or less thirsty all the time. And tropic thirsts are not easily appeased. For there is the perennial problem of "safe" drinking water. Nowadays most cities and accredited hotels of Middle America have depend-

able drinking water. Nowadays, too, ice is widely obtainable and refrigeration follows the penetration of electricity. But many newcomers who take infinite pains to test drinking water pay no heed whatever to the water from which the ice is made. And ice is frequently little more trustworthy than the water from which it comes.

There also is the inevitable alcohol. The chances are that the newcomer to the tropics desires to drink and straightway proceeds to drink more liquor than he would consider drinking back home. It's a tempting answer to continuing thirst and most newcomers quickly discover that they can drink more and "get by with it" in the tropics than in the States.

Here we meet the age-old tradition of the tropical tramp, which is further enlivened by the many who go to Middle America with the avowed purpose of annihilating all liquor surpluses, and otherwise going to hell. Thus the real and metaphoric stories of tropical *señores* who kill two and three quarts of liquor daily for years upon years. Some of these stories may be gospel. But the truth remains that a good life in the tropics also places heavy accent upon fluid moderation. There are broad and honest differences of opinion as to the best tropical drink. Among North Americans in Middle America, Scotch highballs lead in popularity, with beer (to some merely a substitute for water) second and rum third. There are numerous native distillations cheap in price and powerful of effect.

Regardless of the drink you choose, it is best to drink it slowly. "Retard" is an extremely valuable word throughout the warmer Americas. If the newcomer cannot retard his vital paces subconsciously, it is advisable to make a studied effort to slow down tempo in walking, speaking, and eating, and to work and play a little more slowly. To retard velocity is Middle American tradition and "traditions," as already noted, is an important word in daily living from Mexico south.

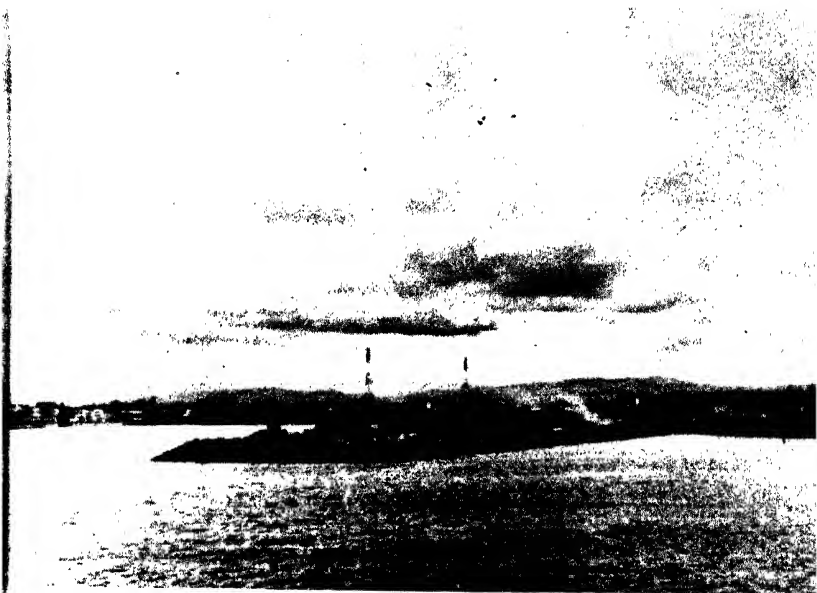
Middle America remains a world stronghold of tradition—in politics, holidays, dancing, songs, courtship, mourning, and marriage. But the core of Middle American tradition is long proved to be a sound core, begotten and proved by generations of good living. It is a mingling of religion, folk history, solvent science, and shrewd

philosophy. It is distinctly a challenge to liberal reflection, not arbitrary contradiction.

In all, the Middle American mind demonstrates the genius of durability, ever scarcer in the contemporary world. Its viewpoints, moods, and tempers have survived through centuries without cowardly disintegration or abject despair. During four and a half centuries this Middle America has known much of calamity and tragedy. Time and time again it has been harassed by wars, pestilence, piracies, and alien tyrannies; by ruinous floods and earthquakes and hurricanes; by economic calamity at maximum severity. But through these chronicles of adversity the distinctive, inimitable life and viewpoint of these Americas have endured. Free governments have been born, and throughout a turbulent and voracious century these governments have lived. This fact also re-proves the stability and sound merit of the common man of these Americas—his beliefs, his ethics, his temperament, and his faith.

This book attempts to bring to contemporary life and to bolster with specific details the text of the preceding paragraph. Pursuant to this goal the book cannot be a detailed history of Middle American colonization, nor a treatise on Middle American archaeology. It cannot be merely a come-hither bait for prospective cruise takers. It cannot be merely another quaint craft book for those who cherish spinning wheels and Tuesday afternoon lectures on folk art of the colorful Oojiis of romantic San Blas.

The book tells something of Middle America's past, believing past and present more or less identical. It views the respective countries, not systematically or nationalistically, but rather as contemporary neighbors with similar problems and widely comparable resources. It talks of crops and climates of lands which remain agrarian frontiers. It summarizes the essential story of tropical transportation and problems and developments of Middle American trade. It talks of dominant products, most of which are not exclusive to one particular country. It meditates upon probabilities of the future. It deliberately admits sympathetic appraisal, since these Middle Americans are our neighbors and our friends. Their well being is also ours.



(Top) THE APPROACH TO COLON, PANAMA.

(Bottom) GUATEMALA, A RATHER BEAUTIFUL NAME FOR A



JUNGLE AND
PLANTATION:
FERTILE BIRTH
AND GROWTH





(Top) A HIGHLAND VILLAGE.
(Bottom) GUATEMALA CITY.



(Top) A FARMER'S COTTAGE AND LANDSCAPE.

(Bottom) FENCES OFTEN GROW ALONG THE ROADSIDE.

2

GUATEMALA

“GUATEMALA” is a rather beautiful name for a tremendously beautiful country. The name comes from a Maya Indian word, *Quauhitemallan*, which means “full of trees.”

But Guatemala is not literally full of trees. It is almost entirely full of “color”—literal and figurative. Almost without doubt it is the most significantly Indian of all American nations with considerable Indian populations. Promotionally labeled the Switzerland of the Americas, Guatemala transcends the scenic magnificence of Switzerland.

What is of still greater pertinence, in matters of colonial government and in miscellaneous history of the sixteenth, seventeenth, eighteenth, and early nineteenth centuries, Guatemala *was* Central America. It is still the most populous state between Mexico and continental South America. Its average exports and imports are largest, and in terms of United States investment more North American capital is active within the republic than in any other country of Central America.

Guatemala, though tropical, is a land of hard work with laws based on the contention that “work is obligatory and liberty lies in the choice of the class of work which one prefers to do.”

Guatemala is also cradle and homeland for great crops which have now become world staples. It is a land of enormous human fecundity. (For example, in 1934 the birth rate was 42 per thousand as compared with 17.1 in the United States; the death rate was 27.8 against 11 in the United States; the excess of births over deaths was 14.2 per thousand people as against 6.1 in the United States.)

Guatemala is a republic of heroic transformations. Few if any nations of the world have shown greater change, or "progress," during the past century. Unfortunately written history of colonial Guatemala is comparatively scarce. But a composite of available commentaries leaves a rather intriguing portrait of antiquity: of colonial towns with streets that were narrow, ill smelling, and populated by roving dogs, and unlighted except for candles placed before images of saints in outside wall niches; of green plazas and *prados* which were also markets; of Indian peddlers selling their wares from beneath shelters of palm leaves; of municipal bull rings, native guilds of cobblers, pork sellers, and fireworks makers; of burro traffic, cock-fights, kite flying, and plaza strolling; of feast days featuring grandees in white wigs and gold braid and grand dames in hooped petticoats and fiesta-style shawls and overskirts; of convent schools where girls learned how to read and sew but not how to write; of long dragging swords and end-on-end smokers (men smoked 15 to 20 cigars daily and women an easy average of 50 cigarettes). You gather impression of grandee Spain having become agrarian—an early-rising aristocracy who paid social visits in the morning, spoke grace after meals and not before, decorated homes in brilliant trappings of silk, praying much, working late, building a colorful world to endure and to multiply.

Guatemalan history is specific and dramatic. It is important because, like most histories, it weaves yesterdays into tomorrows.

The nation began back in 1524 when Pedro de Alvarado, a lieutenant of Cortez, undertook conquest of the Quiches and other Indian tribes who peopled the land and so established a Spanish colony independent from Mexico. By 1592 the "Real Audiencia" of Guatemala included all Central America—plus the present Mexican state of Chiapas which includes Soconusco.

Alvarado's following included "300 infantry, 120 cavalry and four cannon"; also an amazing Spanish wife, the Doña Beatriz de la Cueva, daughter of a noble family of Madrid. After Alvarado had directed the building of a first capital settlement—Almolonga, or St. James of the Knight—he made an unsuccessful march into Peru,

where he won only the fierce hatred of Pizarro, then returned to Mexico for another venture in conquest and there died at Indian fighting.

Thereupon his wife, the Doña Beatriz, proclaimed herself governess of all Guatemala, and in 1541—just four centuries ago—became the first woman executive of a New World colony.

But fate was unkind to the pioneer petticoat administration. The capital town of St. James had been built at the base of two mighty volcanoes—Agua and Fuego. One September night the village was swept away by a tremendous deluge of water from Agua. Virtually all the Spaniards, perhaps six hundred, their woman governor and more than a thousand Guatemalans were drowned.

A handful of survivors formed a new town, a few miles to the east—the wondrous city now called Antigua, “Old.” Other towns of the republic, some of them much older than Antigua, have kept their original Indian names. There is Quezaltenango, still the second largest city of Guatemala, an Indian metropolis of 35,000 built upon a high plateau as capital of a wonderland of Indian farms. There is also Totonicapam, a near-by town almost as large as Quezaltenango; the North Guatemala metropolis of Cobán, one of the loveliest towns known to man; and Zacapa, halfway between the Number One port of Barrios and Guatemala City, now the capital and the largest city in Central America.

But Antigua was the first metropolis. Survivors of the tragic flood of Agua Volcano, aided by native Indians and Indian slaves, built the town throughout a laborious century, raised great churches and government houses and a university that had already gained far-spread renown before John Harvard’s venture on Cambridge Commons was anything more than a pipe dream.

For two and a third centuries Antigua stood as a proud capital. Then on a July day in 1773, still three years before the beginning of the American Revolution, a tremendous earthquake shook the great capital to ruin—killing thousands and leaving uncounted thousands more to die of wounds.

Once more a lucky minority of the citizenry escaped into a broad

valley to the north and there began building still another capital—in the same year and the same month which saw the outbreak of the American Revolution.

This third capital became the *Ciudad Real de Santiago de los Caballeros de Guatemala*, or *Guatemala la Nueva*, and finally Guatemala City.

While earthquakes were destroying and men were rebuilding, Spain's regency of Guatemala grew resolutely to importance. By 1542 it had become a captain-generalcy of the Empire of Spain. September 15, 1821, was the date of Guatemala's liberation. It was an easy liberation, without formal warfare or extensive bloodshed. The following year Guatemala with its member divisions, which are now all Central American republics north of Panama, became a part of the Mexican Empire. That union lasted only one year. With the overthrow of Iturbide as Mexico's emperor, Guatemala was again free to choose its destinies. On the first of July, 1823, a convention of citizens drafted a declaration of independence pronouncing that from that date and forever the Kingdom of Guatemala stood free from Spain, Mexico, and all other alien nations; that the new Guatemala should thenceforth be the Federation of Central America, granting bona fide membership to the present republics of Honduras, El Salvador, Nicaragua, and Costa Rica. General Manuel José Arce, first of an eminent succession of president generals, became first president.

But the union did not hold. One after another the member states withdrew. By 1839 Guatemala stood alone. Eight years later she became the Republic of Guatemala, which has endured for almost a century. Various attempts have been made to rebuild the Union of Central America. Thus far none have succeeded.

Meanwhile Guatemala has set paces and patterns as an unitary republic. The National Assembly has one legislative body composed of one elected representative for every 30,000 citizens. The term is four years, and half the Assembly is returned biennially. Annual legislative sessions last from two to three months.

The President is elected by direct vote for a term of six years. Assisting the President is a Cabinet of seven appointive secretaries

and a Council of State, also made up of seven members, four of whom are appointed by the President and three elected by the Assembly. There is no vice-president. Three "designados" elected by the Assembly may succeed to the Presidency in their order of seniority. The Cabinet proper includes secretaries of foreign relations, government and justice, treasury and public credit, war, public education, promotion, and agriculture.

The judiciary of Guatemala includes the National Supreme Court of five members, six courts of appeals, and various local courts. Members of national courts are uniformly elected by the National Assembly with the exception of the President of the Supreme Court, who is elected by direct popular vote.

Military training is compulsory. The army is strong and supported by a superbly efficient Polytechnic College in Guatemala City where future army officers of the republic are educated. The government owns and operates its postal system, national telephone and telegraph systems, also a national wireless-radio system. The monetary unit is the quetzal, identical in value and parity to the American dollar.

The republic is divided into twenty-three states or departments, each of which is under jurisdiction of a governor or *jefe politico* appointed by the President. Department names are typical of Guatemalan blending of Spanish and Indian (Indian remaining predominant). Linguistically these names are sonorous, with a sort of marimba cadence—Alta Verapaz, Amatitlán, Baja Verapaz, Chimaltenango, Chiquimula, El Progreso, Escuintla, Guatemala, Huehuetenango, Izabal, Jalapa, Jutiapa, Petén, Quezaltenango, Quiché, Retalhuleu, San Marcos, Santa Rosa, Solola, Suchitepéquez, Totonicapam, Zacapa, and Zacatepéquez. These are beautiful names and beautiful states. It is complete journalistic accuracy to report that, taken as a whole, Guatemala is one of the most beautiful lands under God's heaven.

In several respects the intriguing history of Guatemala is best written on the face of producing fields. Guatemala is a cradle of

crops for much of the world, not excepting the United States. And the life of the still dominant Indian of Guatemala is essentially an agrarian life—a continuing odyssey of cornfields cleared with machetes, tilled with broad-bladed, heavy-handed hoes, harvested with fast-motioned, disciplined energy.

The higher valleys of Guatemala are most probably the botanic homeland of Indian maize, or corn, which is by all odds the largest crop of the United States and Central America alike. Second to rice, corn is the most widely consumed grain in the world today, and an essential food for man, livestock, and fowl.

Today the destinies, indeed the very existence, of tropical agriculture seem more and more closely welded to a foundation of corn. Coffee is now the Number One export of Guatemala and in terms of dollars or quetzals the most important product. But even this brilliant industry of coffee and the prosperity or survival of the 2,000 great coffee *fincas* of Guatemala depend upon corn. These coffee plantations cover about one-fifth of the total cultivated area of the republic and produce approximately one pound of coffee yearly for every man, woman, and child in the United States. Next to coffee, bananas are the foremost export crop and at least for the time being the main prosperity builder.

There are other significant crops, among them cotton, a newer crop which is rapidly gaining in importance. Thus far Guatemala cotton is not seriously molested by the boll weevil. The fiber is exceptionally strong and well suited to cloth manufacture, with the result that Guatemala's textile industries are likewise of promise and readily-proved importance. The present government of Guatemala is outspoken in recognizing agriculture as the basic, all-essential trade of the nation.

During the past decade the government has worked persistently and successfully to introduce new field crops, bring about improvement of livestock, and better assure the all-important domestic yields of corn. The establishment of a national college of agriculture, a bureau of agricultural statistics, and more than a dozen experiment stations in as many parts of the republic is improving yields and the prospects of principal and diversification crops alike.

From a standpoint of current experimentation, no agriculture of this hemisphere is more significant than that of Guatemala. The "Switzerland of the Americas" remains a cradle of crops and an epic laboratory of plant experiment.

If the various journals of early explorations are to be taken seriously, menus and husbandry of colonial Guatemala were extremely meager. Throughout the sixteenth and seventeenth, even into the eighteenth, centuries Guatemala had few domestic animals. Spanish goats, wildfowl and deer, and domesticated chickens, and in some areas, dogs, were principal sources of meat. Fish was scarce. Corn, potatoes, squash, and tropical fruits were the subsistence crops. Melons, pineapples, cocoa, and chili peppers were of local or regional importance. But there was little or no citrus fruit, no grapes or bananas, and little, if any, cereal grain. By gradual stages sugar cane, plantains (cooking bananas), oranges, wheat, garlic, and onions were introduced from Europe. But coffee and bananas, today the two greatest exports of Guatemala, have grown to greatness within the present century.

As already noted, earlier histories of Guatemala are notoriously feeble. Most books about Guatemala have been in parallel. These have been going on and out for the past four centuries. The current Guatemala "tourist book" has become a stand-by of the publishing trade—that tiny industry which makes so huge an amount of noise. But the tourist book, like the motion-picture travelogue, is now a more or less classic commodity. Change chapter headings, place names, and a few subtitles and the staple pattern fits one continent or country about as well as another.

In general the history of Guatemalan agriculture is still too little known. A few premises are of comparative agreement. It is generally granted that the determining factor in producing great specialized crops such as coffee, bananas, and sugar cane is corn "combined with good transportation"; that subsistence crops are absolutely essential, that subsistence crops should conform as closely as possible with local needs.

But Guatemala is inevitably concerned with exportable "specialty"

crops. The earliest of these was indigo, a vegetable dye taken from the *jiquilete* plant, which grows only in extremely hot country. Colonial Guatemala became a world-renowned source of this great dye which for two centuries, or until around 1850, remained the dominant exchange wealth of this amazing country. After indigo came another extremely important natural dye: cochineal—made of the dried bodies of a red bug which flourishes upon certain type of tropical cacti—particularly the *ropal*. In 1850 Guatemalan exports of natural dye materials totaled \$6,000,000, or about 6,000,000 pounds. About 94 per cent of that was cochineal; the rest, indigo.

From a standpoint of Guatemalan settlement, alien peoples have met greater difficulties than alien crops. Spain's conquistadors proved the most immediately successful, if the most rapacious, of immigrants. Pioneering British attempts to colonize the wonderland ended in tragic failure. For example, in 1835 there was organized in London a colonization company called the Eastern Coast of Central America Commercial and Agricultural Company—the EC of CAC and AC, a premier entanglement of alphabet soup. Like certain alphabetical contemporaries, the EC of CAC and AC failed completely. The early Republic of Guatemala granted the British company the entire Department of Verapaz—14,000,000 acres of virgin soil. But the immigrants were city people, most of them directly from London slums. At least 300 adventurers were left to die and rot in unknown jungles, while an investment of £40,000 or more, made of pennies and shillings saved by the very poor, was forever lost.

Seven years later, in 1842, a Belgian company, supported by a grant of \$200,000 from the Royal Treasury of Belgium, attempted a similar settlement between Golfo Dulce and the Motagua River. The settlers, all Catholic, became citizens of Guatemala upon arrival. But that was their last transformation. The colony failed. Jungle conquered first attempts at clearings. Settlers died of disease and starvation.

During the Civil War the United States projected still another company settlement in Guatemala, a proposed colony of newly

freed Negroes. But the idea failed to incubate into fact. Abraham Lincoln favored the venture but the government of Guatemala decided against it.

Meanwhile, as alien colonization failed, native government proceeded to acquire strength and establishment. In 1879 Salvador Valenquela, a minister of public works, made a first effort toward establishing a reliable census and a government department of statistics. Republican government thereby made its scientific debut. A liberal party came into power, and during most of the past half century Guatemala liberals have remained in power. In 1891 the presidential election of José Maria Regna Barrios (for whom the main seaport of the republic was named) was almost indisputably a free election—perhaps one of the first in Middle American history. Since that date Guatemala has had but two other presidents—Manuel Estrada Cabrera, who remained in office for twenty-five years, and General Jorge Ubico, the incumbent, who now serves his second six-year term.

This Jorge Ubico is one of the most completely heroic of contemporary statesmen—I believe one of the most authentic and convincing of national leaders of this hemisphere, or of the world. His profile and general appearance is distinctly Napoleonic. But his leadership and creative spirit are even more distinctively Guatemalan.

President Ubico is now sixty-two. At the turn of the century he was graduated from Escuela Politécnica, "West Point of Guatemala." By 1906, then twenty-eight, he was a colonel in the army. Within another ten years he was a general. In 1918 he led a militant but entirely benevolent campaign against yellow fever along the south and west coasts, then in the east and north of the republic, working in co-operation with the board of health of the Rockefeller Foundation.

By 1920 General Ubico had become chief of General Staff of his country's army. In another year he was minister of war. In 1922, he was first alternate to the president. In 1931 at the age of fifty-three, Jorge Ubico was elected president of Guatemala. After nine

years he remains one of the most respected and dynamic of all Americans in public life.

Among his legislative enactments are the highly unique "public honest laws," which require all public officials, elected or appointed, to account for and prove the source of all their personal properties upon entering and again upon leaving office.

Guatemala now has interminable audits of public moneys. Official visits, Ubico-style, are preceded by a party of accountants. The president's party usually includes an amiable cavalcade of automobiles which carry, among other accessories, an orchestra or a band. While the orchestra gives a concert in the plaza, the president checks the official audits and confers with local officeholders. Then, usually, he holds open court to hear all or any public complaints. These official visits are frequent occurrences—as many as 150 a year.

Jorge Ubico became president in 1931, when trade generally seemed to have been sinking into a bottomless pit of depression and collapse. Guatemala's treasury showed a deficit of more than 22,500,000 quetzals. Three years later the entire deficit, including interest, had been absorbed and the national treasury showed a substantial surplus.

With the melting of the public debt appeared new patterns of Ubico-style progress. For the Ubico "program of construction" immediately became apparent. It includes the creation of a national police force; a nation-wide system of traffic control, both rural and urban; a force of mounted police for maintaining order in rural districts; a corps of Treasury police for prevention and detection of fiscal frauds; a capable and solvent program of road building and maintenance.

While in other lands depression dealt ruin and havoc to government services and begot new highs of crime and beggary, in Guatemala the "distressed thirties" became an era of unrivaled progress. Though reaching new highs of law, order, and general solvency, few American republics were more sorely stricken by depression. Prices of coffee had fallen to half or less than the 1930 level. The dance of the millions was finished. Prior to February 4, 1931, date of Ubico's inauguration, the country was burdened with

unprecedented public debt. Great plantations had failed. Great fortunes had faded like rainbows, public income from duties and tariffs had fallen to ruinous lows.

Yet without delay or hesitation and with brilliant economy the Ubico administration launched one of the most enlightened and practical reform programs in all American history, attaining greater social justice and vast social improvement without debt, political ganglandios, wholesale patronage, entrenched bureaucracy, or ward heelers inflated to overlords of political machines.

One after another Ubico's great attainments have entered contemporary history. Important medical and sanitation authorities of Guatemala are now grouped under national control. Health legislation is efficiently codified. Public health and other government services to rural communities are greatly increased. The army is renovated and enormously improved. Peonage is blasted hellward. Minimum-wage laws have made effective appearance. Workmen can no longer be held in abject servitude by means of "advances" of cash or goods. In Guatemala today the maximum lawful advance of wages to any worker is \$2, which means that no longer, through a system of unaudited and frequently dishonest wage advances, can a farm laborer be forced to toil his life away in alleged settlement of an alleged debt contracted by his grandfather. All that has been ended by Ubico.

But the new labor laws of Guatemala also reflect objective justice. While labor is protected from abuse and exploitation, the worker is obliged by law to work, unless he is an independent tradesman, at least a hundred and fifty days a year.

The fiscal policy of the Ubico administration merits study by any business school of our nation. Proportionately and invincibly Guatemalan economy pushes forward. Its era of carts and pack mules merges into an age of highways and efficient aviation. Pestilent jungles change to producing farms. Hospitals and medication centers replace superficial graveyards. Disputes between capital and labor are incredibly rare. There is no aligning of class against class. There is no more contracting of labor or dominance of labor

through a third party. "Work is obligatory . . . Liberty lies in the choice of work which one prefers to do."

In Guatemala one hears it said that Ubico *is* Guatemala. As one onlooker to another, I grant the solvency of the generality. But I believe the text more figurative than literal. Attainments of Ubico's administration are built securely upon Guatemalan temperament—upon the usually tranquil, highly admirable Indian mind.

The blood and spirit of Guatemala is Indian—almost as much today as it was four centuries ago. In a rather literal sense the renowned Mayan civilization is contemporary as well as pre-Columbian. Certainly it is neither accurate nor sufficient to gauge the culture of the great Mayan races in terms of the past, though it is true that Guatemala is also a land of heroic ruins and of shrines to great and enlightened Indian empires of bygone centuries.

Along the banks of Rio Motagua, about sixty miles inland from the Atlantic port of Barrios, are the renowned ruins of Quirigua. These include the remains of a great Mayan temple and numerous monoliths crowded with drawings and hieroglyphs which record the great story of a superlatively great people. These monuments date back approximately sixteen centuries. The fascinating carved pillar called Stela K, perhaps one of the latest of Mayan monuments, records the date 9.18.15.0.0.3. Ahau 3 Yax; in Mayan chronology, about 535 A.D.

In the more northerly Department of Petén are other renowned Mayan ruins, at Tikal and Baxactun and at Chocula. There are more recent ruins at Mitta, in the Department of Jutiapa; the ruins of Cotzunalguapa at the south of Escuintla, of Utatlán and Quiché and Tecpan, and that illustrious city of more recent ruins, Antigua (which European sailors of 1500 described as a "City with Golden Streets; with houses built of Jaspers"). Today the ancient monastery at Antigua is in beshadowed ruins with the vaulted corridors and stone refectories waiting drowsily and in eternal patience.

Great history has been born in Guatemala, and great history is being born. These Guatemaltecos of five hundred, a thousand, even

two thousand years ago were also enlightened people and blessed with great leaders. It is not unlikely that they knew as much, or more, of mathematics and astronomy than men know today, they were capable farmers, great craftsmen in metals, members of a far advanced religion, skilled alike in art, science, and language. Yesterday and today Guatemala is a land of great attainment. Its churches and schools and crafts were tried and proved while the Americas to the north were still savage wilderness. Today, as yesterday, Guatemala's gospel of work is widely evident: railway lines which have pushed through the enormously high mountains and hundreds of miles of jungle to link ocean with ocean; the 4,000 miles of newly built highway, from Guatemala City north to Tecpan, San Marcos, and Quezaltenango and south to Antigua, Escuintla, San Marcos, and the Salvadorian frontier, all testifying to enormous popular energy.

The national school system is likewise testimony to incessant energy of everyday people. It is a highly centralized institution, under immediate direction of the Cabinet secretary of education. Special attention is paid to rural schooling, particularly the education of Indians. Primary education is free and compulsory for all Guatemalan children between the ages of seven and fourteen. Of the 1,900 primary schools of the republic about 1,200 are rural and about 400 are built and supported by plantation owners, by virtue of law which requires that all landowners provide school facilities when more than ten children are residents of the plantation or farm.

All plantation schools are under government supervision; they are bona fide parts of the national educational system, which also includes separate secondary schools for girls and boys. The primary schooling includes a six-year course. Curriculums of the secondary schools are divided into two "cycles": the first of four years and the second of two years; the former in general high school subjects and the latter in preprofessional subjects.

There are ten government "normals," or teacher-training institutes. In the capital are "faculties" of law, medicine, engineering,

natural sciences, and a national school of law at Quezaltenango—all associated departments of the National University. Also in the capital city are four trades schools, two for girls and two for boys, a national school of commerce (which graduates the highly necessary government accountants), a national school of agriculture, a national academy of fine arts, the School of Plastic Arts, the Conservatory of Music, a school for nurses and another for telegraph operators, a textile school located in the Indian village of San Pedro Zacatepéquez, and finally the illustrious Polytechnic School, for army officers and civil engineers.

Public education of Guatemala is still comparatively young. It is of eminent prominence and admirable progress. Industries on the whole are also comparatively young and outstandingly promising.

But the enduring essence—the spirit, blood, and brawn of Guatemala—cannot be congealed into any one particular institution of the land. It rises invincibly from a generous and varied earth, from jungles, from fabulously tall mountains, from forests crowded with thousands of varieties of trees, from mesas and shelfland, volcano peaks and shores of mountain lakes, from the looms, pottery wheels, and garden plots of a million rural Indians; from the green fields and plazas of ten thousand fincas and a thousand country villages; from the shuffling trot, the infinite color, the eager but docile enterprise of hundreds of thousands of rural Indians whose heritage includes a civilization which was comparatively enlightened even when “cultured” Europe was a bloody and vindictive wilderness, even as Europe again becomes a bloody and vindictive wilderness. Guatemala is forever young and forever at change.

And Guatemala is forever beautiful; a miniature world of visual magic and incessant colors; of bright sunsets, noble mountains; infinite age reshaped into eternal youth; of vegetation so abundantly alive that there is little time or place for death; of ten million new bouquets of flowers; of festive fireworks, of brightly colored kites, which are as one with the highland sunlight; of Indian girls with tightly wrapped skirts who hurry along hillside trails; of blanket-wrapped Indian babies borne upon mothers' backs; of pack trains,

sheep flocks, and grazing cattle; of riverside washdays; of busy native markets; of burden bearers who tramp dusty roads with backs and shoulders loaded with incredibly heavy cargoes of corn, or earthenware, or green vegetables, oranges, or a hundred other products raised from an abundant earth.

Guatemala is truly a land of work, and of great happiness in that work; where workers' tools—machetes, broad hoes, hand looms, potters' wheels, cobblers' benches, and market stands are personal treasures as well as implements of production; where brown eyes, laughter, and marimba music inevitably belong. "Nostgalic," "romantic," "emotional," "rhapsodic" are frequent but trite and casual adjectives. In Guatemala they are one with solvent, invincible reality.

3

EL SALVADOR

FRONTING the Pacific immediately below Guatemala, and to the west and south of Honduras, is Salvador, the smallest in area of all American republics and, from a standpoint of national census, the most densely populated. The area of Salvador is 13,176 square miles, which is approximately one and a half times the area of Vermont or New Hampshire and about equal to that of Maryland. The population is about 1,700,000, or roughly 125 per square mile, a dense population for a predominantly rural country.

This smallest of American republics is the only nation of Central America which lacks frontage on the Atlantic or the Caribbean. But Salvador is readily approachable from the Pacific by way of five principal ports, La Libertad, La Unión, La Concordia, El Triunfo, and Acajutla.

Acajutla is connected by railway with San Salvador, the capital. The republic is also reachable from the east by way of Guatemala—by rail from Puerto Barrios to Zacapa and thence by rail to San Salvador; or by rail across all of Guatemala from Barrios to San José on the Pacific, thence to Acajutla or other Salvadoran ports by ship; or by commercial airplane service to San Salvador, or by boat from Amapala, a Pacific port of Honduras; or, most recently, by highway from Guatemala City.

Salvador is a land of fertile soil and varied resources; a country sentineled by two mountain ranges traversing its entire length and dividing the republic into numerous mesas and fertile valleys. Gold and silver are mined in the mountains. In the plateaus and valleys

are grown valuable crops—coffee (the leading crop), henequen (a tropical fiber crop), tobacco, rubber, cocoa, indigo and balsam, as well as grains and sugars, coconuts, citrus, and numerous and various native fruits and vegetables.

Farming is the main trade of the land, an agriculture of unusual variety and interest. But sizable cities and substantial home industries have grown up among the diverse farming sections. For example, there is San Salvador, the capital, with a population of about 100,000, situated in a medium high and exceedingly fertile valley; a city with roomy parks and well-scattered suburbs, many handsome buildings and government "palaces"; also the seaports already listed, and notable inland cities, such as Santa Ana, near the Guatemala frontier and with about 75,000 people; San Miguel with about 37,000; Sonsonate with 17,000; and Ahuachapán, in the far southwest, with a population of about 31,000. Within the towns are numerous small factories and home workshops for the manufacture of hammocks and coffee and sugar bags and other coarse-woven goods, cigarettes, cigars, shoes and boots, and varied leather goods; iron tools and implements, and various hand-loom products which include some of the finest silks woven in the Western world.

But the life of the cities and towns seems to be distinctly adjunct to the productiveness of fields, orchards, and forests. Like neighboring republics of Central America, Salvador is famous for its fine grades of coffee, and coffee comprises between 75 and 90 per cent of the republic's total exports. Also during recent years Salvador has become a Central American seat of sugar production, with important exports of sugar to neighboring republics. Plateau areas of the country are now becoming tropical mainstays in the growth of wheat and rice and corn.

Culture of henequen is being expanded in connection with a widespread effort to obtain and make secure a more dependable American source of bag fibers. Similar progress is being made in tobacco culture, and limited acreage of rubber plantations is succeeding. As agriculture continues to develop, so does mining. The mineral resources of the little republic are not yet thoroughly ex-

ploited, but Salvadoran mines are now producing gold, silver, copper, lead, iron, and mercury in worth-while amounts.

One of the more unique of Salvadoran crops is balsam, an essential in modern surgery and pharmacology. This product, commonly called balsam of Peru, does not come from Peru at all. Its entire production is limited to a comparatively narrow strip of Salvadoran forest—a short way inland from the Pacific coast.¹

The balsam is another magnificent tropical tree. Like mahogany, it raises a broad and distinctive crown of branches, having a top diameter of fifty feet or more. One meter, or forty inches, is an average diameter of the trunk; 80 to 115 feet is average height. The outer bark is shiny white—even whiter than silver birch or bare sycamore, which marks it as one of the loveliest forest trees which rise from earth. The tree has a creamy-white blossom, somewhat similar to that of the catalpa, and bears an exotic pale-yellow fruit. The inner bark is deep red, similar in quality to the common dye called oxblood. The wood itself is hard and durable, like rock maple, and is used widely in the manufacture of furniture. Furthermore, the tree (*Myrosperon Myroxylon pereirae* is its botanical name) is one of the comparatively rare family of tree legumes and, like beans, peas, and clover, restores nitrogen to soil.

Its outer bark and roots yield resins, gums, and essential oils. But the greatest value of the tree is in the sap, or juice, which flows out of the inner bark and provides the basis of pharmaceutical balsam. The harvesting is a delicate and highly skilled trade which involves a unique catalogue of local folklore or perhaps elemental science.

As a rule balsam harvesters, *balsameros*, are native woodsmen, agile, strong-muscled citizens who can penetrate the densest bush; who can shin up the sleek-bodied trees with the facility of mon-

¹ In connection with the popular misnomer "balsam of Peru," Mr. William Reid of the Pan American Union presents the interesting theory that the misnaming dates back to Spanish colonial days when virtually all Middle American products were shipped to Panama for transport to Spain. In those times Peru was the foremost source of New World wealth and Spanish tradesmen, inferring that all valuable New World products were likewise from Peru, proceeded to mislabel the valuable entry of balsam.

keys, and wield sharp knives with the precise skill of expert wood carvers. During the dry season, or "summer" (in Salvador it begins in January and ends early in May), the balsameros "scratch" the trees with a sort of chisel knife, removing the thin layer of outer bark and exposing the red inner bark. The cutting is generally done during the light of the moon, when tree sap is thought to be at maximum fluency. On or immediately below each scar, or "window," the balsamero attaches a piece of cloth, about a square yard. Slowly the sap oozes out and saturates the cloth. At intervals of once or twice weekly the harvesters collect the cloths and boil them in kettles of water, reducing the contents of the kettle to a gummy "syrup."

Usually the crude balsam is delivered to the buyer or dealer in this state. The merchant or refiner proceeds to clarify and refine the product by means of slow heating which removes most of the remaining impurities. After the second stage of refining the "paste" is poured into standard-sized tins, holding about 25 kilos—about 55 pounds—of the gum. Tins are transported by muleback, cart, or truck to storage and towns. There the balsam is given additional processing until it becomes a viscous gray-red mass, with an odor like that of rich vanilla extract, though it is intensely bitter to taste. To avoid loss by fermentation the product must either be given careful refrigeration or manufactured immediately into compounds which can be readily preserved.

The original, and still the principal, use of the drug is that of a combination antiseptic and curative agent in surgery. It has a strong antiseptic value as applied to wounds. Balsam is also an important medical property for treatment of skin diseases, and more recently the cinnamic acid extractable from it is being used in treatment of tuberculosis.

Only the juice from mature trees is valuable. At several points in the balsam "belt" of Salvador the tree has been adapted to plantation culture. But the great bulk of commercial balsam still comes from native forests, since the tree does not come into bearing sooner than its twenty-fifth year—and twenty-five years is rather too long a wait for independent farming.

Indigo is another "romantic" crop of Salvador. Like balsam, it is taken principally from the wilds.

Salvador is preponderantly tropical, and peopled by a long-enduring population of farmers and merchants who are seasoned "tropicals." It is legitimately a land of siestas, but the present, past, and predictable future of the country are amiable reminders that Salvadoran siestas are by no means perpetual.

For the history of this smallest American republic is a chronicle of self-sufficiency and tranquillity, of steadily increasing census and wealth. Like its near neighbors Guatemala, Honduras, and Nicaragua, Salvador is indigenously an Indian country. In 1524, when Cortez's lieutenant, Pedro de Alvarado, invaded the country and claimed it for the crown of Spain, Salvador was plentifully peopled by peaceful, well-advanced farmer and hunter Indians. Cuscatlán was its capital and one of the notable Indian cities of early Middle America. Atlacatl, subject of one of the many magnificent statues of San Salvador, was the famed warrior chief of early Salvador, one of several great tribal leaders who directed a gallant stand against the march of Spanish invaders.

As a colony of Spain, Salvador was also part of the far-spread captain-generalcy of Guatemala and later of the vice-royalty of Mexico. Its early colonial period is comparatively little known. The province was remote and highly self-sufficient. Its ports had not been founded. The resoluteness and self-sufficiency of its Indians, its lack of roads and scarcity of navigable riverways, and its belated developments in gold mining kept Salvador somewhat removed from the domination of Imperial Spain. Thus Salvador suffered a minimum of injury from the hard-fisted invasions of conquistadors. In 1821, when the Central American Federation was founded, Salvador, still little known to the world outside, promptly joined. But the following year, when the federation was made part of the Mexican Empire, Salvador protested annexation and a public petition signed by several thousand citizens, both Indian and Spanish American, proclaimed a desire to be annexed to the United States. At that time the United States, considerably beset with

domestic growing pains, and many toils incident to colonizing the million square miles of the Louisiana Purchase, listened agreeably to the proposal but failed to take specific action. The following year, when the shaky empire of Iturbide tumbled into ruin, Salvador again became part of the Central American Federation, holding membership until the federation was finally dissolved.

Then, on February 18, 1841, Salvador formally declared its independence and set out to become a self-established republic. A first constitution was tried tentatively and abandoned. It was forty-five years later that the present constitution came into being. The present government with a constitution framed in 1886, is technically similar to those of neighboring Central American republics. The legislature is a National Assembly which convenes each year for a minimum of forty days. The Assembly has forty-two members, three elected by direct vote from each department of the republic and for a one-year term. Two alternate deputies are likewise elected from each of the fourteen provinces. Deputies are eligible for re-election. Each male citizen of eighteen or above is required by law to vote.

The president and vice-president are elected for four-year terms and are eligible for a maximum of two successive terms of office tenure. The president appoints his own Cabinet, which is made up of four ministers of state, each in charge of one of the four departments:

Ministerio de Relaciones Exteriores, Instrucción, Pública Justicia y Beneficencia y Sanidad, administering diplomatic and consular services, settlement of boundary disputes, public and private schools, libraries and colleges, also courts, registries, and administration of law.

Ministerio de Gobernación, Fomento, Agricultura y Trabajo (Department of the Interior, Promotion, Agriculture and Labor) is in charge of departments, districts, and municipalities of the republic; also of elections, public health, post office and telegraph and other communications; the national printing office and official government publications; also public works, including water supply, sewerage, street paving and lighting, construction and maintenance

of roads, bridges, ports, waterways, and railroads. The division of agriculture of this department supervises national experiment farms, the agricultural schools, encourages development of farming and introduction of new crops, and publishes an official farm magazine. The division of labor maintains a labor relations board called the Arbitration and Conciliation Committee.

Another government department is that of Finance, Public Credit, Commerce, and Industry (*Ministerio de Hacienda Credito Publico, Industria y Comercio*), which supervises collection and disbursement of national funds, controls customhouses and internal revenue offices, prepares commercial statistics and reports and supervises the national liquor industries. Like the Cabinet of the United States, each department has a number of undersecretaries or assistant secretaries.

Courts of Salvador include the Supreme Court of Justice at the capital, and a series of district courts. The Supreme Court is made up of seven justices, who are elected for two-year terms by the National Assembly. The remaining judiciaries are appointed by the Supreme Court; and justices of the peace are appointed by local judges.

The government operates about 150 post offices, about 240 telegraph offices and approximately the same number of telephone stations, as well as wireless communications, two broadcasting stations, and a system of cables lines. Governors of the fourteen departments of the republic are appointed by the president for terms of four years. Mayors and municipal councils are elected by popular vote.

In order to appraise the course and progress of any government it is well to notice its public schools and its public roads. El Salvador welcomes such appraisal, for in the face of the tremendous difficulties and problems incident to a dominantly rural population in a dominantly tropical climate, public schools and public roads show outstanding progress.

For the administration of public education the republic is divided into seven school districts under supervision of the inspector of

primary education (an undersecretary of the Department of Foreign Affairs, Public Instruction, and Justice) and supervisors of school inspectors for each of the seven school districts. In addition, each department of the republic has its own board of public education as does each city and town. There is also the semiofficial organization of parents—the Association of School Patrons—with hundreds of local chapters pledged to give maximum co-operation toward improvement of the schools, and the National Commission on Physical Training, which supervises and sponsors games and tournaments for school children and otherwise seeks to promote interest in sports and games.

Traveling in Salvador one notices a great many new schoolhouses, many of them highly modern and efficient. One is also aware of the decisive social prestige enjoyed by the profession of schoolteaching.

Primary schooling, covering a period of five years, is compulsory. Scattered throughout the little country are about 850 public primary schools, which include more than a hundred night schools for adults. Today Salvador is a world leader in adult education and a rapid groundgainer in public schooling generally.

Having completed the five-year primary course the Salvadoran pupil may then enter a secondary school for another five-year course, which includes study of Spanish literature, French, English, constitutional law, history, geography, physiology and hygiene, psychology and logic, physics and chemistry, physical education, typing and business arithmetic. Graduates of the secondary schools, able to pass a rigid examination, may enter the National University, which has schools of medicine, dentistry, pharmacy, chemistry, law, social sciences, and engineering.

At San Salvador the republic also maintains a National Institute for Boys, a normal college for men and another for women; also four technical institutes—the National School of Finance and Commerce, the National Military School, the School of Graphic Arts, and the Technical-Practical School for Girls. La Unión Agrícola, a semiofficial nation-wide farm organization, is another agency outstandingly active in matters of education. Both European and North

American influences are evident in Salvador's diligent and rapidly expanding network of public schools; also distinctive resources in native talent.

Communications demonstrate a similarly effective merging of general and local expediencies. A century ago, except for a 160-mile frontage of Pacific coastline, El Salvador was almost completely isolated from the outside world. The numerous rivers of the republic, particularly the Lempa (which crosses the nation from north to south and marks one of the most fertile valleys in all the American tropics), the Paz, and the San Miguel, are eminently important from a standpoint of soil building and agriculture. But none of the rivers are navigable by large craft and therefore they have been of no widespread benefit to transportation. There are also a number of lakes within the republic, including Guija, which is about fifteen miles long and five miles wide, and Ilopango near the capital, called the "Lake of the Miracle." (And the miracle, by the way, is still unexplained. Early in 1880 the waters of the lake suddenly rose several feet above normal levels. That, quite naturally, brought about a violent overflow of the little stream which feeds from the lake into the River Jiboa which in turn became a raging torrent, deepening its channel by thirty feet and flooding adjacent lowlands. Within two months the surface of the lake had fallen about 35 feet, and toward the center of the lake an island, at least 500 feet in diameter, had risen from the water. The island proceeded to rise higher and higher, even as the level of the lake remained approximately the same, until now it towers to a height of more than 150 feet above the surface.)

For centuries Ilopango has been a lake of incessant wonders. Describing its strange legends, Lilly deJongh Osborne writes the following:¹

The inhabitants of the shores of Lake Ilopango were descendants of the Nohoas who came from Mexico, bringing with them their customs, language, gods and beliefs. Thus naturally Tlaloc, the Aztec god of thunder and rain, was soon enthroned on Lake Ilopango, and his wife

¹ Quoted from *El Salvador*, issue of February, 1936, San Salvador.

the beautiful Xochiquetzal, the Lady of the Blue Dress, became mistress of the Lake.

Each year, when the maize began to ripen . . . was the time to pay homage to the Mistress of the Lake, praying to her for the prosperity of the crops and the good fortune of the people during the coming year . . .

Four maidens were sought within the boundaries of the Lordship; the best and most virtuous in the noble families; the youngest and most beautiful . . . Once selected the four maidens were taken to the lake shore, where straw huts had been prepared for them. . . .

When the appointed day arrived, the maidens were dressed with great luxury in blue dresses like that of the Goddess . . . They were crowned with white orchids that, gathered by the thousands, mingled their perfume with that of the lakeside trees in bloom. Then the maidens were carried in litters to the shore, that their feet might not touch the earth; at the head of the procession went a group of priests wearing their long tunics embroidered with precious stones and the tall feathered head-dresses, bearing in their hands censers whence burning copal diffused its fragrant odor. At the lake, where the multitude waited to greet the arrival of the procession, the maidens descended from their litters, and four of the chief priests led them by the hand to four rocks situated at the four corners of the lake, so that the maidens might return from four different directions, which were to the Indians the four directions of the winds, which would come from the four corners of the earth to ripen the maize.

Before the sacrifice the chief priest addressed the maidens in a long speech on the honor they had received on being selected for the ceremony, and the advantages and beauty they would find in living with the gods who dwelt at the bottom of the lake; at the same time emphasizing the duty of each maiden to intercede with the gods in favor of the people of Ilopango, praying above all things that the crops might be abundant and that there should be no lack of rain or sun. The blare of trumpets announced the hour of sacrifice; the multitude knelt in reverence and the priests chanted in low voices, while their acolytes took hold of the maidens and swinging them over the water, cast them into the depths . . .

El Salvador is a land of profuse legendry, which has thrived in dense shade and bountiful seclusion; a legendry of ancient Indian

races, of forgotten gods and devotions. A legendry of great seclusion, it is also a folklore grounded in tempestuous climate and geological violence. For Salvador is also an age-old center of volcanoes and volcanic upheavals. Within easy sight of San Salvador is the tremendous volcano Izalco, which about 125 years ago began to rise from the face of the high valley. During the past century Izalco has grown to a height of almost 6,000 feet. Almost incessantly active, it rises still higher, belching huge columns of smoke which quickly fades into the sky, while at night its high crater glows with undying fire, and fiery vapors continue to rise from its cone-shaped tip.

Other volcanic cones mark the green circle of hills which sentinel the capital city. Along the Pacific mountain range are nine more of the largest volcanoes of the Western world. San Vicente, the largest, rises to a height of more than 7,000 feet. But farms and villages wait resolutely within the areas of these great volcanoes, sometimes on their very slopes. This has been so for centuries.

The talents for self-subsistence and intense loyalty toward homeland have materially assisted the survival of Salvador through centuries of imperial neglect. But when the smallest of American republics undertook to become an independent nation the need for roads, railroads, and other communications soon became imperative. Thus the story of Salvadoran communications, like that of public education, has grown into a notable chronicle of tropical enterprise; of hard and devoted work in a warm and sleepy climate.

The first undertaking was that of linking the fertile and densely populated interior highland with the Pacific. This was accomplished by the 65-mile main line of the Salvador Railway Company which connects the principal port of Acajutla with the capital. Today this highly strategic railroad is supplemented by a new paved highway leading from the port of La Libertad to the capital and other inland towns, also by rail routes to the Atlantic by way of the International Railways of Central America for a direct haul to Puerto Barrios, Guatemala.

Each year this small republic makes additional appropriation for highway building, and during the late 1930's El Salvador earned

the distinction of being the first republic between the United States and Panama to complete its sector of the Pan-American highway, destined to become the longest and probably the most important international road man has ever built, leading from Canada to the Isthmus of Panama, and south to the great western cities of mainland South America . . . Salvador's link of this great road was provisionally opened in 1937. The route enters the country from the Guatemala frontier at the town of San Cristóbal, follows a winding course for a distance of more than 180 miles, connects the capital with important cities of Guatemala and Honduras, and enters the latter country at Santa Clara, on the extreme southeastern frontier. Already trucks and automobiles of a dozen nations travel this road, as do coffee carts, freighter wagons, and trains of pack mules from more sequestered countrysides. Motorbuses further link the inland cities with the Pacific coast and the outlying frontiers.

A revised Spanish architecture proceeds into the march of Salvadoran progress. Buildings of wood covered with ornamented iron sheets and buildings of reinforced cement are gradually replacing the earlier adobes. But old colonial houses stand in amiable defiance of time, and on hillsides and higher plateaus wait the ruins of ancient villages and capitals of Indian nations, thick rock walls built for defense, community pueblos built with infinite toil to stand through the centuries. The qualities of independent durability of these Indian towns seem to permeate the town and city life of El Salvador as a whole.

As units of government and as social strongholds, the towns and cities are outstandingly independent. *Alcaldes*, or mayors, and *regidores*, councilmen, are significant officials. Each municipality enacts its own laws for taxation and each town council is wholly independent as regards administration of municipal funds—except for regular audit by the municipal accounting office of the national government. The local mayor performs local marriages (that is, the civil service, which is usually followed by the prescribed Catholic service) and the municipality keeps registry of all births and deaths. Life of the towns stresses recreation as well as work. Playfields and

small parks, swimming pools and beaches, outlying lakes and scenic attractions, which are plentiful throughout the republics, are distinctly as much a part of the town life as are the stores, shops, and markets.

Among other gregarious resources Salvador is a land of thoroughbred horses and race tracks. Supplementing the sports and recreations of the land are numerous fiestas and church days; greatest of which is the distinctly Salvadoran Feast of the Holy Savior, an eight-day religious carnival held in early August, apropos of the fact that both the republic and its capital are named for the Savior. Religious processions are common, a heritage of old Spain and earlier Indian lores.

To the casual onlooker (and the writer freely admits that in the instance of El Salvador he is merely a casual onlooker) this smallest of American republics is a unique merging of the old and the new. In spirit as in blood there is evident survival of the almost classic communes of pre-Columbian Indian society. There are broad touches and seasonings of old Spain (finding expression in colorful homes, fiestas and carnivals, and in the highly flavored, distinctly Spanish foods). There are numerous and distinctive institutions and characteristics of tropical life. There is an essential and varied agriculture that has supported the nation through many centuries. Along with these qualities El Salvador has a distinctly American talent for stubborn self-development; for use of brawn and planning to change dormant natural resources into the goods and assets of a more abundant life. It is an Indian country which has effected a relatively successful transition to the ways and needs of white men.

4

HONDURAS

HONDURAS, located below and southeast of Guatemala and El Salvador, is the third largest country of Central America. It is also one of the many subjects which simply and placidly rebel at the bondage of type frames and tyrannies of travelogue. You can't learn about Honduras from train windows because there aren't enough trains. You can't form a roadside panorama of the land because there aren't enough roads. You can see most of the country from the air—its rounded valleys, cuts of ravines, pine-grown hills, bald and rocky mountains, vast high plateaus, tranquil towns and cities, rich delta lands where monster banana farms when viewed from a plane window assume the proportions and coloring of neatly tended gardens of spinach.

You can see a great deal of Honduras from the air—enough to become fairly certain that it is one of the most unexpectedly, uncomprisingly beautiful countries of all the Western world; that in an area only a little greater than the state of Pennsylvania are assembled in lavish random amazing conglomerates of soil, vegetation, terrain, coastlines, inland lakes, volcanoes, jungle and forests findable upon earth. You sense the enormous fertility and fecundity of this small world below you, though much of it appears to be primeval jungle.

From an airplane you begin to grasp some of the amazing traditions and folk history of the land: Honduras as former hide-out for bandits and renegades; Honduras as lush sleepy paradise for men weary of work, of oppression, or of fame in other lands; Honduras as haven for lost causes, a land wherein lost people may sur-

vive, where once great and now largely forgotten races such as the Caribs (the Indians for whom the Caribbean was named) can still live on.

Air travel, which is frequently nearest ideal for viewing places, is one of the poorest ways to view people. Yet seeing a country by underfoot panorama is sometimes the best possible preparation for becoming acquainted with its people.

From the air you immediately gather that Honduras is one of the greatest banana lands. Below you, splashed in lush greens with shadings of purple, are tens of thousands of banana acres (hectare is the land measure common to Honduras, measure for 2.47 acres or 10,000 square meters). You will note occasional and scattered patches of bananas far inland. But most of the heavy fringed fields are centered along the great flood basins of the Caribbean, or "north," coast and extending inland 60 to 75 miles from the dark-green and rather mountainous coastline. The foremost landmark for bananas is the slow-moving, meandering Ulúa River, which begins high up in the shelflands, passes an amiable, somewhat dog-infested, banana capital called Progreso, and empties into the Bay of Honduras.

Flying over Honduras, you will notice many other rivers. For example, there is the Rio Blanco, which ties the Ulúa to Yojoa Lake (the largest inland water of the republic); the Aqua Negro, the Tinto, Patuca, Segovia (less poetically labeled the Wanks), the Choluteca, Goascoran, and so on—rivers with channels and nomenclatures considerably mixed. Rafts, logs dugouts, and ancient ferries move sleepily on the slow waters; palm-thatched houses wait at the water edges and continue back into the hills. Along the riverbanks country wives toil with paddles and God's own plenty of water (every day is washday in the tropics and it's usually raining in Honduras). Livestock drink at the river's edges where alligators doze.

When your plane dips low you may notice rural straw-hatted hombres with pack mules or high-wheeled carts or long wagons drawn by stubby red or Jersey-colored oxen; also miscellaneous assortments of children, elder sisters, and senoras in black shawls

and bonnets. You may notice axmen swinging away at giant trees, machete workers who whack incessantly and effectively with those highly efficient Yankee-made long knives which have now become the all-purpose working tool of the American tropics. You will soon notice that in the banana fields men are perpetually at work, swinging machetes to level down the stubbornly virile grasses, pruning the giant leaves, reaping the heavy, sleek, green fruit stems with sharp-slitting blades mounted on extremely long handles, using machetes to slash down the twenty-foot banana stalks as soon as the fruit is cut; leading "strings" of pack mules which walk gingerly beneath burdens of banana bunches.

You will see men dunking bananas in wooden vats, squirting the giant plants with white spray, loading the fruit into railway cars, and when fruit ships are in port you will see and hear long trains of banana cars rolling and screeching en route to the sea. At the banana ports you see files of workmen who hurry about like disturbed ants "shoulder-toting" the cargo from train cars to canvas conveyors which carry the fruit into air-conditioned hatches of trim white ships.

Within half an hour of flying, say, at 2,000 feet, you sense the enormity and demanding accuracy of banana work; plantations grouped about central towns; huge farms linked tightly with narrow-gauge railways and tramlines; fields circled and bounded with tramlines or cleared roads; in and about the fields high-stilted barracks and camps for farm workers, more pretentious dwellings for overseers, spired churches, white schoolhouses, hospitals, green pastures, huge water tanks, grazing livestock. It is an astonishing fantasy, all the more so because these gigantically ambitious banana realms are surrounded and hard pressed by black-green and invincible jungle. Even from high in the air it is apparent that in terms of bananas—when and if mortal ambition and muscle grease should fail—the jungle waits to take all.

In common appraisal Honduras is a "banana republic." It is that in fact. In some respects, it is the greatest banana land in the world today. In yield per acre and in quality its fruit is second to none.

Its railroads, shipping lines, radio and land communications are principally concerned with banana traffic and banana resources.

But from the air you also note that this banana coast is only a comparatively small part of Honduras. Flying inland you pass over forested shelflands and grassy plateaus, such as the plains of Comayagua (where the Ulúa begins its descent to the sea), where field crops grow abundantly and herds of cattle move along a forty-mile stretch of open range. You see other high valleys such as the Jamastrán and Valle de Sula. But to the south there are high sheer mountains with tips rising to 10,000 feet; mountains cut with mesas and deep basins which are headwaters to the many rivers draining into the Atlantic.

Over the shelflands, if you fly low, you may distinguish coffee bush and dense-matted fields of sugar cane. There is no need to fly low in order to see the mahogany, the "king tree" of Honduras. Frequently these mahoganies are hundred-footers. In tropical sunlight their leaves show strange blendings of reds and yellows and the jungle giants grow in splendid isolation, usually several acres apart.

This is the true mahogany (there are dozens of so-called "false" mahoganies) in its true growing range of 10 to 25 degrees north latitude. It is the timber that early Spaniards found ideal for building ships, the tree which Baron van Swieten, court physician to Maria Theresa, modestly named for himself (*Swietenia mahogani*); the timber which Sir Walter Raleigh brought home in 1592 to England, where it eventually became the foremost ornamental wood.

Mahogany harvesting is a notable folk technique in Honduras. The timber is usually felled in the rainy season, since the color of the wood is then richest, and in the light of the moon, since the cool of night is the best working time for cutting the huge trees.

Very likely Honduras has the greatest treasury of true mahogany in the world—virgin stands which have been forest kings for a century or two or three. The actual census of mahogany trees is comparatively small. A member of the Honduran consular service



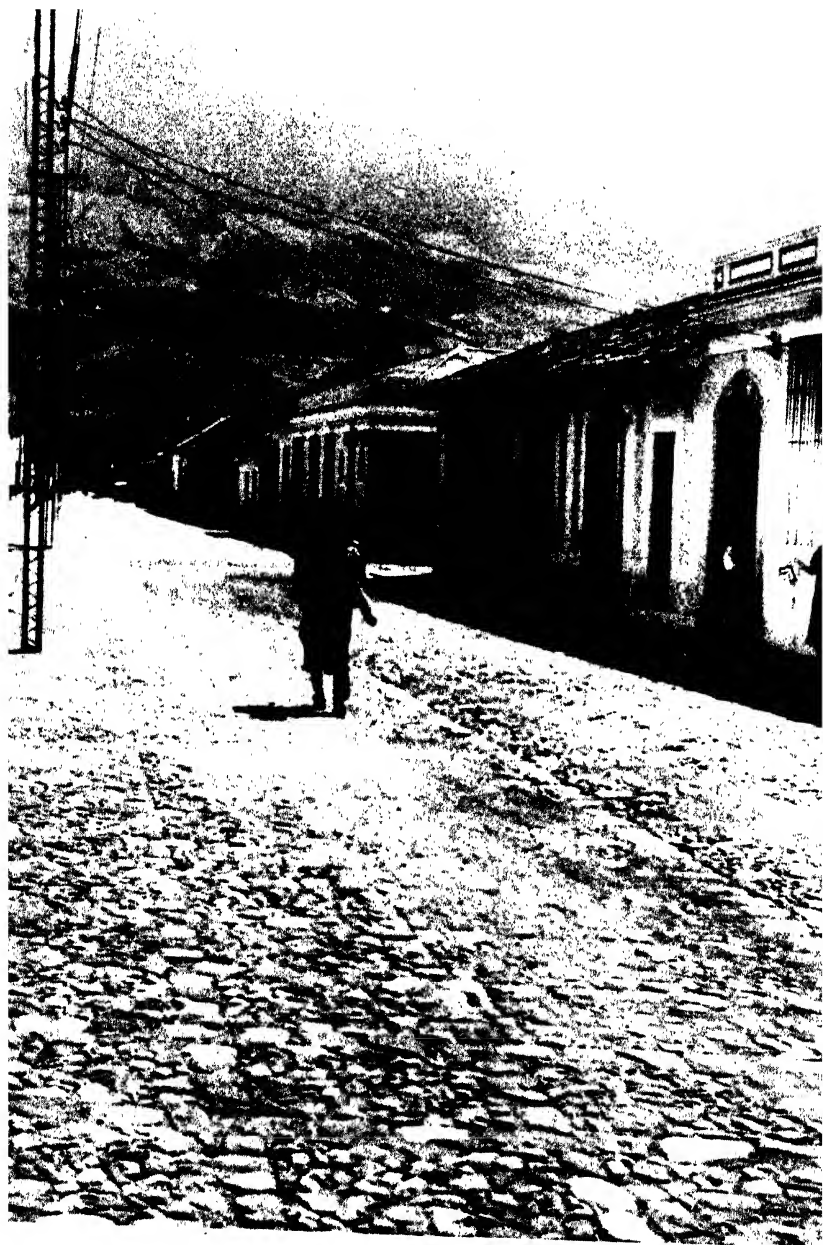
(Top) ON THE ROAD TO MARKET.
(Bottom) A PUBLIC MARKET BUILDING.



(Top) NATIVE MARKET, JOY OF THE INDIAN NATURE.
(Bottom) A "BOOTH" IN THE MARKET.



(Top) A FARM LANDING ON THE COTO RIVER.
(Bottom) FIESTA: AN OLD BUT STILL BRIGHT TRADITION OF
THE INDIANS.



STREET SCENE IN ANTIGUA

tells me the story of a lumber company which recently acquired a mahogany concession covering forty square miles. When the harvest had been "scouted" and felled the company secured exactly sixty mahogany trees from the forty miles of untouched wilderness—an average of one tree to about 1,200 acres.

It is difficult to see mahogany harvested from the air. Only the sharp-leaved tips of the trees are visible. The precious trunk logs are lost in the bush; so completely lost that they are next to impossible to locate even from the ground. Sometimes lumber cutters use planes to "spot" the finds. The more traditional practice is for a tree "scout" to climb to the tip of any tall tree, locate the nearest spire of mahogany, then direct his workmen to chop a trail to it. When cut the trunk logs are "snaked" or dragged by either oxen or tractor, to the nearest waterway, floated to mill or seaboard, and so sent to markets throughout the world.

Flying inland to over Tegucigalpa, the only Central American capital without a railway and one of the most completely fascinating cities of the American tropics, you see some of the great mining centers of the republic: the Rosario mine at San Juancito, where gold and silver are taken from the same ores; and several hundred lesser mines, some of which have been worked for silver or gold since the days of first Spanish conquests.

But it seems to me that the most folkishly ingenious mining of Honduras is to be seen along sandy, sprawling valleys of the Rosario, or España or Almendares River. There you see the native women working the sands with bucket-sized sieves, standing knee-deep in water or mire, forgetful of hot sun or stubborn rains, recovering the price of food, clothes, and fires with occasional flecks of gold or of silver. According to government records, these feminine sandshakers actually recover gold to the amount of around 200,000 lempiras (\$100,000) a year. With the infinite patience, the tranquil persistency so widely characteristic of Honduras, they earn their precious recovery grain by grain.

Among the rough lands of South Honduras there are fields of henequen, a rank, semitropical sisal, a heavy-fibered plant which,

though comparatively new to cultivation, now bids fair to become an important export crop. Lower shelflands are planted to well-tended tobacco fields. There are many grazing cattle and, whether or not an aerial view tells as much, the leading crop of Honduras, like the leading crop of the United States, is corn, or Indian maize. Perhaps this fact harbingers a time when livestock may also become a chief resource of this republic.

Politically speaking, Honduras is divided into seventeen states or departments and the Territory of Mosquitia. In area this territory is the second largest division of the country. Nobody knows its exact population, and it remains one of the wildest and most impenetrable land surfaces on the face of the earth. The territory is entirely without highways or railroads or towns. It is peopled with Indians, a comparatively peaceful, impressively primitive jungle people, closely tethered in dense forests and jungles, beyond the ordinary trails of exploration. A great part of it has been viewed only from the air. Nowadays the government of Honduras sends teachers and missionaries into Mosquitia but, unless records are sadly incomplete, much of the territory has never yet felt the step of white men.

From an aeronautical standpoint, Tegucigalpa is probably the best place in Honduras to land a plane. The otherwise remote capital has now become one of the foremost commercial air bases of Middle America. It is home port for the amazing TACA lines, elsewhere mentioned in this book. It is a base port on the vast throughway of the Pan American Airways. It has a superb government port, blasted and leveled ambitiously from a colossal forehead of mountain. Anyone who flies over Central America almost inevitably lands at Tegucigalpa—"Teguci" to most air pilots, traveling salesmen, and tropical engineers.

Tegucigalpa is a town worth seeing, and knowing; one of the oldest of the Western world, an Indian capital long before the days of the first Spanish conquest. The name is from Indian words which mean "Hill of Silver." After 1569, when the iron hand of Cortez settled upon Central America, Tegucigalpa became a gold- and

silver-mining headquarters of the conquistadors, and for two centuries thereafter the town was Real Miñas—Royal Mines. The old capital was Comayagulela. Tegucigalpa, for centuries the largest city of Honduras, was officially made the capital in 1880. Mallol bridge, built by colonial Spain three centuries ago to link together the two towns, still stands.

In this reporter's opinion, Tegucigalpa is one of the most amazing cities of man. Within its narrow shaded streets and its patioed orange groves wait the shadows and voices of forgotten centuries. Bullcarts and ox wagons still plod along its cobblestones and occasional motorcars seem considerably out of place. Teguci remains a town of burden-bearers, of lean strong Indian men and Indian women with magnificent broad shoulders and squared chests, and gracefully muscled arms and legs, a people of great strength and infinite patience. Much of the town's freight still travels by human back and shoulders. Young men walk the narrow sidewalks carrying huge burdens. Peddlers come to town with back packs piled high with vegetables or fruits or earthenware. There are patient caravans of Indian farm wives carrying docile treasuries of live poultry—to be peddled personally, hen by hen and rooster by rooster; live pigs, properly manacled, and young calves are likewise part of the cargo via back and shoulders. Carpenters carry huge burdens of planks and timbers. Cobblers stroll to work with an entire bull's hide propped on their shoulders.

Honest brawn most definitely keeps its place in the life and commerce of Tegucigalpa, of Honduras generally and, for that matter, of much of Central America. Gringos, in my opinion, can well afford to heed. For there is still merit in strong backs. Tegucigalpa proves it. No city of North America is so old. And here's an honest and absolutely uncollectable bet of two toasted tortillas filled with ground black beans that Tegucigalpa will stand and live after hundreds of more ambitious *ciudades del norte* have tumbled to oblivion, dust, and rust.

Besides being capital, Tegucigalpa is also the metropolis of Honduras, with perhaps 40,000 people. The newcomer hardly suspects

the presence of so many. Teguci is a bona fide town of the country, largely free of the fangles and trappings of so-called "important" towns. Ox carts and bull wagons drowse along its outlying ways. Files of brown-and-green ducks move along its shady lanes. Caravans of pack mules navigate the narrow hillside trails. There are vividly colored wildflowers, giant poppies and sunflowers and mountain daisies. White clouds pile before the sun and acres of shadows race across the adjoining bare hills.

It is high country, above 3,000 feet, and mountains wait as worthy sentries and defenders against lowland heat or driving hurricanes. December is the "cold" month, with temperature ranges from 50 to 75 degrees Fahrenheit. May is the hottest month, with maximum temperatures of around 90. Showers blow down from the mountains, but the sky clears quickly and sunlight is exceptionally bright.

The Choluteca River ambles through the town. Narrow streets with stone paths for sidewalks begin and end at the banks of the river. There is a prado with bright green grass and palms and citrus trees and statues, all fronted with an immaculately white, double-towered cathedral. Today many of the streets are being pasted down with pavements of asphalt and cement. During my first visit to the city in 1938 much of the capital was torn and scarred with unsightly ditches, as the first municipal sewerage system underwent laborious burial. The work is almost finished now. Old Teguci is now what gringos of the WPA would term "sanitary."

It is difficult to know a nation until one knows something of its capital. This truism is particularly apropos to Honduras. Before you can reach Tegucigalpa, you have necessarily seen a great deal of the country. If you travel by ship there are two most-used ways of entry into Honduras: from the Atlantic, or "north" coast, by Puerto Cortés and Tela, Ceiba from the west or south, via the Pacific port of San Lorenzo. Leaving shipboard at Cortés you can travel by rail to San Pedro Sula, the firmly built and foremost capital of the banana lands, a town of many new buildings and

pavements and other modernities. You can proceed by train from San Pedro to the village of Jaral which is on the shores of Lake Yojoa. There you can ferry by midget steamer and view high mountains and untouched wilderness for a slow two-hour journey to Pito Solo, the lake's southern port. From Pito Solo the capital can be reached by motorcar or bus on navigable road.

The journey from San Lorenzo is easily possible by car or bus—about sixty slow, winding miles requiring a drive of seven or eight hours; an adventurous if sometimes dusty and jolty ride through deep-shaded countrysides of tropical jungles and hillside forests. Along the coast are the people of the sea front, native fishermen in tiny one-man sailboats, peddlers of fish and lobsters, tropical stevedores, and occasional beachcombers. Farther inland are the banana people, studies in browns and blacks, men uniformly armed with machetes, sometimes with giant cigars, frequently with canteens fashioned of banana stalks or home-baked clay, sometimes with sidearms. The highlands are an Indian country where eternal youth and infinite age are most gracefully merged into an all-important present.

Chances are that you see the country much as Hernando Cortez, master of empires, must have seen it during his renowned journey of conquest of 1593, when he led a little band of soldiers through fifteen hundred miles of Mexican and Central American desert and jungle in less than three months. Perhaps, too, the leaping, infinite greenery of the Honduras coastline will impress you today or tomorrow much as it did one Christopher Columbus who was probably the first European to put his foot on Honduran soil.

Fortunately, for Honduras, travelers from afar no longer come into the land on the same quests which brought early expeditions of French, Dutch, and English buccaneers and pirates—the tender mission of raiding and robbing the hundreds of gold mines of the land, sacking and burning the villages and towns, and robbing or raping the natives. In times past Honduras, like her sister republics of Central America, has suffered cruelly from international

banditry. That the land could have endured and become a nation is superb testimonial to the unpretentious strength of its people.

Honduran history has been turbulent. Columbus discovered it. As a Spanish colony, Honduras was treated as a regency under Cortez who conquered it. The conquistadors and the crown of Spain took millions of pesos in precious metals from its mines. In 1660 the French pirate François L'Olonnois made the land his stronghold. For a century thereafter raiding, pillaging, and burning by maritime gangsters of France, Holland, and Britain followed in distressing succession.

As a colony of Spain, Honduras next became a regency of Guatemala. Directly after the close of the American Revolution, by hard-fisted bargaining with Spain, Great Britain gained possession of the coastal slice of Yucatán and Honduras now known as British Honduras, or Belize. The area had been occupied by British troops as early as 1740 after the Sambos or Missiki Indians (led by British settlers) had captured Spanish forts within the region and defeated a stragglng handful of Spanish troops.

In 1821, after the example of Mexico, and entirely without bloodshed, the states of Central America, then the abandoned regency of Guatemala, declared their independence. Doddering Spain did not resist. The following year, by some peculiar jugglings of colonial politics, plus invasion by a comic-opera expeditionary force from Mexico, all of Central America became part of the empire of Mexico. But with the downfall of the Iturbide regime Central America was again a loosely joined federation. The following year Francisco Ferara became president and after two years, odd to relate, he was formally nominated as president.

For sixty years Honduras survived as a pioneer republic of these Americas. Those drowsy years saw among other things the birth of the banana industry, several rather desultory revolutions, a haphazard and remote frontier in which the caliber of citizens was too often gauged by the caliber of their firearms.

Early in 1921 at San José, Costa Rica, a treaty to found a new federation of Central America was adopted by Honduras, El Salva-

dor, and Guatemala. Later in the year a constitutional convention assembled at Tegucigalpa produced a constitution for the three republics. Nicaragua and Costa Rica declined to join. So the proposed Republic of Central America faded away and each of its three members returned to the status of independence.

In 1936, Honduras acquired a newer constitution which places legislative powers of the nation in a Congress of Deputies. According to this constitution one deputy is elected for each 25,000 citizens and serves six years. President and vice-president are likewise elected by direct vote for terms of six years. No relative of the retiring president or vice-president can be elected to either of the higher executive offices. Further, no blood kinsman of the president can serve in the Congress of Deputies.

The president appoints governors for the seventeen states of the republic, and also appoints his Cabinet, which is made up of from three to six secretaries of state, each of whom has supervision over two or more departments of the government. Departments include those of Government, Foreign Affairs, Justice, Treasury and Public Credit, War and Navy, Promotion, Public Works, Agriculture, and Public Instruction.

Honduras has a Supreme Court of Justice, composed of five magistrates and three substitute magistrates, each elected by popular vote for terms of six years. The Supreme Court chooses departmental and sectional judges and appoints magistrates for the Court of Appeals. Sectional judges appoint justices of the peace.

Names of the departments of Honduras make a real euphony, another pleasant blending of Indian and Spanish nomenclatures, names which seem to fall into the cadences of easygoing native song. For example, there are the departments of Gracias (thanks) and La Paz (peace). There are Valle, Yoro, Olancho, Atlantida and Islas de la Bahía, Colón, Cortés, El Paraíso and Santa Barbara. From other languages of Indian peoples are named the departments of Tegucigalpa (Hill of Silver), Copán (a colony of the ancient Mayans), Choluteca, Comayagua, Intibucá and Ocotepeque. There is the already-mentioned Territory of Mosquitia, a name, so I am told, which is not taken from the real or alleged insect life of

the country. Rather, *Mosquitia* is a Spanish-English adaptation of the *Missike*, native Indians of the land.

Town and city names are of comparable interest. For example, there is San Pedro Sula, capital and metropolis of the Department of Cortés, which was founded and named by Pedro de Alvarado, the exploring and rough-fisted lieutenant of Cortéz. Puerto Cortés, named by and for the latter, lying near the mouth of the Ulúa, is the largest port and the largest town of the Atlantic coast of Honduras. La Ceiba and Tela are the other important Atlantic ports. Among the inland towns are Danlí and Juticalpa. On the south, or Pacific, coast Amapala is the foremost shipping town. Santa Rosa de Copán, an ancient Indian capital, is center of the Honduran tobacco industry.

In the main, Honduras is a land of rural spaces, of jungles and forests and plateaus which remain unfenced and unconquered. Its density of population is about that of the United States (about 20 people to the square mile); according to the most recent census (1935), approximately a million people for the 46,332 square miles of land surface. But four-fifths of this population, and at least nine-tenths of the land surface, can be described as distinctly rural. A commanding majority of Hondurans are of Indian and Spanish blood.

Little touted and still comparatively little known, Honduras remains a colorful and resourceful frontier, a friendly and kindly republic and a land of tremendous potential strength. Bananas are its greatest export, and probably will remain so for many years to come. But coffee, rubber, coconuts, indigo, cattle, hides, citronella, silver, gold and mahogany are among other notable exports. In the future this list may be tremendously enlarged, for the resources of the land are by no means fully appraised. Much of the soil is fabulously rich. Much of the rock and earth teems with minerals. There are numerous mountain rivers with vast resources in undeveloped water power. Today there is no adequate survey of the real wealth of Honduran forests and jungles, and comparatively little scientific measure of the land's amazing genius for production of vegetation.

Honduras remains a frontier of peace. The Honduran, speaking generally, is a *buen hombre*, a good neighbor, a loyal, reliable worker. During bygone decades his capacities for intrigue, revolution, and banditry have been grotesquely exaggerated. As a matter of cool accuracy, Honduras is no longer a country of revolutions. Its political and governmental problems are enormous. Its industries are still young, so are its banks and credit institutions. In civil administration its problems and challenges have much in common with those of inland states and territories of the United States a century ago.

But the distinctive life of Honduras improves and develops. The present administration of President Tiburcio Carias Andino is one of outstanding competence. Honduras stays a land of peace. It has almost as many schoolteachers as soldiers; more ministers and priests than troops. The republic's newest constitution provides for compulsory military service. But grounds for exemption are so numerous that the standing army includes at present only about 3,000 men and officers, with a reserve army of about 75,000.

Honduras courts no wars. Her conquests are those of peace, the perennial struggle of man against jungle, the shaping of man's energies toward a plenteous earth. Works of peace are still of enormous scope and challenge. There are railways to be built and maintained, for railways are essential to tropical agriculture. At present the republic has six rail lines with approximately four hundred miles of through way. There is road building, also a momentous task, though one intercoastal highway is fairly well completed. There are commercial and government airways to be maintained and further developed. There is great need for experimental agriculture, a need that is being met at least in part by a tropical experiment farm in the Lacetilla Valley, near Tela, where tropical trees and crops from many parts of the world are assembled for experiment and adaptation to needs and climates of Honduras.

There is the fast-growing challenge of education which Honduras is actively meeting with a National University at Tegucigalpa, a compulsory free school system for children seven to fifteen years of age, and a growing roll of nearly a thousand public schools. At

Tegucigalpa the republic has opened two normal colleges for training teachers—a four-year academic course preparatory for teaching in town or city schools and a three-year course emphasizing trades and agriculture for students who wish to become teachers of rural schools. There is also the Vocational School for Girls and the National Trades School for Boys, both located in the capital; a special agricultural college (in the Department of Gracias) and at the capital the Central University of Honduras with faculties of law, medicine, pharmacy, and engineering. In 1935 the republic founded its National Academy of Music, and during the past five years the Department of Public Instruction has launched a valiant effort to overcome illiteracy by use of special night schools, itinerant teachers for remote communities which are not yet possessed of schools, and by organizing trade schools for adults.

With tropical variations Honduras of today is in many ways Elizabethan in spirit and progress; a land of youth rapidly flowering into prime. Perhaps, outside of Honduras, Honduras is one of the least appreciated of all the American republics. That is a dilemma of yesterday and today—and not of tomorrow.

5

NICARAGUA

IN AREA Nicaragua is the largest of all Central American republics. It covers almost 50,000 square miles of territory—considerably larger than New York State. It is rather definitely divided into two sections—the coffee- and coco-growing Pacific slopes and the jungle-strewn, banana-studded Atlantic flood plains. A high backbone of mountains and the impressive lakes, Managua and Nicaragua, separate the two regions, between which communication is still surprisingly scant. The population is three-quarters of a million or more and at least three-fourths of all its people live in the fertile Pacific region. The broad Caribbean flood plain is peopled principally with Indians—Zambos and Mosquitos, with a sprinkling of Jamaicans and a few English and North American traders and business people. But the preponderant blood of the republic is Indian. Perhaps an eighth part of the population is Spanish.

Despite shipping services to both coasts, there are few coastal cities. Bluefields, the largest east-coast town, has about 4,000 people. But Managua, the inland capital, commands the trade and to a large measure molds the life of the country. Scattered industries cater largely to home demands, to manufacture of commodities such as rum, ice, shoes, soap, nails, and cigarettes.

Lowland jungles remain a chief barrier to communications. In some areas roads are nonexistent and mule paths or cart trails are kept open with great difficulty. This verdant remoteness has its role in establishing the truth that past history of Nicaragua has been more than averagely troubled. Between 1900 and 1910, for example,

there were ten revolutions—real or reputed, all occurring during the regime of José Santos Zelaya.

In 1912 the United States (allegedly upon petition of Nicaraguans and certainly of a few United States citizens and nationals of Nicaragua) launched a policy of official meddling into internal affairs of the republic on grounds that “the policy of the Government of the United States is to take the necessary measures for an adequate legation guard . . . to keep open communication and to protect American life and property . . .”¹

During the summer of 1912 a force of about 2,600 United States soldiers were stationed in east-coast Nicaragua. By the end of the year all were removed except a legation guard of 400 marines. Two years later another detachment of marines was landed at Bluefields. Both Taft and Wilson administrations took the stand that the United States has a “moral mandate” for “preservation of the general peace.”

Both in the United States and in Central America this viewpoint has roused widespread controversy and has never yet succeeded in acquiring the unqualified approval of either republic. The past quarter century has seen a welcome decrease in United States tendencies to “intervene” in Nicaraguan affairs. Meanwhile Nicaragua has gained enormously in political strength, communications, agriculture, and general solvency. United States marines have at last been withdrawn. Nicaragua becomes a land of established homes and preponderant farms with foreign trade, both exports and imports, principally with the United States. Coffee and bananas are now the ranking export crops. Their volumes pretty well balance those of necessary imports, principally textiles, wearing apparel, shoes, and canned goods. For almost half a century coffee has comprised two-thirds of the total export trade. This coffee trade is now with the United States. A decade ago most of it went to France and Germany. The banana trade is almost entirely with the United States. Coconut, cassava root (tapioca), and cocoa are among other Nicaraguan crops in regular export.

¹ *Journal of Race Development*, Vol. 4, pp. 409-427.

Geography and climate remain serious barriers to national unity. As we have already noted, population is centered in the rich plateaus and rolling coastal plains of the west. The Caribbean coast country remains but sparsely tenanted. It is a reasonably safe approximation that 5 per cent of the land of Nicaragua is under cultivation. Perhaps 2 or 3 per cent is in pasture. An estimated ten million acres, roughly a third of the entire country, grows salable timber. But these timber resources are as yet but little exploited. The economy of the land is one of subsistence. In 1928 W. W. Cumberland of the United States Department of Agriculture estimated the average cash income of Nicaragua as "somewhat less than \$40 per capita per annum."¹

In terms of bank clearances and money circulation Nicaragua remains poor. But socially speaking, it is another of the extremely likable lands of Middle America, a country of buenos hombres, of trustful, lighthearted civility.

Personally I see Nicaragua as the New England of Middle America. Its comparative location has nothing in common with that of New England. Nicaragua is the middle republic of mainland Central America. It lies immediately south of Honduras and separates Honduras from Costa Rica.

Nevertheless, as a wandering gringo, I see Nicaragua as a tropical New England. This impression may be occasioned by the fact that I am better acquainted with the republic by air than by land. Flying over Nicaragua you look down on a rich green fantasia of rolling hills, of high green mountains, of turquoise-blue lakes, and an infinity of forests. From the air, forgetting specific landmarks, the coastline appears somewhat like the coast of Maine; the inland mountains remind one somewhat of Katahdin, and various of the rivers remind one of the valley of the Connecticut. Inland lakes resemble those of the farther wildlands of the Allagash basin. Maybe the New Englandish "feel" of Nicaragua results most directly from

¹ *Nicaragua, an Economic and Financial Survey*, p. 17. Government Printing Office, Washington, D.C., 1929.

the sight of hillside farms—red-roofed cottages surrounded by modest circlings of fields and green sweeps of open pasture. Also in parts of the highlands, Nicaragua climate, sky colors, and cloud formations are notably like those of rural New England in summer.

I wish I knew Nicaragua better. Except for port calls, plane-flight visits to Managua, the capital, and a few brief junkets among lowland fincas, my acquaintance with the land is regrettably limited.

Yet little as I know about Nicaragua, I am appreciative of the journalistic injustices which have been done the republic. For years I had heard of Nicaragua principally in terms of Bluefields where United States marines were almost eternally landing, embarking, and relanding.

News of these landings became almost as monotonous as radio broadcasts from far, flowery, grass-skirted, pineapple-juicy Hawaii where brown-skinned holders of radio contracts sing and strum their songs of farewell and good-bye and presumably never go anywhere—not more than a short sprint from a microphone.

To know Hawaii without a single aerial, pineapple plug, sugar lobbyist, or publicity bureau is among my fondest desires. Similarly I have long wished to learn of Nicaragua without a marine in sight or mention, also without a reminder of bandits, soldiers of fortune, a revolution, or a disclosure in the *New Masses*.

I know at least enough about Nicaragua to be happily certain that it can be and is a great and beautiful nation, absolutely without sight or reference of marines, soldiers of fortune, or tropical banditti. As a matter of reality, this habit of portraying Nicaragua as a haven for bandits and pretenders is as ironically unjust, for example, as the aptitude of the Italian press for portraying the United States as a nation of racketeers and paid gunmen when a very large percentage of our racketeers and gunmen are Italians just as a considerable number of Nicaraguan bandits have been citizens of the United States. Meanwhile the fact stands that racketeering and gunmanship are not the principal industries of the United States any more than banditry or revolution is the first profession of Nicaragua.

Nicaragua is a land not of blockaded doors, but rather of sequestered entrances. Corinto is the principal port, a bulwark island to a huge rounded bay and a typical port town of the lower tropics. Corinto is a sun-beaten clustering of warehouses, a hotel, and a row of low-built shops. A railroad bridge joins the town with the mainland—the railroad being the 42-inch gauge Ferrocarril Nacional de Nicaragua linking this Pacific port with the towns inland. Ferrocarril Nacional is a deliberate yet capable sort of railroad with extremely deliberate station stops. After a hundred miles and five or six hours of travel it will deliver you to Managua, the capital, a low-built, distinctly tropical city garnished with a misty-blue lake also called Managua. About thirty miles distant is a still larger and blue lake called Nicaragua and the two are joined by a riverway—Rio Tipitapa. Beyond the city and north of the lakes a range of mountains runs northwest to southeast across the republic and raises vast peaks of volcanoes.

Managua is a city of surprising newness and rapid changes. Not long ago (in 1931) it was stricken by a terrific earthquake followed by a ruinous fire. Several hundred Managuans lost their lives and perhaps forty blocks of buildings were destroyed: thousands of homes, most of the stores and many of the Government buildings—the National Palace, the City Market, the Supreme Court, and others. In a decade Managua has grown up again. The new buildings are more ambitious than the old; many are built of reinforced concrete and other materials reckoned to withstand natural catastrophes of the future. New pavements, modern waterworks and sewer mains, parks and esplanades are also of the dazzling whiteness of new cement. Bright red and blue of new tile roof replace the quainter stuccos, thatches, and adobe of earlier generations. Voices and shades of old streets vanish into contemporary limbo.

Managua is, therefore, a new city—of perhaps 75,000. But its newness is strangely welded into infinite age. Perhaps it typifies Middle America at the crossroads; it is a new town in old tropics, one built to stand forever. Its modernity seems to attract still greater modernity. As a matter of fact the catastrophe of Managua's ruin did much to draw Central America into greater fraternity. From Mexico, El

Salvador, Guatemala, and the United States came generous measure of first aid with clothing, food, and medicine for the sorely stricken. And out of the sleepy countryside came enormous enterprise essential to the feat of rebuilding.

To me Managua is high among the grade A paradoxes of Middle America. There is in all the Americas no other capital that is so new. Yet within a stone's throw of this newness waits a lost world of infinite age—tribes (perhaps races) of lost peoples, of lake dwellers; themes ideal for a Jules Verne or Adam Smith or Conan Doyle of today.

About thirty miles from Managua on the shores of Nicaragua Lake is another town, called Granada; an old, extremely sleepy town, with green-shaded plazas and ancient churches, narrow cobbled streets bordered with high rims of sidewalks. The town was last stronghold of the fabulous William Walker, gringo filibuster, and it typifies the Middle America of long ago. In its suburbs are villages of simple-living, little-noticed Indians and at its water front is a midget port which serves as harbor to midget boats which call at islands of the lake. There are various islands in Lake Nicaragua, some highly picturesque. The largest is Ometepé, which is marked by mile-high mountain peaks and two manaca-thatched Indian villages. Ometepé is my own idea of one of the nearest approaches to a lost world. Through the centuries its people have lived by protection of water, in a world that has waited unto itself. Ometepé is therefore a superb laboratory for the sociologist, one of the great meccas of durable and unmolested residence.

This social laboratory may not long endure. For Lake Nicaragua—in fact, the entire Republic of Nicaragua—gains a renewed accent of interest as site for a possible new and greater transcontinental canal. The proposed site of this canal avoids the city of Managua. But it cuts directly through Lake Nicaragua, and with San Juan del Sur as probable Pacific terminus, the proposed route, as recommended by United States army engineers, follows the basin

of the San Juan River. Preliminary reports suggest a three-quarter billion dollar building project; a ten-year job for a corps of 40,000 to 50,000 workmen; a lock-type dam generally similar to Panama Canal, except that the construction length would be more than three times as great—about 183 miles.

When and if this canal “goes through,” Nicaragua will no longer be the “first frontier” of Middle America. Its “lost islands” and multiple-lost countrysides will become partly the world outside. New towns will be born atop the course of the great canal, which may in time materialize as the biggest ditch ever dug by man.

The history of Spanish rule in Nicaragua largely duplicates historical items of the previous three chapters. As a province of Guatemala, Nicaragua became independent of Spain and a member of the Central American Federation in 1821. Nicaragua and Honduras promptly withdrew from that federation. For 120 years, many of them extremely stormy, Nicaragua has lived as an independent republic. In 1847 the land was invaded by the British; eight years later, by the hoodlum “army” of William Walker. Strife and pillage have been repetitious. But the republic has lived, and in final analysis survival is still the surest test of government.

There are many adventitious elements in this business of governing. Survival from repeated strain and stress can hardly be listed as a matter of accident.

In Nicaragua one senses a fiber of tremendous strength. Perhaps the essence of the strength is spiritual—the kindly but persistent personal realism of Nicaraguans. In part the strength arises from a generous earth, which neither flood, earthquake, eruption of volcanoes, nor any descriptions of conspiracy can overcome.

Another item in this Nicaraguan durability is typified by the stores of the land. And it is true, I think, that greater amounts of appreciation should be accorded merchandising facilities of a nation. Speaking generally, Nicaraguan stores are general stores—old-fashioned mixups of all mortal needs—men’s shops which sell candy, ice

cream, bottled soda, hoes, axes, machetes, and miscellaneous furniture, whereas a drugstore happily matches gringo drugstore talents for selling groceries, short orders, miscellaneous clothing, household hardware, jewelry, light hardware, gardening implements, hats, caps, and plain and fancy lawn mowers.

6

COSTA RICA

AT THIS point it may be appropriate to quote a paragraph by Chester Lloyd Jones, professor of economics and political science at the University of Wisconsin, and a scholarly observer of the Caribbean republics.

"Most of the analyses of the positions occupied by the Caribbean republics emphasize their relation to foreign governments. These have assumed importance only occasionally and in some cases only at rare intervals. The real problems of all the republics are domestic. Their solution is essential to healthy national advance and the creation of conditions under which sharp conflicts with outside authorities will cease. . . ."

This comment is distinctly apropos of Costa Rica today, just as it is to every one of the countries of Middle America. So, too, is another of Mr. Jones's generalizations:

". . . there is little, if anything, which is 'typical' of the Caribbean units any more than there is of any other group of eleven of the world's states, not counting dependent communities. The Caribbean states are diverse in temperature, rainfall, natural resources, races, literacy, communications and in political, economic, and social development. Each has its own problems. Some have diverse problems in different areas within their own political boundaries. The civilization which has been developed and which may be developed within these republics has no unity, need have no unity, and so far as can now be foreseen will have none."¹

¹ *Costa Rica and Civilization in the Caribbean*, by Chester Lloyd Jones, pp. 361-362. University of Wisconsin, Madison, 1935.

Costa Rica, "Rich Coast," is small in area, about the size of the state of West Virginia. It is the second smallest American republic; an oblong wedge of mountains, valleys, and shelflands extending northwest to southeast to join Nicaragua with Panama. In Costa Rica's 23,000 square miles of land surface are four distinct and strongly contrasting nations. The real boundaries of these Costa Ricas are boundaries of altitude, which is true of Middle America generally.

Lowland Costa Rica is made up largely of coastal flood plains; stretches of about 20 miles along the Caribbean or Atlantic and about 280 miles along the Pacific. This low country is humid and warm. For an average of between two hundred and three hundred days a year the Atlantic littoral has rain. Sometimes its annual rainfall touches high marks of 250 inches a year—more than five times the average rainfall of the United States east of the Mississippi. The Pacific lowland has a rainy season lasting from May into November, with the remaining five months a comparatively dry season. On the Atlantic the seasons are rather appropriately described as wet and damned wet. Crops of the low country are distinctly tropical crops—native fruits, sugar cane, bananas, coconuts, and chocolate.

Tropical Costa Rica is the part of the republic with an elevation of less than 3,000 feet.

Temperate zone Costa Rica is the luxuriant central plateau of altitudes ranging from 3,000 to 6,500 feet. This is truly a country of eternal spring, for its temperature is neither hot nor cold (59 to 77 degrees Fahrenheit are its maximum range). Bright flowers bloom throughout the year. Rainfall is moderate; long droughts almost nonexistent. Accordingly, about three-fourths of all the population of the republic, some 450,000 in all, live in the central tableland, or "meseta," and the four largest towns: San José, the capital (62,162); Alajuela (8,512); Cartago (8,078), and Heredia (8,926) are all on the verdant and fertile meseta. This great tableland is home of the Costa Rican coffee industry. It is settlement place and long-enduring stronghold for one of the most completely attractive agrarian aristocracies of the New World; a stronghold of small proprietary farms, from ten to a hundred acres each; in the main well tended

and, for anyone who appreciates good tenure of good earth, a joy to behold.

Mountain Costa Rica consists of scattered inland areas of altitudes higher than 6,000 feet.

The real story of agrarian peoples is written not in books, but on the face of growing fields and tended orchards. So it is with the great Mesetans of Costa Rica of whom Wallace Thompson makes an able summary:

Racially the Costa Ricans are unique in Latin America in another respect, for they are not only of pure European stock, as Chile, Uruguay and Argentina are, but they are Spanish only, which the great South American white populations are not. They are, in addition, of three distinct and significant Spanish origins, Gallica, Aragon, and Biscay. The *Gallegos*, peaceful workers and farmers, with fixed and provincial ideas but of stolid energy, give character to the workers of the country, and the *Aragoneses* give a trait of firm business sense that appraises peace and prosperity at a more conventional value than do some other Americans. The *Vascos* or *Basques* are of that great race, not Latin but perhaps Celtic, which has given many artists and administrators to Spain and to France, and much of their enviable national character to the Argentine, to Chile and other lands where they have settled. . . . They are self-respecting and respectful always, offended if you as the social superior or the stranger, do not take the honorable side of the walk, next to the wall, or if you, as a man, do not jump off into the street if it is necessary, to allow two ladies to walk easily along the pavement next that same wall that their own men will willingly give to you.¹

For three centuries, and more, Costa Rica has remained a nation of farms, and its real story is essentially agricultural. Its city streets end in growing fields, which is generally true of all Middle America. But Costa Rica has never been a predominantly Indian country. In 1502, when Columbus landed near the present port of Limón and christened the land Costa Rica—Rich Coast—its total Indian population was estimated as perhaps 25,000. Columbus described these Indians as a friendly and peaceful people engaged in agriculture;

¹ *Rainbow Countries of Central America*. E. P. Dutton & Company, New York, 1919.

using wooden or stone tools for cultivating corn, beans, cotton, cocoa, and other farm crops.

As conquistadors invaded the "rainbow country" in futile quests for large and easy caches of gold, these Indians fought to defend their farms, and in so doing were virtually exterminated. By 1611 the entire population of Costa Rica, including Spanish and alien Indians, was estimated as only 15,000. Today there are fewer than 4,000 native Indians within the republic.

Before 1550 it had become evident that Costa Rica was a land for farmers, and not for conquistadors. Accordingly, early settlement was slow. First outposts were quickly abandoned and forgotten. The first durable Spanish town was Cartago, founded in 1564 by Francisco Vasquez de Coronado.

Coronado was called the *gentile conquistador*. Instead of slaughtering and enslaving the Indians, looting mines and homes and burying grounds, he envisaged the alluring tablelands as a realm of Spanish homesteaders. For use of new colonists he introduced horses, cattle, and swine to take advantage of the rich stores of highland grass. Thus in the central plateau of Costa Rica were established some of the earliest cattle ranches of the New World.

Unluckily Coronado's successor, Perafán de Ribera, believed, dictator-style, in the superiority of races and such gory fantasies as that the prerogative of the bearer of arms is the right to enslave. Ribera introduced slavery into Costa Rica. He divided the surviving Indians into groups or clans and bestowed ownership of each group upon chosen conquistadors and their heirs. The *encomienda* system became absolute slavery—similar to that of our prewar South.

After this conquest, Costa Rica was made a minor province of Spain's captain-generalcy of Guatemala, with Cartago as the provincial capital. Costa Rica's governors were appointed by the crown of Spain at salaries of two thousand pesos a year. These royal governors were endowed with absolute power—military, political, and judicial. They could confiscate property at will and condemn to death at will. Further, the royal governor was authorized to sell at public or private auction the mayoralties of all cities and towns

within the province; "shaking down" would-be *cabildos* to the maximum, and pocketing the fees.

Thus for two and a half centuries, from 1570 to 1821, the story of Costa Rica was the story of the decadence and abuse of Spanish authority in the New World. Citizens were left without protection. The weak were enslaved. The country was continually harassed by predatory Indians from Nicaragua and ravaging mobs of Dutch and English pirates.

Even more ruinous was Spain's mercantile policy, forbidding exchange of goods between New World colonies or between those colonies and any outside nations except Spain. The story of these highly irksome and cruelly noneconomic "royal cartels" as enforced by colonizing Spain should make excellent reading for certain contemporary politicians of the United States, who now glibly suggest contemporary resurrection of such cartels with Latin-American neighbors. Facts of Pan-American history clearly present the dangers of such "planning." For more than two centuries Spain attempted imposition of a trade cartel system upon Latin-American colonies with benefit of numerous advantages which the government of the United States cannot hope to attain. Yet the cartel system of Imperial Spain failed abjectly and proved a substantial cause for the complete loss of every Spanish colony in the New World.

Left isolated and cut off from all advantages of free trade and solvent competition, colonial Costa Rica became destitute of buying power and national currency. Poverty and destitution spread over a land of unsurpassed natural abundance. In 1707 the provincial governor authorized the use of cocoa beans as money. For more than a century Costa Rica remained cruelly impoverished. In 1821, when the independence of Central American states was announced from Guatemala City, Costa Ricans politely but promptly ousted the last of their Spanish governors—Don Juan Manuel de Canas.

The following year, when the Central American Republic was founded, Costa Rica became one of its states. Seven years later she withdrew from the federation, and since 1829 the land of the rich coast has remained an independent republic.

Costa Rica's "era of coffee" began with her era of independence.

The first coffee bush was brought from Cuba about 1830. Within thirty years coffee had become Costa Rica's chief crop. From 1860 until the beginning of the first World War the story of Costa Rican agriculture was principally a story of coffee. It still is, though at present new developments of banana lands, increase of livestock ranching, and diversified agriculture are becoming significant chapters in a particularly significant agrarian history.

In soils, rainfall, and temperature, Costa Rica's tablelands are ideal coffee lands. Most of the *cafetales* (coffee fields) are small and compact estates, with resident owners and workers. Bit by bit coffee plantings have spread beyond the confines of the central mesas into the higher mountain area and into lowland coastal plateaus. Today the republic has an estimated 37,000,000 coffee trees in bearing and from a standpoint of accepted quality and international market grades these fincas yield an important percentage of the world's total supply of fine-flavored coffees.

By 1855 exports of Costa Rican coffee to Great Britain amounted to about 2,500 metric tons per year and among London's swankiest coffeehouses "Costa Rica" was a coffee byword. In 1935 Costa Rican coffee exports were about ten times as great as in 1855—roughly 25,000 metric tons. For a century harvests and quality standards have gained. For the first half century of Costa Rica's coffee era the British Isles were principal buyers. Beginning about 1900 Germany became an important purchaser and Costa Rican "bean" became an ingredient to renowned coffee blends of Vienna, Berlin, and Munich. Britain remained the foremost buyer, however, for more than seventy years. The United States has now replaced Germany as second greatest consumer, and at present our purchasers are taking first place.

Coffee happens to be one of the most "poetical" of man's crops. The "bean" is the seed pod of a gorgeous pink-red berry which grows on the delicately contoured bushlike tree. During blossom-time valley and hillside fincas abruptly change to wonderlands of glistening white and etiolated pinks and greens, as bees and other insects drone among the acres of flowers, as the amazing picture

builds itself before a background of fast-moving clouds, racing shadows and steel-blue tropical skies.

As a rule, coffee harvest begins in the autumn and requires long intervals of hand-picking, since the berries ripen unevenly and thus require numerous goings-over. Pickers carry the harvest in baskets or packsaddled to tram cars to loading points. From there the coffee is taken to the mill, or *beneficio*, which in Costa Rica is usually a home or finca property. Simplicity and ingenuity are twin paradoxes of the beneficio. Pulp and skins must be removed from the pods, leaving the seed bean in uniform and unsoiled freedom. Fermentation is the first step in refining, then machine or "grade clearance" of the bean, then an elaborate sequence of washing, rewashing, skin peeling, sizing, sorting, and polishing.

From first planting to final sorting, techniques of coffee growing emphasize manual labor and individuality in work. Dozens of grades and sizes of bean may grow on the same tree. Dozens of highly individualistic principles of pruning, fertilizing, cultivation, shading, and fermentation conjure complete contradiction. Frequently neighboring finca proprietors will hold drastic differences of opinion about coffee growing. One may insist upon pruning during the light of the moon; another during the dark of the moon. One may tell you at length and with superb logic that fish meal is the only usable fertilizer for coffee. Another will plead just as vehemently for bone meal or mineral potash. It is a comparatively safe bet that both may end the finca year with superlative harvests.

There is tremendous fascination about Costa Rica's superb treasures of fine coffees. Were Socrates and his pupil Plato to live again, it is my bet that they would most probably take up the coffee "game" in Costa Rica.

Bananas are the second crop of Costa Rica, which is one of the first New World homes to the agriculture of the *Musa*. As we shall later notice, Costa Rica and Panama were the first countries of Central America to begin commercial export of this fruit, and Costa Rica was the first Central American nation to export bananas to the British Isles and Europe. Since 1915 the banana industry of

Costa Rica has suffered extensive losses from Panama disease, a virulent root rot. By 1935 banana exports from the Atlantic flood plains, a 3,000 square mile area between the Sixaola and Colorado rivers, had fallen from about ten million to about three million stems yearly. However, more than 50,000 acres of the abandoned lands are now planted to cocoa or chocolate orchards and across the *meseta*, toward the south coast, about Parita and the new ports of Quepos and Golfito there now arises a new banana center which may shortly restore the earlier export yields of bananas.

Cocoa, third crop of the republic, gains rapidly with an acreage risen from about 35,000 in 1922 to at least 75,000 at present. According to estimates of the Costa Rican Ministry of Agriculture, this is no more than one-tenth of the land of the republic actually suited to chocolate growing. Outstanding progress is clearly evident in the entire agriculture of cocoa. Skillful building and breeding of the orchards succeed in raising harvests from old averages of two to three pounds of the bean pods per tree to new records of six and seven pounds. Cocoa remains in the catalogue of manual crops. Constantly as they mature the pear-shaped bean pods must be picked from the trees by hand, split open and emptied of pods, and then transported to *beneficios*. Transportation and refining equipment are tremendously improved with especially designed carts, trams, and freight cars replacing wooden-box sidesaddles and earlier totings via shoulder trays.

Each year the sweet-tooth appetites of the United States public consumes from ten to twelve million pounds of Costa Rican chocolates, which are second to none in flavor, texture, and aroma. And cocoa changes from a flavoring for candies and confections to a staple food and beverage for consumers of many nations.

Chocolate remains a romantic sort of crop, a premier agricultural offering of the new New World, a crop which has served the *hombre americano* as food, drink, and money during a great many centuries.

Costa Rica as a whole is a bright green paradise for any student of agriculture. It is a cradle of crops and a reservoir for some of the

richest soils in the world. Its tablelands are botanic home to corn, beans, and potatoes. Costa Rica is probably the only tropical republic which grows a home supply of potatoes. It is one of the few tropical sources of presentable beef and dairy cattle. It is today our whitest hope for returning plantation-grown rubber to this hemisphere.

Rough hill lands and some of the tallest of Costa Rica's mountains are closely covered with luxurious grasses. Even at altitudes of 7,000 feet and higher, mountainsides are dotted with farms, fields, and orchards. There are numerous rivers, at least sixteen of considerable size, and most of them are clear and swift, dashing from high mesas down into luxuriant flood plains, their courses resplendent with high falls and cataracts, their valley lands dotted with thatched houses and stucco cottages, a colorful architecture made the more colorful by abundance of bright blooming flowers, magnificent forests, and luxuriant ranges.

When North Americans first began to know Costa Rica (that was in the Panama Canal era when thousands of workers sojourned to the cool highlands of the "country of rainbows") they began to speak and write of Costa Rica with Utopian superlatives. It was a lost paradise, the flower garden of the tropics, the final oasis of all that is beautiful—the most beautiful women, the most gracious men, and the loveliest homes. Promiscuous use of superlatives is usually dangerous. Yet many of these superlatives applied to Costa Rica were and are accurate. The all-evident beauty of the land is more than that of the tangible or the superficial. It applies also to social institutions, to the sports, arts, and home life of a great and rapidly progressing people.

To appraise the country, it is again well to take notice of its capital. San José is one of the most perennially attractive cities of Middle America. It stands near the center of the country—by railroad about 105 miles from Puerto Limón, the Atlantic port, and about 70 miles from Puntarenas, on the Pacific. It occupies a high fertile valley,

4,000 feet in altitude, and is sentineled by high green peaks of mountain.

San José is not a particularly old city. Cartago, thirteen miles to the east, is the old town and original capital of Costa Rica. San José is a rather astonishing blending of old and new. Its streets are wide and straight and lead away into hills and fields. Most of its buildings are low, one or two stories in the main and none more than four, strongly Spanish in conception, and covered with bright tiles or weather-beaten iron. Streets and avenues are heavily shaded with palms and flowering trees, and they lead to numerous parks and open grounds: National Park with its renowned statue of the "Sister Republics of Central America"; Morazon Park, outdoor arena for concerts; Orchid Garden, with one of the most complete collections of orchids and other native flowers; Bolívar Park, which is a zoological garden featuring native animal life of Central America; many smaller parks abounding in bright flowers and deep shade; also open markets and club grounds, and esplanades all brightly lighted by electricity generated cheaply and efficiently from near-by mountain rivers.

San José is a city of lighthearted dignity and superbly beautiful Spanish; a mecca for a deliberate and compatible life. It is definitely a New World city—perhaps in a perfectly straightforward sense, it may be termed an American city of tomorrow. For the town is solvent and secure, unpretentious and gracious; not a rich city and not a poor city, but a city of good life. San José is not a metropolis. But it is convincingly and functionally the heart of Costa Rica.

For one thing, San José is headquarters for Costa Rica's school system which is one of the most enlightened of the Americas. In terms of public education, Costa Rica is eminently progressive. By the hundreds and thousands graduates of Costa Rican high schools shape successful careers, as Costa Rica stands alone in the world today as the republic with four times as many schoolteachers as soldiers. (At least 20 per cent of the entire national income goes for public education, per capita costs of which are \$1.25 yearly as compared with 14 cents for the army.) San José is home of a renowned

law school; of two national schools for women; of the Faculty of Medicine, Surgery, and Pharmacy; the National School of Fine Arts; the National Theatre. In the outskirts of the capital is the National Stadium, headquarters for soccer, the republic's favorite sport. San José is also a headquarters for tennis, golf and football, and for the annual national marathon, a 68-mile foot race run along the westbound railroad tracks.

The National Library of Costa Rica is also part of San José, as is the Institute of Physical Geography. So are several of Costa Rica's benevolent institutions: the Hospital of San Juan de Deos, Chaqui Hospital, the national orphanages for boys and girls, the tuberculosis sanitarium, the Buen Pastor Institute for girls and women, the national school-farm for underprivileged children, and the *Gota de Leche*, an enlightened style of provision center for the poor.

National government merges rather inconspicuously into the life of the capital. There is the Constitutional Congress which enters session the first day of each May and continues for a minimum of sixty and a maximum of ninety days. The Congress has one chamber of forty-four deputies, one elected biennially for each 15,000 citizens. The president is elected for a term of four years. There is no vice-president. Three *designados* are elected by the Congress to fill the duties of that office. The president appoints a national cabinet which includes a secretary of foreign affairs, justice, and worship, who is in charge of consular and diplomatic relations, administration of justice, the granting of pardons and the affairs of the Roman Catholic Church within Costa Rica; a secretary of the interior, with supervision of provinces and municipal councils, the post office and telegraph systems, city police forces, national archives, rural police, police courts, and national prisons; a secretary of treasury and commerce; a secretary of public education in charge of all public libraries, colleges and academies, and of public elementary and high schools; a secretary of promotion and agriculture, with jurisdiction over railways, bridges, roads and public buildings, the development of agriculture and mining and the promotion of other industries; and a secretary of public safety, in charge of maintaining and equip-

ping the national army and other defense forces, and supervision of the merchant marine.

There is a national Supreme Court made up of eleven justices who are chosen by the Congress for terms of four years. The republic as a whole is divided into seven provinces: San José, with about a third of the entire population; Alajuela, with about one-fourth; the less populous states of Cartago, Heredia, Guanacaste, Puntarenas, and Limón. Each province has a governor appointed directly by the president. *Cantones*, or mayors, are recommended by the respective governors for popular election and municipal councilmen are elected by popular vote.

In all, Costa Rica is one of the most complete democracies (and one of the most completely agrarian nations) in the world today. Voting is unencumbered with poll tax. It is a matter of secret ballot and open election. Furthermore, the constitution specifies that failure to vote on the part of any male citizen of twenty or over is a punishable misdemeanor. There are no perpetuated political parties. Candidates for public office must rise or fall on their own momentum.

The course of Costa Rican government determinedly reflects this valiant effort of a beginning of about 70,000 farmers and villagers to shape and use the structures of democracy in the face of intrigues, perpetual threats of invasion, piracies, and unscrupulous filibusters. But Costa Rican democracy has lived.

Costa Rica must continue to answer the challenging necessity of self-sufficiency. Industries are distinctly localized. Home crafts and home shops must render goods and services which in more highly industrialized countries are provided by mass production. The republic faces tremendous problems in the maintenance and administration of public health; problems strongly accentuated by the fact that the population has actually doubled during the past quarter century and continues to increase at the rate of about 16,000, or 3 per cent, a year. The Costa Rican birth rate is now 46.2 per thousand yearly—the highest of any republic in the entire Western Hemisphere. Yet the death rate is only about 20 per thousand.

Costa Rican illiteracy is estimated (as of 1940) as about 15 per cent of all citizens—which is high according to United States estimates. During the same year the illiteracy rate in Mexico was 62 per cent and in Colombia 67.5 per cent. And it may well be noted that Costa Rican literacy is well above general averages of continental Europe. For example, probable percentages of popular illiteracy there are: Soviet Russia, 69; Italy, 37; Portugal, 68; Spain, 45.8; Greece, 57.5; Bulgaria, 65; Rumania, 60.¹

Immediately upon the founding of the republic, in 1828 and again in 1832, long before compulsory public education had been seriously considered in the United States, Costa Rica enacted laws to enforce attendance at public schools. The constitution of 1844 declared it a public obligation to place means of education within reach of all citizens regardless of race, creed, or color.

Actual establishment of schools was necessarily slow. By the census of 1864, 89 per cent of the 120,499 citizens of Costa Rica were illiterate. Then there were no railroads and no reliable communications with the world outside. By 1869, decades before the principle of coeducation had gained any widespread consideration in the United States, President Jesús Jiménez of Costa Rica had written successful legislation creating schools for girls in various areas of the country. By the census of 1892, Costa Rican illiteracy had fallen to 68 per cent; by 1927, to 23.6 per cent; today, as already noted, it is probably about 15 per cent, with highland provinces such as San José and Heredia comparing favorably in literacy with any section or state of the United States.

The story of Costa Rican communications is as heroic as that of her attainments in public education. For communications, perhaps even more than public schools, are a vital concern to tropical government and to tropical living. The Americas had no stalwart Roman to build their initial roadways, and the toils of road building and maintenance in the tropics are stupendous and perennial.

¹ The above estimates are quoted from José Guerrero, *Oficina Nacional del Censo de Costa Rica, Alfabetismo y Anal, jabestimo en Costa Rica segun el Censo General de Población de 11 de Mayo de 1927, Publicacion 3, San José.*

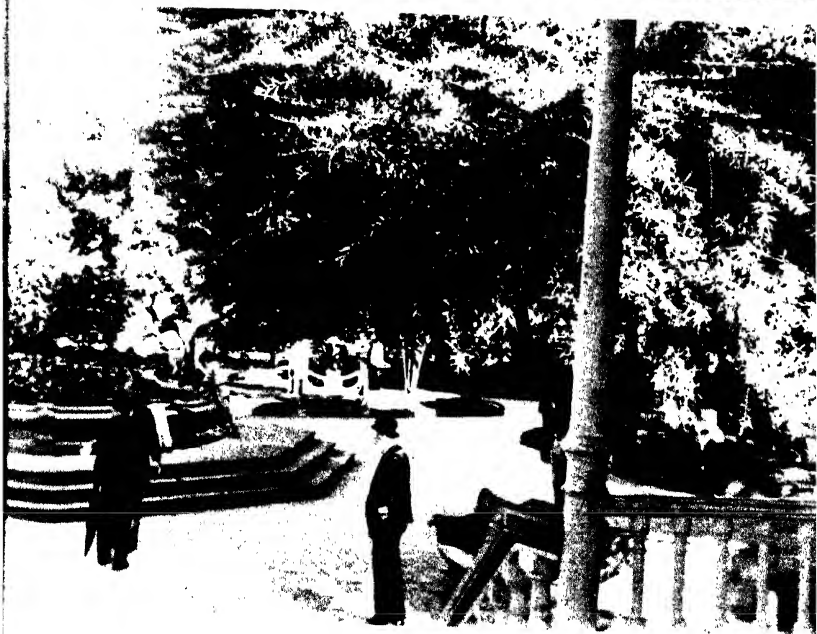
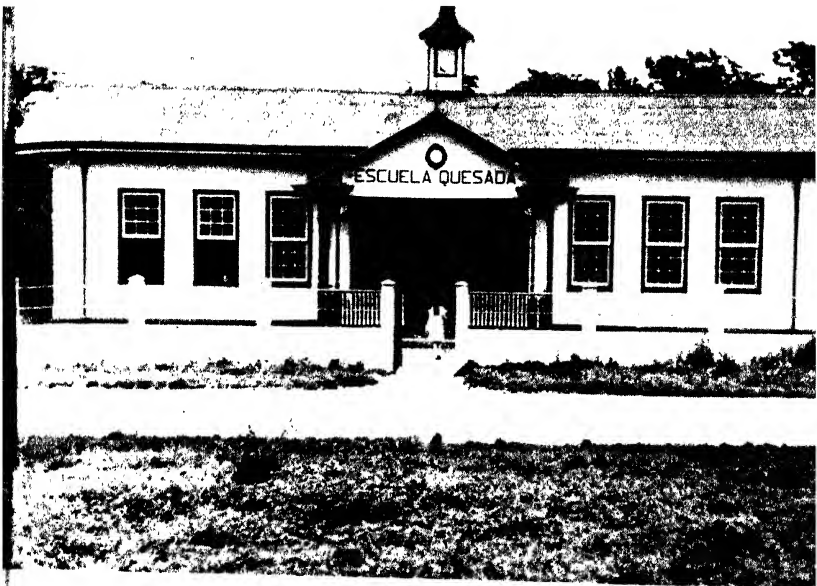
As an agrarian nation, the life of Costa Rica is particularly dependent upon roads. From colonial days come somber stories of death from drowning on Costa Rican roads; of caravans of Spaniard politicians who rode into the country via muleback and perished in the marshes or suffered neckbreaking tumbles down the mountainsides. The country's first industry of cocoa had died for want of roads, and the same sorrowful demise faced its early attempts at coffeegrowing.

In 1870 the entire highway system of the republic consisted of a "cart road" from the Cartago highlands (where most of the coffee was then grown) to the Pacific port of Puntarenas. In those days the finca proprietor loaded his coffee harvests in two-wheeled bullcarts, assigned his workmen as drivers, and so established coffee-drawing caravans, with *señoras* and *hijos* riding atop the loads of coffee, and making themselves useful en route by spinning and sewing, rustling grass and water for the oxen, grinding corn for tortillas, cooking beans, meat and plantains for roadside refreshments. Campsites, or *sesteos*, were located at convenient intervals along the rough and miry road, and at night the coffee carriers pitched camp and improvised picnics and impromptu fiestas of music, dancing and songs. The bright-colored romance of coffee cartage is a lush theme still untouched by Hollywood. Beside the wayside *sesteos* grew carters' road houses, with dancing girls and merry bars, and superbly active cockpits.¹

In 1874 the first line of stagecoaches was opened between San José and Cartago. For another half century the story of Costa Rican coffee remained a chronicle of oxpower versus mud.

Throughout the central tablelands there are now roads, including hundreds of miles of pavement and primary highways. But problems of road communication remain serious. Geologically the coun-

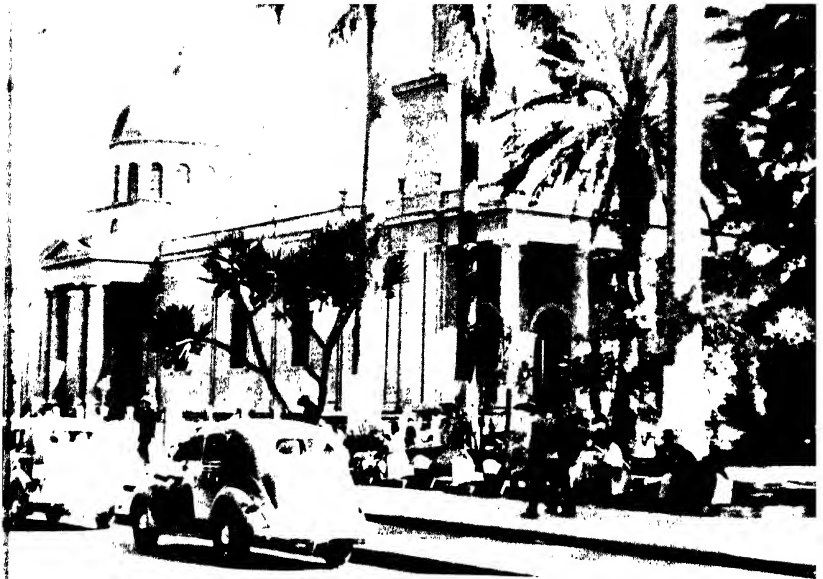
¹ An interesting account of the pioneer roads of Central America is given in *Iniciación y Desarrollo de las vías de Comunicacione y Empresas de Transportes en Costa Rica*, by Maria Nuñez, San José, 1925; also *Holidays in Costa Rica*, by T. T. Meagher, Spanish edition transplanted by Fernandez Guardia, San José, 1923; also *The Smallest of American Republics*, by W. E. Curtis, San José, 1887.



(Top) PUBLIC SCHOOLS SHOW OUTSTANDING PROGRESS.
(Bottom) PUBLIC PARKS ARE NUMEROUS AND BEAUTIFUL.

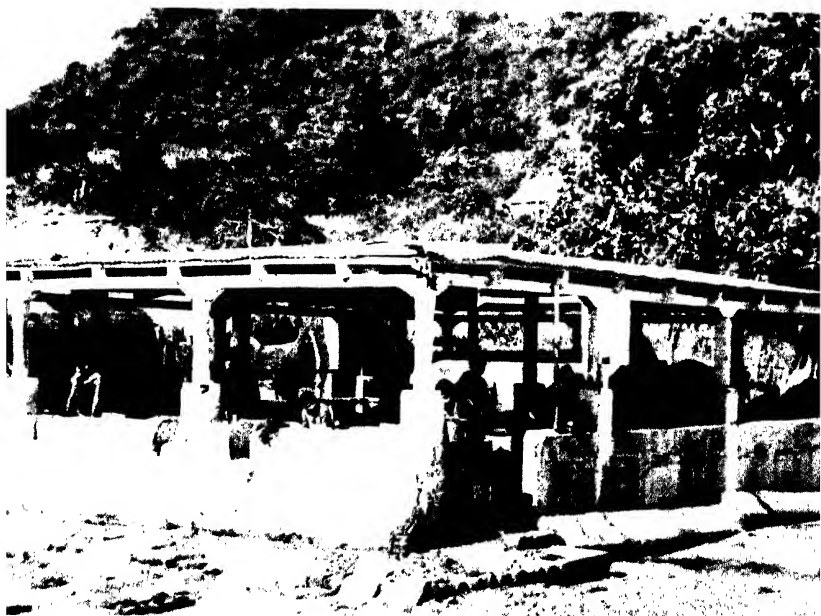


(Top) THE NATIONAL THEATER OF COSTA RICA, AT SAN JOSÉ.
(Bottom) THE THEATER GATE: A TYPICAL EXAMPLE OF FINE
IRONWORK.



(Top) A PLAZA IN SAN JOSÉ.

(Bottom) AMBASSADOR FROM HOLLYWOOD ON A CORNER IN ANTIGUA.



(Top) INDIAN WOMEN CARRY THEIR BURDENS JAUNTILY.
(Bottom) AND DO THEIR WASHING SOCIABLY AT A PUBLIC LAUNDRY.

try is young. Heavy rainfall throws perpetual strain on roadbeds and bridges. Road maintenance is expensive and difficult and construction costs are frequently enormous. As in other nations of Central America and the Caribbean, coastal plains and river basins must still be served by railways instead of highways.

The route of the great Pan American Highway, already clearly traced across the republic, has now become a first national highway. And Costa Rica continues to build "colonization" roads. According to 1930 estimates, approximately two-thirds of the entire land area is actually suitable for cultivation. At present only about one-sixth is actually cultivated. Each year thousands of acres of Costa Rica's verdant frontiers are being changed to farms, and each year the opening of new land calls for new roads.¹

The story of Costa Rican railroads is one of the most heroic in all the history of railroading. In another chapter I have listed the high lights of the Meiggs-Keith struggle to build a railroad from San José and other highland centers to Puerto Limón, a venture of colossal costs in lives and money, a story of infinite personal bravery, of thousands of brave men fighting against death in the jungle, of portage of thousands of tons of railway materials via oxpower and two-wheeled carts, and the eventual proof of Minor Keith's classic assertion that "where a river goes a railroad can go, too."

This Limón-to-San José railway required more than a quarter century to build and from a maintenance standpoint is perhaps still one of the costliest railroads in the world. The newer line from San José to Puntarenas, Ferrocarril del Pacifico, a pioneer electrified line of the American tropics, was opened to traffic in 1909 as a government property. The United Fruit Company now rushes to completion still another railroad through the little-touched backlands of the Pacific coast.

The essential story of Costa Rican transportation remains a story of roads to the sea. Agrarian and commercial life continues dependent upon ship-borne commerce. In turn ship trade accentuates location and competence of ports. For Costa Rica the principal port

¹ Estimates of Costa Rican land use by Señor Carlos Merz, *El Comercio Internacional de la Republica de Costa Rica*, San José, 1931.

of Limón on the Atlantic clears roughly half her imports and about 60 per cent of her exports, while Puntarenas on the Pacific clears about 40 per cent of both imports and exports. Before the outbreak of the current European war, 8 per cent of Costa Rican exports went to Germany, 40 per cent to the United States, and 47 per cent to Great Britain. Some 74 per cent of these totals were coffee, 20 per cent bananas, and 4 per cent cocoa. Of current imports (1939) about 6 per cent were from Great Britain, 12 per cent from Germany, and 53 per cent from the United States.¹

Trade has become the real social anatomy of Costa Rica. For almost three centuries this "Rainbow Republic" lived in bucolic independence, virtually without foreign trade. Barter was then a means of survival. Home shops and crafts, gardens and home orchards, local timber and livestock upheld this highly independent agrarian subsistence.

Old farm homes of those colonial times still offer interesting testimony of pioneer life of the tropics—low adobe structures with gaily painted windows protected by heavy bars. Writing in 1840, John Lloyd Stephens, appointed by President Van Buren as unofficial United States diplomat at large to Central America, published a fascinating travelogue of Costa Rica. He entered the "tiny republic" from Puntarenas, then a disease-infested port village composed of six palm-thatched shacks. Traveling toward the inland plateaus, Stephens found the cart-and-coffee roadway lined with "houses three or four hundred yards apart, built of sun-dried brick, white-washed, and the fronts of some were ornamented with paintings, some completely embowered with flowering trees."

In the old highland towns he found splendid cathedrals, beautiful plazas, hedges of flowering trees, low-built homes with broad piazzas and huge windows, and quiet serenity. The roaming diplomat spoke most highly of the personal qualities of Costa Ricans: the handsome women "dressed all in white," the gracious men, the kindly and genuine society of a great and fertile stronghold of farms. Strangers seeking hotel accommodations were frequently in-

¹ *Estimates from Foreign Commerce Yearbook, 1938 and 1939, and Informe de la Dirección General de Estadística, San José, 1931.*

vited into private homes instead. Music was the standard diversion of the land. Travel was principally by horseback. Farm carts were homemade, with wheels of hand-sawed slices of round logs, usually from the guanacaste tree, and bodies built of woven cane. "Oxen fastened by the horns instead of by the chests and shoulders drew these carts along the wide roads, which except for horse paths . . . had a sod of unbroken green. . . ."

Brauilo Carillo, then president of Costa Rica, was one among the common people. "His house had nothing to distinguish it from that of other citizens; in one part his wife had a little store, and in the other was his office for government business."

A century ago Costa Rica was already a garden spot of the New World. Cochineal, indigo, and cocoa were stand-by bases of barter, and Costa Ricans were already renowned for "their astuteness in trade, and for their promptness in paying debts." Also they were preponderantly "country folk riding horseback or driving their carts to and from the towns, wearing neat white clothing and straw hats. None went afoot, and there were no beggars. . . ."

By 1850 opera companies were appearing in Costa Rica as in several other countries of Middle America. In that year there were only three opera houses in all North America: one in New Orleans, another in Boston, and the third in Mexico City. European opera companies usually toured the highland capitals of northern South America and Central America and concluded their tours in Mexico City, without taking the time or the pains to appear before the "vulgarians to the north."

As generation follows generation, Costa Rica stays a land of bright color and of great dignity. Hoemen and pickers continue to toil on fertile fields, many of which are too steep for use of tractors or work animals. High-wheeled carts, brightly painted, remain orthodox property of the Costa Rican farmer. Roads lead through drowsy wonderlands of farms.

Costa Rica remains a land of order and peace. Also a land of hard work. A majority of its farms and a majority of its homes are owned by their residents. So Costa Rica endures and grows greater; a vivid, personalized world of eternal spring; a land neither of tears nor of loud laughter.

7

PANAMA

PANAMA is an Indian word which means "plenty of fish." That is a good and forthright way to name a country. Honors for the naming are probably due Vasco de Balboa. In 1502 Columbus had called the land Castilla del Oro. Eleven years later, when Balboa and company landed on the Caribbean side, waded and chopped a way through the jungles and swamps and climbed rough and uninhabited mountains to gain a first view of the Pacific, Balboa evidently heard the Indian word *Panama*. He put the word in circulation and it has remained in circulation.

The isthmus country was then, as it is today, the geographical control board of the Western Hemisphere. Columbus reported it as such. Balboa confirmed the report. Imperial Spain agreed, and for more than four centuries the world at large has continued to agree.

But we of the United States are inclined to link the word "Panama" with "canal." We all know that this 45-mile isthmus, now glazed by what is almost unquestionably the most ingenious canal ever dug, is probably the most strategically important slice of land in this hemisphere or in the world. Now that an incredible bomb-dumping map-changing war in Europe sees a stupendous all-Americas defense program claiming this Isthmus of Panama as focal point, it is altogether reasonable that we should be "canal conscious."

However, this consciousness may be benefited by remembering (1) that Panama is a country as well as an isthmus—one of the most bizarre, untamed, and colorful republics of the Western Hemi-

sphere and (2) that the past history of this isthmus is highly apropos of its present and future importance.

While the Panama Canal is probably the most widely known and closely studied waterway in the world, Panama itself is one of the least-known American nations. It remains home and hide-out for some of the most primitive Indians and for some of the most enlightened of all aborigine Americans; a land of unmapped jungles reputed to be the home of lost nations of "white Indians"; of fabulous gold caches; of lost forests of mahogany, rubber, indigo, and other jungle treasures. Panama is a strange world unto itself, blessed with all the bright-hued contradictions incident to a thousand years or a thousand centuries of tropical living. It remains a land for gold hunters and jungle prowlers, for turtle fishers, coconut shakers, and pearl divers.

In Panama Bay—in fact, along the entire Pacific coast—one becomes personally acquainted with real-life pearl diving without Hollywood fantasias. Otherwise, I know practically nothing about pearls beyond a tooth-smashing experience at a New Orleans oyster bar and certain investment experiences at Woolworth counters.

But in south-coast Panama I have learned that real pearl hunting is exquisite for its simplicity. One simply goes to the Pacific coast or, better, to the Pearl Islands, a small archipelago in Panama Bay and about fifty miles from Balboa, and witnesses what has probably been going on for the past ten thousand years.

It is said that pearls were the money of Panama before white men began to tilt the inter-American applectart. In course of his Caribbean voyages Columbus reported having sighted Panama natives "adorned with ropes of pearls," and in support of these tall tales the Number One Taker of Southern Cruises presented Queen Isabella with a sample pearl reputed to have weighed 300 grams. De Soto dug pearls from Indian graves, while Cortez in the cultured and sophisticated European manner stole them from native royal persons and the corpses of his victims.

In any case precious finds from Panama's Pearl Islands have been conspicuous in European gem trade for almost four centuries, and

since 1632 the annual pearl take from the area has been recorded in pounds.

In Panama you straightway notice that the best way to get pearls is to locate coastal beds of oysters, dress in your birthday suit, stuff your ears, and dive. Returns are not instantaneous, of course. You may dive a thousand times, or ten thousand times, before your hands close on the propitious oyster. So far as I know, the richest reward of contemporary pearl divers materialized in 1909 off the south coast of Chiriquí province, when an Indian boy brought up a loose pearl weighing 42 carats—"about the size and shape of a partridge egg, greenish black at the base and becoming lighter toward the smaller end which was light steel color." In pre-Hitler Paris, world market for pearls, this find brought \$5,000 and promptly resold for \$13,000.

Panama pearl fishing remains a gambler's trade. Roughly one tropical oyster in a thousand carries a pearl, and approximately one pearl in eighty is of any real commercial value. The United States Bureau of Fisheries offers honest discouragement to the perennially romantic trade:

There are four classifications of American pearls: true pearls, baroques, slugs and chicken feed. True pearls are of definite regular form. Baroques are pearls of irregular form, having other good qualities to make them suitable for use in jewelry . . . Slugs are the lower grades of baroques. Their prices vary from a few cents to several dollars. By far the greatest number of pearly formations are slugs, a large number of which from their small size or lack of luster are classed as chicken feed and sold at prices varying from one to three dollars an ounce . . .

There are two unfortunate results repeated regularly in almost every locality where a find of pearls is made. First, the chance for finding really valuable pearls is greatly over-estimated. Second, the exhaustive fishery which leads to depletion of the beds . . .¹

But the pearl divers of south-coast Panama refuse to be discouraged. Their forefathers followed the romantic quest centuries be-

¹ *Pearl Fishing in the Americas*, Bureau of Fisheries, U. S. Department of Interior, Washington, D.C., 1927, pp. 21-22.

fore the world ever heard of the United States Bureau of Fisheries, or, indeed, of the United States. And Indians who people the shores of that warm greenish horseshoe of water called Panama Bay keep right on diving after the gems.

So the forty Pearl Islands of Panama Bay remain havens for uncensused chocolate-brown Indians who live mainly on coconuts and fish pearls for fun and occasional profit, defying the wrath of electric eels, fierce mud crabs, and death-dealing terrors of giant devilfishes. But along Panama's Pacific shores, even as centuries and generations die, the trade of pearl fishing lives on. Log boats push to sea from manaca-thatched shore houses, each boat manned by from two to five divers whose working technique is simply to dive and bring up a maximum of one sand-bed oyster per dive.

Panama is a land of romantic doorways. Its palm-fringed coastlines to the south mark the New World center of pearl fishing. Along the north, or Caribbean, coast, stretching a hundred miles and more below the ancient port of Colón, are the San Blas Islands, perhaps three hundred in all, and an all-American focal point for coconut shaking.

If you like bona fide tropical islands, without Hollywood props or hot-dog stands, you will almost certainly like this idyllic archipelago. Though only a few leagues from some of the busiest shipping lanes of the world, the San Blas have few port calls. Their channels and currents are anything but attractive to steamship navigators, and the sinewy Indians who live principally on sea turtles and coconuts are very aloof. They are not obnoxious but as a race they suffer the bizarre illusion that, since they have managed their own affairs reasonably well for the past couple of thousand years, they can keep right on doing it. Rather graciously but definitely they continue to request the Panamanian government to kindly stay to hell out, and graciously they continue to advise the gringo that it is fully as easy to go as to come. The government of Panama retains its Latin ability for taking hints from strongly opinionated territorials, and the United States, for the time being at least, has

discontinued the practice of landing marines every time an aborigine blows his nose.

Coconuts are the palmy stand-bys of the San Blas. On mainland Panama also you will see coconut palms by the unnumbered thousands of acres. Roads and highways are lined with them. Commercial groves and plantations are making widespread appearance. For example, in the Bocas del Toro district a commercial grove with more than 100,000 bearing trees is perhaps the biggest coconut plantation of this hemisphere.

But the untouted San Blas Islands also have tended coconut groves, covering more than 300,000 acres in all, policed and harvested by these first Americans who probably know the coconut business as well as any other people in the world. In tourist guides the San Blas are listed as being "among the most primitive of all island Indians." They may be. Dorothy Lamour has seriously blurred my objective judgment of primitive tropics.

In any case the San Blas coconut industry seems to be one of distinguished solvency. As regularly as days come and moons change these sequestered neighbors to the south harvest coconuts, load log dugouts and diminutive sailing sloops with this heavily burred barter and with enviable nautical skill drive it to Colón and other mainland markets.

Panama's significant doorways lead into an even more significant mainland. Most of us have seen the canal, and the renowned "marker cities" of Colón and Panama City. Perhaps few of us realize that tropical wildernesses alongside or beyond the canal strip are cradles to some of the most important crops grown in this hemisphere.

Panama is New World home of the banana. Near the ancient cathedral of Panama City is a bronze plaque which marks the grave of Friar Tomas de Berlanga, the Spanish Jesuit who brought the first planting of bananas to this hemisphere, back in 1519. It was near the ancient port of Colón that a certain Carl B. Franc, a German ship steward, established what was probably the first

commercial banana plantation of this hemisphere, during the early 1860's.

In contemporary parallel, Panama is also home of what promises to be one of the first successful rubber plantations of the New World. This is a property of the Goodyear Company. It is located in the low country near Gatun. In 1935 the jungle was cleared and planted to Brazilian Hevea, a stately equatorial tree which is now the principal source of natural rubber throughout the world. This experiment has tremendous potentialities. We are in an age of rubber, of plantation-grown rubber. The American tropics were original home of the Hevea, but Dutch and British enterprise grabbed the trees, moved them halfway around the globe to Netherlands East Indies, British Malaya, and other great parts of the Oriental tropics, which means that Britannia now rules the rubber and that Singapore has replaced Para, Brazil, as rubber capital of the world. Wild rubber, formerly a jungle grab bag of the Amazon Basin, is now almost wholly replaced by plantation-grown rubber from the alien Orient. All the Americas combined now produce only about 1½ per cent of the total supply of rubber though the Americas consume about 70 per cent of the world supply. Today, with the world being ripped apart by another superlative war, the Americas grope to regain a reliable American source for this tree gum which has become as essential as iron and steel. In a later chapter, we shall say more of the rubber crop.

Today less than 5 per cent of Panama's tillable lands are under cultivation. But there are numerous crops, some bizarre and others staple: cocoa, which is the main orchard crop of the land; rice, corn, tobacco, cattle, indigo, and balata—the latter a staple adhesive material taken from a native tree. There are numerous palm nuts, dye woods and cabinet timbers. Back in the provinces of Darien and Veraguas are gold mines, pioneered four centuries ago by conquistadors. And it is virtually certain that Panama has important mineral resources—lead, copper, asbestos, and manganese—which are still undeveloped.

But the jungle is the most widespread and commanding of the

undeveloped resources. Without question it is one of the most intriguing and riotously beautiful jungles in the world. Much of Panama's soil is fabulously rich. The climate is completely tropical, at least in the lowlands, which makes the jungles incredibly green, crowded, and fast-growing.

So Panama jungles are paradise for the botanist or the hardier son or daughter of the outdoors. They are million-acre gardens of bizarre palms and giant flowering trees: the buttercup tree, which is topped with huge golden daffodils sometimes six inches in diameter; the giant *lignum vitae*, with its lovely wisterialike blossoms; swamp bluebells; orchids—among the more famous of which are the snow-white "Tear of the Virgin," the blood-red "Deadly Sin," the pale-ivory "Bride of Christ," and the yellow varieties. Jungle fauna is almost as amazing—particularly the gorgeous and exotic birdlife, which includes giant hummingbirds, varicolored parakeets, and most impressive of all the snow-white egrets, which ply above jungle rivers. Besides the birds there are the iguana, giant green lizards of Central America, perhaps millions of alligators and monkeys, a considerable list of snakes and scorpions, a few tapirs and pumas, the wildcat which natives call lion.

All in all, this jungle is not particularly fierce or poisonous or otherwise vindictive. In fact, it is tremendously appealing to those who like the outdoors. Many Panamanians do not like it because such a jungle makes sport of one who would stand against it. It crowds out farms and blockades clearings. If a man leaves his farm for a season he may find that the jungle has taken possession.

Moreover, a big percentage of Panama's half million people are not begotten of junglelands. The isthmus nation has two strains of more or less aboriginal Indians: the Cholos of the south and west, a people rather short of body, square-faced, muscular and wiry; and the San Blas, already mentioned. Fullblood Indians of Panama comprise perhaps 10 per cent of the total population. The rest are Spanish, North American, and European blended and merged in this truly tropical frontier which remains one of the most active of American melting pots. Language is dual—Spanish and English. Boundaries between "canallers" and "noncanallers" remain quite

distinct. There is much localism, considerable social timidity, much talk of politics and government.

Panama is a highly personalized American republic. But it is distinctly apart from other highly personalized American republics because geographically it is the control board of a hemisphere and a location of world destinies. It was so to mighty Spain of 1519, for which Pedro Arias de Avila then founded the City of Panama—at the Pacific tip of the isthmus.

That city was straightway named the capital of the New World Empire of old Spain. To his “Real Audiencia de Panama” Charles V in 1538 gave outright jurisdiction of all Spanish dominions from Nicaragua south to the Strait of Magellan. When the audacious conquests of Pizarro had changed the Empire of the Incas into Spain’s vice-royalty of Peru, Panama City became clearing center and transportation base for the huge loot of the Incas which did much to make Spain the richest nation of Europe.

Also to Panama City came supplies and materials with which Spain maintained her 8,000-mile lines of colonial posts and forts. In 1569 Charles V ordered built the first transcontinental highway of the Americas, a paved road from Panama City to Porto Bello on the Caribbean. One can still see jungle-strewn remnants of this great road and at least one of its huge, stone-arched bridges.

Over this road tramped uncounted thousands of slaves, pack mules and bullcarts, bizarre caravans of men and materials from all corners of the world, also wealth from the Incas and Mayas, guns, powder, lead and chains which served one of the most audacious conquests in man’s history, soldiers and livestock, priests, mendicants, and adventurers.

Across the fifty-mile narrows of Panama has been written one of the best stories of mortal science in transportation. It is a saga of jungle slashing, shoulder packs, mule trains, roadways, the first American transcontinental railway (which in 1908 became the first railway owned by the United States government); then the world’s most strategic canal, and now one of the most advanced of all aviation centers.

When Balboa saw the Pacific from a mountain peak of Darien, high on the national divide of Panama, he forthwith wanted to sail on that great ocean. Within three years, by 1514, he had performed the incredible feat of carrying two ships in pieces across the backbone of the Isthmus and launching them for a voyage to the Peruvian coast—and the richest treasure cache ever lifted. Washington Irving described that feat as the most amazing attainment in the entire history of Spanish America. For it was accomplished by a tiny band of conquistadors and perhaps thirty enslaved Indians who dragged immense burdens over one of the most difficult terrains ever traveled.

It is the one locale in all the hemisphere where you can cross a continent with twenty miles of land travel. To travel from ocean to ocean over this Chiriquicito Trail is one of the most exciting adventures known to man. With reasonable luck you can make the junket in three or four days. For the start it is best to go by launch or motorboat from the Caribbean port of Almirante up the Chiriquí lagoon for about forty miles to the considerably forsaken village of Chiriquicito. There change from boat to mule, making certain that your mule is properly educated in the ways of steep trails and sliding banks.

Like most other rural trails of Panama, the way follows through jungles along the banks of a sodden little river. This particular river is the Guaramura. You follow it for about ten miles. Then the jungle becomes less dense and you begin to climb. Creek water becomes clear and drinkable and black jungle mud is replaced with sticky yellow clay.

The trail leads through a village called Buena Vista and then proceeds upward into the clouds. At 4,000 feet the mountainsides and their deep canyons are continually blanketed with clouds. This is land of the "dripping forests." Trees become small and the underbrush is stunted. All vegetation is covered with gray and green mosses and every tree drips water.

There are millions of birds, brightly plumed tropical birds and common songbirds of North America. Treetops and bush become laden with Spanish moss and other wavery air plants, some of

which blossom brightly in reds, purples, and blues against an invariable background of greenish haze.

The fog is cold, but you don't notice because the steepness of the climb leaves you wringing wet with sweat. The trail meanders on to the final narrow shelf of the continental divide. This ultimate ridgepole of the Americas is surprisingly narrow, no more than twenty to thirty feet wide in places. Its altitude is about 6,500 feet.

On crossing the divide you change abruptly from the rain forests of the Atlantic to parched, shriveled, pygmy-sized forests of the Pacific. Then you come into a burnt, boulder-strewn plateau, a desolate country smeared with the raw black lava of the Chiriquí volcano.

The trail reaches an amiable village called Boquete, which is the terminus of the Pacific Railway from David. You sell or trade your mule, shed your shirt, and wait for the daily train. When it finally arrives you join a dense throng of amiable Indians, who chatter and laugh, fondle enormous bouquets of flowers and huge well-packed lunch baskets. The locomotive begins a shrill solo of toots. Then the engineer sets the brakes and trusts to God. The railroad is twenty-eight miles long and in this distance it descends 3,800 feet, to the town of David and the dusty, sweltering heat of the Pacific coast. As the crow flies, the actual pack-trail distance of the mountain crossing is about nineteen miles. But one who can travel it in less than seventy-two hours is Barney Oldfield on muleback.

In terms of white man's history the present canalway marks the most-used crossing of a continent. It is correctly named the "road of gold." The quest of gold brought white men to the Isthmus. Gold was magnet for the memorable explorations of Columbus, Pizarro, and Balboa. Gold finds built Panama City. Gold was the bait which drew the throngs of buccaneers who destroyed the city. The same quest roused Panama from abandonment back in 1849 when the isthmus again became the easiest route to new caches of gold, this time in California.

There is probably no dependable record of the thousands of forty-niners who crossed the isthmus by land and recrossed it with

satchels and bags of fabulous wealth. But the true saga of the forty-niners warranted constructing and operating a first Panama railroad built by United States capital and talent. In turn this railroad encouraged and caused to crystallize the attempt of de Lesseps and his French promotion company to span the isthmus with a canal. The ambitious beginning and tragic failure of this attempt, plus naval weakness demonstrated by the Spanish-American War, plus numerous political and diplomatic complexities incident to France's colossal defeat in Panama's jungles led to United States completion of the great canal—one of the most constructively heroic chapters of modern history.

Conquest of the isthmus becomes a basic history of the Americas. It pegged Spanish domination of the New World. And it incited Britain's entry into this new world. Sir Francis Drake is said to have been the first Englishman to view the city of Panama, or to see the Pacific Ocean. He is reputed to have first seen the first town of the American Pacific from a "goodely and great high tree" whereupon the impulsive subject of her Majesty mustered his men, raided the town, and reported the capture of a stack of silver bars "70 feet long, 10 feet wide, and 12 feet high."

In 1669, almost three-quarters of a century after Drake's death, another member of the British landed gentry, Henry Morgan by name and buccaneer by trade, landed at Porto Bello one dark night, captured the town, looted and burned it, then destroyed the port. Next year he returned with a force of 1,400 royally approved pirates, crossed the isthmus afoot in twenty-nine days, and attacked the city of Panama, which then had a population of about 8,000. Morgan opened the attack at sunrise on January 28, 1771, scuttled the town and burned it.

The crown of Spain undertook to build a new Panama City—about six miles west of the old site, choosing a rockbound peninsula guarded on one side by a mountain and on the other by a succession of coral reefs and tiny islands separated by numerous deep-water passages. For two more centuries the town lived on, even as Spain's gigantic New World loot sank to fabulous memories, even as buc-

caneers and pirates found themselves forced into less reputable trades, such as politics and prize-fight promotion.

Then a new nation to the north stepped into the Panamanian picture: a fast-growing nation of frontier takers known as the United States of America. Since 1846 the United States has had a place and a voice in the varied isthmus picture. Theretofore the Monroe Doctrine had been too feeble and visionary to be taken seriously even by Washington officials, much less by any European power. Britain was digging into Central America and casting longing glances at still richer spoils. France was beginning to covet Mexico and Holland was poised for any available grab.

But in 1846 the United States entered into a treaty with New Granada, now Colombia, of which Panama was then a province, whereby Colombia was to allow and assure free passage of United States citizens and goods across the isthmus in return for which the United States would protect the isthmus against foreign invasion or civil disorder. It was on the strength of this treaty that the Aspinwall Associates of New York raised \$8,000,000 and built the first transisthmian railroad.

On January 28, 1855, a wood-burning locomotive crossed the isthmus through a deluge of tropical rain. Passengers paid \$25 in gold for the 45-mile ride. This Panama Railroad was the first notable triumph of Yankee engineers against tropical jungle. It was also the beginning of mechanical transportation for the tropics. And it was a gallant conquest in the course of which thousands of brave men died of yellow fever, malaria, and other tropical diseases. The Aspinwall Associates not only built and put in operation the first Pan-American railway, but they also established the Pacific Mail Steamship Company, which introduced the first scheduled passenger service between the United States and the American republics to the south.

Almost without question this railroad gave the canal to Panama. By 1850 or earlier the United States government had taken serious consideration of possibilities for building a canal through Nicaragua. For half a century testimony of engineers and memorandum

of the War Department tended to recommend the Nicaraguan route as more suitable for the small ships then in use.

But the gringos were slow to act. In 1879 there was organized in Paris a sort of wildcat-caliber promotion company called the Universal Inter-Oceanic Canal Company. The company was launched with many banquets, florid speeches by *los grandes francias* and vast amounts of champagne. Of the 133 original members of the company 42 were engineers. Forty-one of the latter voted to build a canal through Nicaragua. But the company decided on Panama because its business talent believed the lone tropical railway indispensable to the venture's success. Thus the Yankees who had built the railroad for \$8,000,000 and earned handsomely from the investment, happily resold it to the Parisian company for \$20,000,000.

On New Year's Day, 1880, the aging Ferdinand de Lesseps, who had supervised successful completion of the Suez Canal before assuming presidency of the Universal Inter-Oceanic Canal Company, swung the pickax which began the big ditch that was to "mark the union of two oceans for the good of humanity."

That was an epic moment in American history, climaxing action after 346 years of theorizing. The first survey for a Panama canal had been made by Pascal Andagoya for Spain in 1534. He reported the venture impracticable. Twenty years later the Spanish Inquisition forbade discussion of the proposed canal, holding that to put asunder two continents which God had joined was impious.

Two centuries later a party of French astronomers journeyed to Central America and sought to interest their government in the canal-building venture. During 1780 and the thick of the American Revolution Great Britain occupied the Nicaragua coast but her forces were beaten back by fevers. Early in the nineteenth century Germany's renowned naturalist, Alexander von Humboldt, declared that a Panama canal was practicable and would "immortalize a government occupied with the true interests of humanity." The statesman-poet Goethe became an enthusiast. In 1814 Spain began another survey of the possible site, but the work was abandoned when revolt spread through Central America.

In 1825 the first diplomatic envoy from the "newly liberated Re-

public of Central America" presented the possibility to Henry Clay, then our secretary of state. The following year saw organized in New York City the Central American & United States Canal Corporation, with De Witt Clinton of Erie Canal fame as a director. For lack of funds the company let its Panama concession lapse.

In 1835 the United States Senate voted to build a canal through Nicaragua, and Louis Napoleon began writing pamphlets which declared it the divine mission of France to build such a canal. During the 1850's Cornelius Vanderbilt organized the American Atlantic and Pacific Ship Canal Company and bought concessions for a transportation monopoly across Nicaragua. Before this company actually began a canal a revolution occurred and a momentary president declared the concession forfeited.

In 1857 the United States sent army and navy officers to complete surveys for a Nicaraguan canal. Unexpectedly the Colombian government delivered a Panama canal concession to a young French army officer and super-promoter named Napoleon Bonaparte Wyse. In due course Wyse sold his concession to the grandiloquent French promotion company.

The de Lesseps venture failed. Engineers and laborers died like flies. Corruption invaded. Equipment and material were left to rust and rot. A new French company arose to keep alive the concession. But the jungle was winner and Panama was loser. Finally the United States did the job which for centuries other nations had talked of doing. This means, among other things, that world-wide interest stays focused on the "big ditch" which remains one of the most coveted of all strategic plums.

The so-called Panama revolution and its liberation from Colombia in 1903 remains in the catalogue of cloudy and little-known history. But 1904 saw formal United States occupation of the canal strip and the beginning of one of the great structural sagas in the history of man, a saga high-lighted by two amazing geniuses—Colonel George Washington Goethals, army engineer and West Point honor man, as supervising engineer, and Colonel William C. Gorgas, whose administration as chief sanitary officer changed the isthmus from a fever-ridden pesthole to one of the most healthful

of all tropical lands, with a mortality rate almost identical to that of New York City.

With infinite toil and planning the big ditch became reality, a herculean job done efficiently and well by 35,000 workers and the greatest amassing of productive machinery which the world has ever known; a pace-setting collective activity and a forerunner to more enlightened eras in government-labor relations, yet one of the most profitable investments ever made by the United States.

But instead of being the wedding of oceans as prophesied, the canal has materialized simply as the geographical straiting of the continents. First plans for a sea-level canal were quickly replaced with plans for a succession of electrically operated locks fed principally with fresh water. The great Gatun Lake, 160 square miles of fresh water held in place by a 105-foot dam based 85 feet above sea level, was built as the main reservoir. With the conquest of oceans is merged amazing work in control of surface water—fluvi-graphs and observation stations to report rainfall and river rises, shrewd networks of spillways and water gates to make the best possible use of rainfall; turbines using fresh water for generating electric power for operating lock apparatus; mountains and valleys of cement to offset erosion and landslides and to increase inland impoundment of water.

A \$100,000,000 program of improvement and expansion is now under way with likelihood that the amount will shortly be doubled. This new work is variously interesting in terms of engineering. But it is primarily a continuation of the original construction completed in 1914.

The chief canal problem today is one of defense by air. Actual structure and operation of the present canal belongs to an era of defense by surface ships and land batteries. The assertion that a single air raid, and at points a direct hit by one high explosive bomb, could paralyze the "big ditch" can hardly be denied.

Building of additional traffic lanes could diminish but certainly could not overcome that nightmarish hazard. An additional and sea-level canal across Nicaragua, once more in the news headlines, would unquestionably be far easier to defend from air attack than

would any imaginable type of lock-and-dam canal. But the Panama Canal is a reality and the central focus of Western Hemisphere defense. And Panama resumes the role of most important fortress of our hemisphere.

In 1821 the province of Panama (of approximately its present boundaries) declared its independence from Spain and joined the Colombian federation which was newly created under direction of the great Simon Bolivar. The Granadine Confederation, as it was called, included the present republics of Venezuela, Ecuador, and Colombia (then known as New Granada). Panama became the Department of the Isthmus.

In 1830 the Colombian federation was dissolved and in due time the isthmus was again united with New Granada. Ten years later Panama revolted and for one year, under leadership of Tomas Herrera, became the independent State of the Isthmus.

But there was again union. In 1855, by the Additional Act of the Granadian Constitution, Panama became a sovereign federal state of New Granada, with considerable measure of home rule. Nine years later New Granada adopted another constitution and became the United States of Colombia. But that nation, too, was short-lived. The 1870's proved a dark and bloody interval of civil wars and in 1886 was born the present Republic of Colombia, with Panama as a department. Late in 1903 the government of Panama declared its independence from Colombia. The United States, through the great Theodore Roosevelt, hurried to recognize the new republic and almost immediately the United States leased isthmus land and began construction of the theretofore ill-fated Panama Canal.

The present government of Panama, according to its constitution of 1904, tends to parallel other governments of Central America. Its legislative department, the National Assembly, is made up of one house, with deputies (one for each 15,000 population) elected for four-year terms. The president is elected by direct popular vote once in four years. There is no vice-president. Instead, the National

Assembly elects three designados who may take the president's place in the order of their seniority, in event of the latter's death or disability. The Cabinet is made up of five members: Department of Government and Justice, with supervision over all courts, notary publics and penal institutions, the administration of municipalities and provinces, national and city police forces, city fire departments, national secret service, all general elections, the national bureau of weights and measures, post offices, national telegraph systems and Indian administration; Department of Foreign Relations; Department of Finance and Treasury; Department of Public Instruction, which supervises all public and private schools, also the National Museum, the National Library, the National Institute, and the Schools of Arts and Crafts; Department of Agriculture, which deals also in communications, transportation and public works, mines, industries, immigration, trade-marks and patents, water supplies, roads and bridges, ports and harbors, public buildings, hospitals and asylums.

Panama's judiciary department includes a Supreme Court of five justices, appointed by the president at two-year intervals for terms of ten years, a superior court, nine circuit courts, and one municipal court for each town and city of the republic. All judgeships are appointed by the circuit courts for four-year terms.

Panama has no army. Its national police corps made up of a thousand officers and men takes the place of an army and its navy consists of one revenue cutter. There are about a hundred post offices, approximately two hundred national telephone and telegraph offices. The republic is divided into nine provinces—Bocas del Toro, Coclé, Colón, Chiriquí, Darien, Herrera, Los Santos, Panama, and Veraguas. Governors of the provinces are appointed by the president for one-year terms. Municipal mayors, or *alcaldes*, are appointed by the governors for one-year terms and each city or town has its council elected by direct vote for a term of four years.

The present population of Panama is about half a million. Its areas, including the 20-mile strip of Panama Canal, is 34,169 square miles, about the size of the state of Indiana. Panama City is the

capital and largest city, with a population of about 82,000; Colón, with 33,000, is the chief Atlantic port; Penonomé and David tie for third place among the cities, with 16,000 each; Bocas del Toro has 10,000. On the whole, the republic is somewhat more sparsely populated than the other Central American republics. Particularly to the west, Panama has great stretches of little-known mountains, roadless jungles, and untenanted shellfands.

As already noted, only about 5 per cent of the land area is actually in cultivation or improvement. Realizing this, the Panamanian government works to encourage expansion of acreage of tilled crops. Like Honduras, Panama is a land abounding in forest and jungle. Today the products of its forests closely rival and sometimes exceed in value the products of its fields. Among native forest products is balata, which is the gum or dried juice of the West Indian bully tree and valuable staple used for insulating electric wire, manufacture of adhesives, airplane, and motorcar ignition.

There is also considerable wealth of mahogany and still greater resources in other dyewoods and cabinet timbers. Palm and oil nuts and coconuts are among tree products of growing commercial (and military) importance. The Panama of yesterday was a control board and supply base for the largest and richest of all New World empires. The Panama of today is world-renowned locale and background for a canal which may yet shape the destinies of nations and continents. The Panama of tomorrow is destined to be of even greater importance. For it is a country as well as a location, a country whose strength will continue to rise from an enormously bountiful earth.

8

COLOMBIA

COLOMBIA is one of the least known of all American republics. It is a big country, with an area as great as all the United States east of the Mississippi and south of the Ohio. It is an immensely fertile country. Its mineral wealth is probably second to none in this hemisphere.

Colombia is a magnificent frontier. Thousands of square miles inland have never yet been explored or mapped. The present population, roughly 8,500,000, shows consistent increase. Even so, Colombia remains comparatively sparsely settled.

Located on the vast northwestern littoral of South America, Colombia is the only republic of that continent with frontage on both Atlantic and Pacific. This fact adds materially to its accessibility. Buenaventura is its leading Pacific port; Santa Marta, Cartagena, and Barranquilla are important ports on the Atlantic and Caribbean. Furthermore, there is the great Magdalena River, the foremost commercial highway of the republic and one of the busiest waterways of the hemisphere. There are also a national highway system, which includes more about 6,000 miles of roadways; various commercial air lines and more than 2,000 kilometers of railroads.

But Colombia mountain ranges make for remoteness. This "New Granada" is northern terminus of the mighty Andes, which here branch into three great ranges, the Western, Central, and Eastern Cordilleras. Riverways follow the lines of these great valleys. The Magdalena, "Mississippi of Colombia," flows northward between the central and eastern ranges; the Cauca, also flowing to the

north, drains the valley between the central and western ranges. Rapid, plunging streams dash down steep sides of the westerly mountains into the Pacific—the San Juan, Dagua, Patia, and others.

But with the exception of the Magdalena, Colombian rivers are little navigated. The mountain country is high and rugged and much of it is accessible only by airplane. East of the mountains is a vast frontier country, made up of selvas, millions of acres of virgin forest to the south quadrant, and the llanos, vast areas of prairies and ranges to the northward.

Thus by geography Colombia falls into distinctive provinces or sections. Geographically it is at least five or six nations merged into one. Of these the fertile and versatile basin of the Magdalena falls rather definitely into the "federation of the tropics." Its preponderance of Caribbean trade and its resources of distinctly tropical crops, such as bananas, cacao, rubber and coffee, together with its history and political tradition, give it ready admission to the realms of Middle America.

But Colombia cannot be described with convenient generalities. The nation is bizarre and infinitely varied. It is a world of primeval forest and enormous wealth in timber; of huge *ranchos* and cattle by hundreds of thousands; of great coffee fincas and sugar cane plantations (many of them a mile or more above sea level); of citrus groves, and fields of pineapples and avocados, lush plantations of cocoa and bananas; palm groves and dyewoods; of fertile mesas planted to wheat, barley, other cereals, and other staple crops of temperate-zone America.

The region of Barranca Bermeja, along the basin of the Magdalena, has already become an important petroleum center. It is a common opinion among geologists that the entire Pacific coast of the republic is made up of gold-bearing alluvials, and that the gold deposits of the Sucio and Marmato rivers alone may equal those of the great Transvaal. Meanwhile the Central Cordilleras and the state of Antioquia are becoming one of the world's centers for active gold mining, with thousands of square miles of gold-bearing rock and gravel. Yet this portion of the country remains wild and little known, much of it unmapped, and some of it unexplored ex-

cept by native Indians. During the past decade still another Colombian gold belt has been discovered in the area of Neiva, bordering Ecuador, along the upper Magdalena, where gold nuggets are taken direct from alluvial sands and gravel.

Copper and iron ores, though common in many parts of the country, have been little exploited. The same is true of coal and lignite. With the possible exception of Russia, Colombia today leads the world in outputs of platinum (which usually occurs in gold-bearing gravel, particularly along the San Juan and its tributaries; also in the basin of the Atrato and other streams of the Pacific coast). There are probably huge reservoirs of silver. What is even more striking, Colombia now provides nearly all the emeralds of the world.

Emeralds are the most precious of gems, with values ranging from three to ten times those of diamonds. For the following exposition on Colombian emeralds, I am indebted to the Pan-American Union of Washington, and to Dr. Fabio Lozano Torrijos, former minister of Colombia to the United States:

"Smaragus," the Greek word from which emerald is traced, really meant any green stone, and this led to some confusion in identifying the true character of the jewels referred to under this name in ancient writing. Now the name is applied only to that gem of the beryl family of a bright green color (due to traces of a quantity of oxide of chromium), a translucent hexagonal crystal with glasslike lustre and uneven fracture, composed of silica, alumina, glucina, magnesia, and soda. It is comparatively soft when fresh from the mines, but hardens on exposure to air . . .

Tradition says that an Aztec gem appropriated by Cortez was valued at 40,000 ducats. Another wonderful stone, the size of an ostrich egg, was found in the Manka Valley, Peru, where the Indians worshipped it as the goddess of emeralds. The Spanish conquerors opened the mines of Colombia in 1540. The richest mineral areas were those of Muzo and Coscuez, about 25 miles north of Bogotá, and the Somondoco or Chivor group, about 80 miles northeast of Bogotá, at an elevation of about 6,500 feet above sea level . . . A curious fact in the history of these latter mines was that they were closed and lost to the world in an

enveloping forest of jungle for over a hundred years and only rediscovered some 20 or 30 years ago.

The Government of Colombia controls the exploitation of emeralds, leasing the mining districts to private companies. The Muzo group, from which the finest emeralds come, has produced gems worth tens of millions of dollars. The Coscuez group, named for an Indian princess, which produced the variety of emeralds called *canutillo*, one of the most valuable stones, is now in the category of lost mines the exact location being unknown. The Somondoco or Chivor group, not now being worked, is supposed to possess a matrix which would yield a half-million dollars worth of emeralds a year. The Cuincha group, across the Minero river from the Muzo mines, forms a new field of much promise.¹

For centuries Colombia has been a world mecca for mineralogists. It is arena for one of the most amazingly varied agricultures known to man. Particularly during the past decade the country has gained considerable importance as an industrial nation, with at least a hundred factories which employ about a third of a million workers and provide livelihoods for perhaps one-sixth of the entire population. Colombia has various substantial cities; among them Bogotá, the mountain capital with a population of about a third of a million; Barranquilla, the great trade center of the Magdalena Basin with a population of about 180,000; Calí, 160,000; Cartagena, 120,000; Manizales, 100,000; Cucuta, 62,000; Bucaramanga, 58,000; Pasto, 43,000; Santa Marta, 45,000, the banana center which is the oldest white man's settlement of the republic, and one of the oldest white man's towns of South America.

I might continue to enumerate the physical resources of this remarkable American republic, but it is impossible to appraise a nation wholly on a basis of physical resources. Colombia as a whole may be described as stronghold for a distinguished and invincible American spirit; a determined, outspoken independence of body and mind.

This essential spirit of the land is not easily described or ex-

¹ *Colombia*, American Nation Series, No. 5, Pan American Union, Washington, D.C., 1936, pp. 41-42.

plained. It is a resource which you feel and appreciate as you wander farther into the country. It sharpens gringo curiosity and challenges the gringo love for diagnosis. This reporter is not prepared to offer an authoritative diagnosis . . . I do not know Colombia well enough, and in this confession I find a certain rationalizing comfort. Extremely few aliens are broadly acquainted with Colombia, and comparatively few Colombians are acquainted with the whole of their own country.

But it seems to me that this essential spirit is to a considerable degree an Indian spirit. Colombia remains preponderantly an Indian republic, beginning with Bogotá, sometimes subtitled the "Athens of America."

Bogotá in particular, and Colombia generally, were home of an indigenous empire of American Indians—the Chibchas. In terms of arts and political organization this Indian civilization may not have been so far advanced as the Mayas or Incas. But for centuries the Empire of Chibchas lived and flourished as an organized state, possessed of a distinct religion, an elaborate legendry, royal families, and eminent progress in weaving, sculpture, and other arts. Its *zaques*, or emperors, ruled and the *zipas*, or commoners, endowed it with numbers and solvency.

Spanish conquistadors crushed and broke apart this Indian empire and enslaved kings and commoners alike. But mortal spirit somehow survives conquest. Moreover, the conquistadors were eventually replaced by gentlemen of Spain. For centuries the Colombian highlands, with their ethereal climate and natural beauties, were lodestone for otherwise adventurous citizens of Spain, poets, lawyers, doctors, and priests. Before the birth of Boston, and a third of a century before the birth of John Harvard, this Santa Fé de Bogotá had its own national university. Generations before Yale College or Princeton was incubated, Bogotá had its Colegio Mayor del Rosario and Colegio de San Bartolomé, which remain cornerstones of Colombian viewpoint.

The blending of a memorably great Indian nation with the venturesome and enlightened sons of old Spain early produced a

distinguished American culture, with headquarters at Bogotá, which was raised near the old capital of the Chibcha Kingdom. The present city began in 1538 when Gonzalo Jiménez de Quesada led a party of Spaniards some eight hundred miles inland and near the ancient Indian capital built a village of one church, as tribute to the Savior, and twelve huts honoring the Apostles. Quesada named the settlement Santa Fé and the country New Granada, after his homeland in Spain, and claimed both in the name of Charles V.

Thirty years earlier, or six years after Columbus had discovered Cape Gracias á Dios and sailed past much of Colombia's Caribbean coast, the crown of Spain dispatched Alonzo de Ojeda to conquer this coastline. Ojeda succeeded in his mission but failed in his attempt to conquer the Indians of the highlands, though he did succeed in 1525 in founding Santa Marta. Two centuries later Santa Marta remained one of the ranking strongholds of Spain, and Bogotá had grown to be a town of about 3,000, while its surrounding state, the Department of Cundinamarca, was gaining its present place as the largest department of the republic.

This high and tranquil city, built so far back in a little-known world, presently became a cradle for Pan-American liberty. In 1810, having been governed by a succession of twelve Spanish viceroys, citizens of Bogotá bloodlessly but emphatically deposed a certain Don Antonio de Amar y Borbon and for nine years thereafter Bogotá was a fortress in the war for independence, or until its citizen-generals Bolivar and Santander, leading an improvised local army, dealt ruin to royal forces. In 1819 Simon Bolivar, one of the greatest of all American emancipators, effected union between Venezuela and New Granada and two years later became first president of the Republic of Colombia. The following year what is now the Republic of Ecuador joined the union. After Bolivar's death, near Santa Marta in 1831, this union was dissolved and the present Republic of Colombia became the independent Republic of New Granada, then the Granadine Confederation, then the United States of Colombia, and finally the Republic of Colombia.

Today its central government structure is closely similar to that of the United States. There is a Congress made up of a Senate and a House of Representatives. The senators, elected for four-year terms each to represent 120,000 citizens, must be native Colombians at least thirty years of age, with an annual income of not less than 1,200 pesos. Representatives are elected by direct vote for two-year terms, one for each 50,000 inhabitants.

The president also is elected by direct vote for a four-year term, with eight years as maximum tenure of office. All male citizens of twenty-one or over "engaged in some profession, art or trade, or having a lawful occupation" are citizens and therefore entitled to vote.

The president's Cabinet includes nine members, who head the Departments of Interior, Foreign Affairs, Finance and Public Credit, War, Industries and Labor, National Education, Mails and Telegraph, Public Works, Agriculture and Commerce, Fiscal Control and the Bureau Supplies.

The republic is made up of fourteen states or departments, four territories (*intendencias*), and six special districts (*comisarias*). Governors of the departments are appointed by the president, while territories and special districts are governed by commissions appointed by the president. Towns and cities have councils elected by local vote. Each department has an assembly, also elected by popular vote.

The republic supervises a national system of public schools, all of which are taught in conformity with the Roman Catholic faith. Primary education is free to all children between the ages of six and fourteen. According to the latest Colombian census (1935), there are about 8,000 elementary public schools, with around half a million pupils and 10,000 teachers. In addition there are about 700 private schools and 200 other schools sponsored by missionary organizations of the Catholic Church.

All secondary education is under supervision of the government, and of the 438 secondary schools of the country 84 are public schools. There is one government college for women (Colegio de la Merced); about forty institutes for educating schoolteachers, and

a total of thirty institutions of higher learning, of which nine are private. First among Colombian colleges is the National University at Bogotá which, founded in 1572, is one of the oldest universities of this hemisphere. The National School of Commerce heads a list of some ninety business colleges. There are twenty-five trade schools of which fifteen are under government supervision; also three public and seven private art schools, a national conservatory of music, various schools of agriculture and of mining, also a National Library and a National Theater.

The government owns and operates the national telegraph system; two cable stations, one at Buenaventura and another at Cartagena, and various telephone properties and radiotelegraph stations. There is increasing public operation of hydroelectric plants, hospitals, and research institutes (such as the Instituto Nacional de Radium, a study center for prevention and control of cancer). Through the National Library at Bogotá the government publishes great numbers of books for distribution to schools and colleges. The Bank of the Republic, located at Bogotá and with branches and agencies in a score of towns and cities, is semigovernmental, serving as a reserve bank and issuer of the republic's currency. Also at Bogotá the government operates three broadcasting stations and the city has about twenty daily newspapers, whose editions are carried by airplane throughout the country.

As years and centuries follow, Bogotá waits on its cool high plains. Except by air (commercial air lines now link Bogotá with daily service to more than a dozen other Colombian cities and with all other American republics—and by air New York is only about eighteen hours away), the distinguished capital is comparatively isolated.

But to journey to Bogotá by land and water is an excellent way to become acquainted with Colombia as a whole. To reach the capital from the Pacific you can go by railroad from the port of Buenaventura to the inland town of Armenia; thence by highway bus to Ibagué, and again by rail—covering the 470 miles in about two days. Or you can go from Buenaventura to Dagua by railroad

and thence by highway to the capital. From the Caribbean cities—Cartagena, Santa Marta, Barranquilla, and Puerto Colombia, you can travel by a combination of riverboat (the Magdalena is navigable for 900 miles), railroad, and highway. The distance from Santa Marta is about 750 miles, and the trip requires a week, more or less, depending upon river levels.

In the course of the slow inland journey, you pass through hot, blackish green valleys; tablelands with flowers and trees and cultivated fields; along rocky caverns with intervals of cactus-grown deserts, climbing gradually to a vast tableland, Sabaña de Bogotá. Here at an altitude of 8,500 feet waits the old city. Its temperature ranges from 40 to 70 degrees Fahrenheit; rains are frequent, blowing showers and slow drowsy mists interspersed with excessively bright sunlight, and luminously clear, almost frosty nights.

There are no distinct seasons, and no sharp boundaries of time. The "City of Poets" gives a first impression of being a sort of lost-world resurrection of old Spain. There are cobblestone streets, and narrow stone walks; low houses with far-projecting eaves of brightly colored tiles; there are rounded balconies and barred windows crowded with flowers; white walls of thick stone and adobe, with sharply etched intervals of deep shades and dense sunlight.

Streets and parks seem to be forever crowded, not so much with trucks and motorcars and vans, as with people. For the preponderant social life of the city seems to be a society of the sidewalk and plaza and fountain place; a leisurely society, yet one of forthright dignity; a well-dressed city, yet one of orthodox styles.

New buildings crowd in among the old. Here and there the ancient Spanish architecture is interspersed with impressive modernity. New motion-picture houses and arcades, in particular, are not only new, but the very newest of the new.

Crowds wait to speak and listen, strongly opinionated and insistent upon the right to speak and the right to listen. In Bogotá public opinion is definitely alive. There seems to be no servile acceptance or abject agreement. To know the city is to be convinced. It has tenements and wealthy suburbs. It has fountained gardens which meet the best picture-book visualization of paradise.

It has the magnificent Church of San Diego, perhaps one of the most inspiring of all New World cathedrals. It has shaded mansions of early dons and humble and unofficious parks and plazas. The Capitol and other government buildings are of classic Greek architecture; the standard high-pillared, evenly lined Ionic, built of brown marble veined with gold. There are ancient shops with counters and cash drawers worn smooth with hands long dead. There are also highly modern department stores and "curb markets" and neon signs and other harbingers of a world of today.

Bogotá has unusual "points of interest" whose merits this reporter is not qualified to recite. Among others are the national salt mines, a far-spread family of mountains made up principally of salt and honeycombed with vast isles and arches of glistening salt. There is the awe-compelling Monserrat Mountain, from the higher planes of which the city appears to be a sun-splashed hybrid between a doll's garden and an architect's dream of heaven.

Perhaps the most amazing point on all this amazing *Wonderland del Sur* is Tequendama Falls, where the pell-mell and somewhat riotous Bogotá River plunges over a high-rimmed ledge for a fall of more than 350 feet. In this tremendous leap the grayish torrent of river changes to a dense spray, which is rainbowed with sunlight, then fades into what appears to be a fine blue mist. At the foot of the falls are acres of giant, lichen-grown rocks of skyscraper proportions; one stone in particular is in the shape of a huge round ball, and about it play unwearying multitudes of brightly colored birds.

In scenery, geology, topography, and climate Colombia is a most amazing America and a tremendous reservoir of materials. One realizes this on first sight of the great banana lands and tropical farmsites of the Magdalena Basin. Back of this great valley and among the foothills and more medium levels of the Cordilleras is the realm of coffee, which, second only to Brazil's, is the biggest coffee harvest of the world, and a harvest now comprising almost 60 per cent of all Colombian exports.

Throughout 2,000 miles of mountains, high plateaus, and little-known valleys are mineral holdings which may one day surpass

the fondest daydreams and the richest finds yet made by man. Among tablelands and jungles grow timber reserves for the world. Comparable areas of plateaus grow luxuriant native grasses—ranges which are probably capable of carrying more livestock than all rangelands of the United States. There are numerous deserts and rivers still little known. There are vast fields and reserves of petroleum not yet measured; also gigantic reserves of industrial metals and coals.

Meanwhile Colombia lives on, a land of magnificent contrasts and infinite variety. Pack mules, midget donkeys, and oxcarts still draw a substantial part of the burdens of the land. But so do trains, automobiles, steamships, and airplanes. Quite evidently Colombia swings into her Elizabethan age; a national youth leaping into prime; an adventurous and ingenious age when citizens change directly from oxcart to airplane, omitting many of the slow and cautious intermediate steps usually associated with man's advances.

9

JAMAICA

JAMAICA sunshine blazes fiercely on the close crowding mob. Plowmen, ox drivers, water boys, and hoe workers are come together; also the banana "headers," staggy-gaited workmen who get that way from toting stems of bananas on their heads; and "field women" leaning on their giant banana hoes or fondling thick-bladed cane knives. The inevitable road workers are also at hand, the sweaty girls and women who sit beside the highways and tap rounded stones with tiny hammers until the stones finally fall apart as if in weary disgust; the men and boys smeared with road tar, oil, and mud. All press close to the empty oil drum that is the speaker's platform.

Though the crowd is broadly typical of present-day Jamaica, it is one to strain the newcomer's credulity. Its people are Negroes (Jamaica is dominantly a Negro colony)—a merging of jet black, medium brown, and light chocolate, living demonstrations of a final wedding and welding of the races. The crowd is also British. "I am a British citizen" waits at the tip of every tongue. One senses the romanticisms of British tradition, a primitive willingness to doff the hat and bow the knee to H.R.H. or to Sir Somebody Something.

Shoulders begin to sway in negroid rhythm. Hips weave noticeably. There is spontaneous accord, blurry Amens, "Right you are. Bustamante." "Brother, you is right and you is great!" It becomes a drama in rabble rousing with rhythm but without a band. The meeting swings on and the mob warms until it simulates the ways of a jungle mob à la Hollywood. But all predicted bloodshed is

projected into tomorrow or a more distant future. Mob gatherings are a standard recreation of Jamaica. Recurring declarations of "states of emergency" or semimilitary law by his Majesty's forces, do not dim mob baiting as a folk amusement of the land. But even as self-ordained messiahs offer incantations and sweating crowds chant responses, the 4,500 square mile island which is now home for about a million and a quarter native Jamaicans becomes an extraordinary laboratory of problems, trends, and possible cures common to much or most of the American tropics. Jamaica is in fact and by experiment a sort of preview to great problems and dilemmas, now in incubation, which may be of dominating importance to the Americas during years to come.

As the darker background for this picture of probable futurity is Jamaica's ever-growing dilemma of poverty and overpopulation. The two are closely intertwined. Estimated increase in Jamaican population is about 20 per cent a year. Legal marriage stays a minority institution. There are no more home frontiers for the fast-increasing native multitudes. Virtually all tillable land and most of the worth-while forests have long since been put to plow. As in many American lands, practices in soil conservation are eminently bad; even worse than land-use practices common to North America. Through the generations bananas, a wet lowland or jungle crop, have been adapted to high altitudes and to rough, dry mountainlands. With far less rainfall than that of most neighboring Caribbean countries, Jamaica leads the tropical way in accepting irrigation as an agricultural necessity. Yet most of the irrigation is primitive and inefficient.

Agriculture gives employment and livelihood to about nine-tenths of all the island's people, with bananas, sugar, and coconuts the leading crops. At present a great deal of the banana acreage is stricken by a leaf fungus disease called sigatoka. Sugar growing is harassed by the price doldrums now common to the sugar industry in general, and tormented by severe British Empire market allotment quotas which continue to hold Jamaican sugar and rum production to a slim fraction of proved capacity. Because of mediocre or backward management the once-great coconut industry stumbles

badly, another agrarian dilemma now general in the American tropics. The principal market use of the great nut crop is for vegetable greases and soaps. Hence more in political theory than in fact coconut oil comes directly into competition with cottonseed, a little-controlled by-product of a world crop which is subject to subsidies, control plans, artificial pegging, and other elaborate meddlings by many governments.

Jamaican citrusgrowing holds possibilities which island authorities and planters alike are doggedly inclined to neglect. Jamaican oranges, tangerine, and grapefruit are almost uniformly superb of flavor and deplorable of agriculture. The citrus is raised altogether too easily. Trees are usually poked into the ground and left to their natural destinies. Cultivation is haphazard. Budding and propagation methods are desultory or nonexistent. With fewer natural advantages, the United States citrus industry has grown into an agricultural wonder of the world. But like much of Middle America, rural Jamaica continues to regard citrus merely as a natural bounty to be reaped with minimum effort and on off days.

As in most of the hot countries, livestock development is poor. Though easily possible, crop diversification is rarely practiced. The rather strongly conservative routine of plantation ownership tends to repeat and to accent the agrarian flaws of the now-tottering plantationism of our own cotton-growing South. A few of Jamaica's plantations are managed extremely well. The majority are run rather badly and the great majority of the "garden-patch" farms are only a feeble scratch from extinction.

And there is the still darker reality of barriers to emigration. Until recently Jamaica's fast-multiplying population fed the expanding labor markets of Central America, Cuba, and much of northern South America. During the past few years, however, virtually every American republic has chosen to ban the entry of Jamaican labor. Such Latin republics as Cuba, Costa Rica, and Colombia have lately enforced deportation of Jamaican nationals. No doubt enforcement of British bans against labor immigration has provoked reciprocation by several American republics. But the

tragic and all too typical reality remains that Jamaicans are now bottled up in their island—like bees “stoppered” in a jug.

During the past year, and most likely during the coming year, the outstanding Jamaican news is labor news—punctuated by short but spectacular riots which local labor groups label “lightning strikes.” On the whole, the “awakening” of labor has proceeded as an awakening in bleary confusion. In labor experiment Jamaica has become the laboratory extraordinary for private unions, molded and dominated by private citizens.

But Jamaica is definitely more than a geographical detention camp of colored peasant laborers controlled by English employers and governed by English officials. Virtually every government department is staffed by men of color. Negroes are serving as heads of government departments, as magistrates, doctors, lawyers, members of the Legislative Council, as school directors, and as leading planters. The governor, the colonial secretary, and heads of the insular departments of agriculture, medicine, education, and finance are Englishmen. But the postmaster, the administrator general, the collector general, the director of public works, the attorney general, and the crown solicitor are native Jamaicans. Most elected members of the Legislative Council are likewise Negroes, as are the great majority of planters. Thus there is no longer a point to ranting against white tyranny in internal affairs of the island. With scarcely a doubt Jamaica today leads the entire Western world in avoidance of color lines in public as well as in private life.

It is undeniable that Jamaica lags in development of the arts and in public education. Her cultural limitations are drastic. Throughout its centuries as a crown colony the island has produced few writers, artists, or scientists, and native arts are definitely more promising in still poorer island republics, such as Haiti and Puerto Rico.

But from a standpoint of racial amalgamation Jamaica quite definitely leads the Occident. The blood of African warriors mixes completely with that of the sons and daughters of British yeomen. Only the Chinese (who principally control the grocery trade of the

island), the Syrians (who control much of the drygoods trade), and a still more limited group of Jews retain any noticeable measure of racial unity. Economically the "better off" Jamaicans are those who would correspond to the modest "middle class" of England. And in many respects Jamaica of today is surprisingly Victorian. But the populace has largely discarded shame of Negro ancestry and acknowledgment of such ancestry is forthright and admirable.

Further, Jamaica is one of the first land areas of the Western Hemisphere to face the widespread issue of manual labor for women. Depending upon locale, women compose from 10 to 35 per cent of the day-labor population of the island. In the industries of bananas, sugar, and coconuts, women are a substantial share of the farm hands. They are an actual majority of the dock labor and a sizable portion of common labor used for road building and other public works. Private labor unions have repeatedly sought to discourage recruiting of female labor. But the population of self-dependent women continues to increase. Recently when a self-chosen messiah of Jamaica labor melodramatically commanded the women laborers on farms to "return to their homes and kitchens" the women failed to obey. Thousands have no homes to which they can return. More thousands have dependent children. In the New World competition of the sexes, Jamaican women have obviously won a right to labor. This, too, may prove a trend of wide prevalence throughout the tropics.

H. G. de Lisser, publisher of the Kingston *Gleaner*, takes renewed limelight as Jamaica's apostle of "safe and sane conservatism." Editorially and politically he points out the dangers of excessive public expenditures, of additions to already high taxation, of the policies of financial excesses in general. For several years the employing public generally, even the deep-dyed conservatives, in view of severe and continuing depression, have on the whole proved themselves generous in furthering working doctrines of better wages. At present, however, temperamental labor leadership and unpredictable and often destructive antics of laboring mobs are dulling the rather languorous amiability of the merchant and

professional Jamaicans toward the "underprivileged poor." Waning resources and congestion of rural population continue to set severe limits to the wages which island employers can afford to pay.

Jamaica's rapidly progressing "broken" workweek is an expression of unemployment fighting on the part of employers. It is a workweek of four days of paid labor with two days free for tillage of home gardens or other occupation. It has risen not by statute or official decree but by way of unwritten agreement among employers throughout the island. Thus Jamaica's experiment in "silent control" of working hours by way of the employers seems to be of significance to much of the world south of the Rio Grande.

Jamaica's is preponderantly an agrarian life. In logical course the island became an agricultural laboratory or, better say, a series of social, political, and labor experiments portrayed against a background of agriculture. Considering this, the pioneering ventures in labor organization are far more impressive than comparable efforts confined to more routine trades. Few nations of the world have attained successful organization of farm labor; and Jamaican efforts to building durable unions of a rural populace, though abounding in faults, are far from hopeless. It is notable, too, that the nine largest employers of the island have gone on record as recognizing the "necessity" of clearly defined labor unions.

Jamaica is pioneer ground for experiments in resettlement. Results of these experiments seem more promising than more recent ventures of the Resettlement Administration of the United States. The Jamaican venture has been supported exclusively by the colony's government. It involves purchase of cheaper farm lands in large tracts, dividing it into ten-acre tracts for resale without profit and at low interest to poor farmers. The work is directed by the Ministry of Agriculture and to date more than 4,000 native families have been so placed on the land.

Climate favors the venture. Top-heavy investments in houses are not imperative, as in the United States. The settler has only to build himself a shack, and cover it with a roof of native palm thatch. If well situated he can rely upon hoe tillage or primitive

plowing, raise more than one crop a year, and gear his plot of land to approximate self-subsistence. Such a feat is more easily said than done, but in Jamaica it is actually being done in hundreds of instances—with success. Thus far the island has spurned the dole, but the government is rapidly expanding ventures in resettlement and in public works.

Like most neighboring tropics, and most of Middle America generally, Jamaica faces an agrarian present and an agrarian future. And farming is a hard game the world over. Marketing of farm products becomes steadily more complex and more difficult. Plant diseases, instead of declining, are actually increasing. With few exceptions, crop prices continue to fall and tax rates continue to rise. Hurricanes are a serious and almost perpetual threat to all manner and style of tropical agriculture. In these respects Jamaica's prevailing picture is altogether applicable to that of neighboring lands.

But the most impressive of all Jamaica's current experiments is that of a new style of taxation—not by legislative decree or by rattling the philanthropic cup, but by voluntary donations in terms of a product in trade.

The product is bananas, Jamaica's foremost crop. It so happens that both the donors, the United Fruit Company and the Standard Fruit Company, are United States corporations. Now in its third year the experiment proceeds with gratifying promise. It is called the Jamaica Welfare, Limited. It is a limited liability corporation of legal charter with a directorate appointed and approved by the governor general to include a board of five nonsalaried Jamaicans, none of whom are associated with the contributing companies. Management is quasi-governmental and to date the payees have remained entirely out of the administrative picture. Funds include the payment of one cent on each export count of bananas. (A "count" is one stem with nine or more "hands" of bananas or its equivalent in smaller stems. Temporarily the British Admiralty has barred shipment of bananas to the war-encompassed British Isles.

Otherwise, with an average yearly harvest running into millions of stems, export volume of bananas assures Welfare, Limited, a worth-while income. The venture is still young. Thus far the funds

have been used skillfully for the support of bankrupt country schools, for establishment of rural medical centers in parts of the island where no hospitals are available, for the building of a model rural community center, and for direct relief in many instances of extreme poverty. More recently Jamaica Welfare, Limited, has invested an initial £3,000 for purchase of books and reading matter to be distributed through the Jamaica Institute, of Kingston, a cultural foundation.

The idea is variously challenging. The principle of voluntary taxation is one to invite study and meditation during an age when taxes are levied carelessly and even punitively on many catalogues of properties which are largely or entirely nonproductive from a standpoint of creating wealth. But Jamaica's welfare tax is confined to a native product actually in export and productive operation. Its motive is that of "benevolent capitalism"—which presupposes that the good of the "masses" is the good of business generally; also that part of all profits derived from the earth belong to all bona fide inhabitants of the productive earth. Such a school of thought reverts directly to the gospel of Napoleonic law, which remains very much alive throughout most of Middle America and certainly in the mind of the everyday man of Middle America.

10

CUBA AND SUGAR

TO KEEP abreast of the fast-moving sugar news of today, one does well to look at Cuba. For Cuba is rightly called the sugar bowl of the world. This island republic, about the size of Tennessee or Virginia, lives principally from sugar and regularly molds or makes the sugar news of the world.

Sugar is, of course, a world crop. But Cuba is capable of producing more sugar than any other nation. Under rigid quotas, the Cuban crop is now a little more than three million tons a year. But it has reached five and a half million tons and it could probably touch ten million—more sugar than is grown on any continent.

Even in this day of "controlled agriculture," sugar remains the convincing life of Cuba. Births, deaths, weddings, and holidays are described according to their places in the cane season, and to a considerable extent male Cubans are still measured by the tons of green cane they can knife in a day or their prowess at hoisting 330-pound bags of sugar into cars or ships.

In Cuba you soon discover that sugar news is more than crop news. It is the seedbed of news about medicine and public health, schools, roads, social life, employment, and government. If you visit rural Cuba one important item of sugar news will strike you the first day. Sugar is not a slow, easy crop of the drowsy tropics. Sugar cane has now become a fast, laborious, and highly mechanized business; a crop of precise routine in which doctors, druggists, provisioners, mechanics, chemists, railroad men, mill engineers, handlers, and knife swingers must work in absolute unison in order to keep sugar mills roaring until the harvest is made.

When I went to Oriente, Cuba's greatest sugar state, to have a look at the industry, a plantation superintendent first sent me to talk with his doctors. I was flabbergasted. I had come to study sugar and not medicine. But the boss explained that medical services are a prime essential in today's sugar industry. It takes healthy workmen to make sugar, and in present-day Cuba it takes sugar cane to make healthy men.

Old-timers knew Cuba and other great sugar-cane lands as homes of malaria and yellow fever, the twin scourges of the tropics. We all remember the heroic story of the conquest of "yellow jack" in Spanish-American War days. Now it is the job of the sugar industry to carry on a continual warfare against malaria. Therefore doctors, a hospital, and a field sanitation squad are as much a part of a new-style cane plantation as cane knives and dumpcarts. The result has been a notable victory over malaria in Cuba. Authorities on tropical medicine have told me that without the modern type of cane plantation this could not possibly be the case. In Cuban sugar lands there are being used the great antimalaria drugs, atabrine and plasmochin, which throughout the tropics are rapidly replacing old-fashioned quinine as ammunition against that disease.

Two eminent leaders in today's malaria fighting are the Drs. Jaime de la Guardia and Teodore de la Torre, both of the Cuban sugar division of the United Fruit Company. I called on the latter at his plantation clinic and found him treating a spinal affliction which could be arrested only by superimposing a case of malaria. Surprisingly, the doctor had searched far and wide without finding any malaria. A timekeeper telephoned to report with delight that he had at last located a cane cutter who had been taken with a quick spasm of chills which now blossomed into a beautiful flush of fever. So Dr. de la Torre made a 20-mile dash to the reported sick man. But the patient didn't have malaria at all, and the poor hombre with the spinal affliction died.

Health facilities of a modern sugar plantation do not stop with malaria warfare. They include free or near-free surgery and hospitalization for all employees and their families, also for tens of

thousands of rural Cubans who are not employees. They include field issue of prescribed medicines, field sanitation squads and disease scouts who search incessantly for sources of contagion. Good health is always good agriculture.

Throughout Cuba, other public welfare phases of sugarcrowing are rapidly gaining news importance. For one thing, there is the matter of housing. Palm shacks are no longer considered adequate shelter for cane workers. On plantations, such as those operated by the Hershey Company and United Fruit, you will see fully modern brick dwellings for employees; polished hardwood floors, tile bathrooms, and household fixtures to vie with those of our own country. Cuba's new-style sugar plantations also maintain and operate their own schools for children of employees.

Cuba has one paved highway, stretching the entire length of the island. But a great majority of its local and secondary roads have been built and are kept by sugar farming. The same is true of Cuban railroads. Except for the one central line, most of the mileage is operated as a necessary part of sugar plantations, since economical haulage of cane requires railroads. For example, the 90,000-acre Cuban sugar farms of the United Fruit Company operate about 330 miles of standard-gauge railway, which compares favorably with many key lines of the United States. This and several other sugar railroads carry passengers, mail, and general freight as well, and are likewise the standard highways for hundreds of flanged-wheeled automobiles and trucks.

But the biggest of the social obligations of Cuban sugar is that of yielding year-round employment for 300,000 native workers. Before the enforcement of acreage quotas, harvesting and milling of sugar cane lasted from six to nine months a year. Workers could therefore pull through their idle season without suffering.

Today Cuban sugar cane production has been reduced by law until harvest and milling season lasts only from four to twelve weeks a year, depending upon the quota of a particular farm. Sugar planters who survived the long depression of the thirties and late twenties are struggling valiantly to tide their employees through the long wait-overs. Nowadays cane cutters work during the idle

months at reconditioning mills, improving railroads, and working roads and other semipublic properties. Some are taking part in the fast-growing winter vegetable industry of Cuba. Still more are planting small subsistence farms—the land provided free by plantation owners.

The early history of sugar cane has nothing to do with Cuba. The original home of the crop was India. The art of refining sugar was probably originated by Arabian doctors. For "sugar" is an Arabic word and for centuries the product was used only as a medicine. Crusaders carried the sweet back to Europe and named it "Indian salt." In the early sixteenth century Spanish and Portuguese explorers brought the crop to the American tropics. Velasquez introduced it into Cuba.

For a long time nothing happened. In Shakespeare's day Queen Elizabeth of England bought sugar for her royal table and paid \$22 a pound for it. About 1750 the West Indies began shipping brown sugar to the United States, where our pioneer ancestors paid from 30 to 70 cents for a product far inferior to the one which we now buy for around 5 cents. It was only when tea and coffee gained world-wide popularity as table drinks that sugar became an important crop.

That period, 1780 to 1810, saw the rise of the Prussian sugar beet as a noteworthy crop of Europe. Early in the nineteenth century Napoleon I subsidized the beet sugar industry of France. Since Napoleon's time beet sugar has been subsidized by governments, including our own. There are several reasons for this. Nations in temperate climates want to produce at least part of their sugar needs at home, as a matter of food protection in times of war. The sugar beet is particularly valuable as a rotation crop, and during recent years beet pulp and tops have become the support of valuable sheep and dairy cattle industries. We have a good illustration of this in our own beetgrowing states, particularly the Far West group—Utah, California, Idaho, Colorado, Montana, Wyoming, and Nebraska—which together grow about 70 per cent of the beet sugar now produced within continental United States.

Napoleon also established technical schools to teach his people how to grow and refine the "sugar roots." And he was one of the first to argue that beet sugar is just as good a food as cane sugar. On this point modern food scientists agree. Sugar is sugar, regardless of source.

As recently as 1900, beet sugar was about 65 per cent of the world crop. But during the past forty years beet has slipped to less than one-fourth of the world crop. At the present time beet sugar is only 23 per cent of the United States supply.

It was during this long decline of sugar beets that Cuba became the real key to the world sugar setup, merely because Cuba can grow more sugar per acre at a lower cost per ton than any other sizable area in the world. Cuba's sugar cane greatness was brought about by the United States. During the present century we became the biggest sugar consumers in the world, with steady consumption of about 106 pounds yearly per capita. Moreover, sugar was and is the only great staple of which we have never produced a sufficiency within home boundaries. We have never grown more than one-third of our sugar requirements within our boundaries and today less than 2 per cent of our farms grow sugar crops, while only about $\frac{1}{4}$ of 1 per cent of our cultivated lands are planted to them.

When the first World War began, Europe was growing almost enough sugar for its own use. But when beetfields turned to battlefields, Cuban production shot from two million to more than five million tons a year and Cuba was sugar bowl for the world.

After the Armistice, tens of millions of war-rationed people were frantic for sweets and sugar bins were empty. So, in the early twenties, Cuban sugar prices boomed to 24 cents a pound at the mills. That brought on Cuba's fantastic jag, remembered as the waltz of the millions or the dance of the butterflies. Canefields were netting \$1,000 an acre, drivers of bullock carts were being paid \$20 a day and \$10 cigars were selling like hot cakes, while sugar wives ordered diamonds as they ordered groceries.

But European beets were rapidly restored and United States sugar crops were taking a new lease on life. Then came the crash. Within

sixty days Cuban sugar prices slipped to 9 cents a pound; within six months to 2 cents. The world sugar bowl was smashed; and the job of mending has been slow and painful.

The new age of sugar is one of remorseless competition, wherein sugarcrowing has become a realistic farm business—not a rich man's romance. For during the late twenties, while Cuba groped to reduce cane acreage by enacting laws to cut down milled tonnage of cane, Hawaii, the Philippines, and Puerto Rico—all under the United States flag or protection—swooped into cane production, doubling and tripling their former acreages in order to take up the Cuban slack. Meanwhile Louisiana canegrowers were staging a brilliant comeback and our beet growers were reaching for a new solvency by means of improved beet-fed livestock.

All sugar canes belong to the grass family, *Saccharum officinarum*. Its clumped stalks, from seven to fifteen feet tall, are made up of joints, or nodes, about five inches long. The richest sugar develops at the stub of the cane, which must be cut flush with the ground. This makes harvest largely a hand job, which in turn makes sugar a great employment crop requiring an average of one man for seven acres. Propagation is usually by cuttings and the first crop requires twelve to fifteen months to mature. Thereafter the harvest is yearly. In Louisiana this is in autumn; in the tropics the harvest begins in January and lasts until the quota is cut. Depending upon soil and rainfall, a cane stand lasts from two to thirty years. In Cuba a thirty-year cane stand is not unusual, while in poorer Puerto Rico cane must be replanted after each harvest. Drought and virus disease are foremost causes of cane mortality, and suckers—low in sugar content—are a great nuisance. Beyond these points, canegrowing involves plenty of controversies.

In the middle twenties, when Cuba's dramatic sugar crash opened a new era of sugar production, it also opened a new era of sugar politics. In 1926, Cuba's president, Machado, a sugar planter himself, undertook to reduce Cuban cane milling by 10 per cent. He was acting on the assumption that Cuba still held a world monopoly on cheap production of sugar cane. That assumption was wrong.

For not only did Hawaii, Puerto Rico, and the Philippines hurry to boom their cane-sugar productions to around a million tons apiece yearly, but the United States almost doubled duties on Cuban sugar.

Thus Cuba learned the painful lesson that lasting sugar success must be won in the fields, mills, and stores; not in lobby rooms or law offices. But in 1934 the United States began enacting sugar legislation imitating Cuba's, which had already proved itself a failure. In 1934 the AAA began handing out sugar "benefits" of about \$48,000,000 a year to growers in the United States and under the Stars and Stripes. In return growers agreed to acreage and mill quotas which involved much plowing under and other costly readjustments.

But before it could be proved or disproved, the first New Deal sugar act was ruled unconstitutional by the Supreme Court on the ground that the act caused money to be paid directly to the Department of Agriculture and not to the United States Treasury, as the Constitution requires.

In 1937 the Jones-Costigan Amendment made a more equitable division of the United States sugar market between producers "under the American flag" and foreign, the latter principally Cuban. The following 1939 sugar allotments were proclaimed by the Secretary of Agriculture, the figures representing tons of unrefined sugar:

Total for U. S. consumption, 6,832,156 tons:

Production under U. S. flag—mainland beet sugar, 1,584,524 tons; mainland cane sugar, 429,553 tons; Hawaiian cane sugar, 958,994 tons; Puerto Rico cane sugar, 815,810 tons; Virgin Island cane sugar, 9,115 tons. Total from all U. S. areas, 3,797,996 tons.

Foreign—Cuban cane sugar, 1,954,303 tons; Philippine cane sugar, 1,052,854 tons; other foreign sugar, 27,004 tons. Total foreign, 3,034,161 tons.

No import tariff is levied against sugar grown under the United States flag. This benevolence applies also to the Philippine crop, which by special treaty remains completely tax free through 1942. The reciprocity Trade Act of 1937 reduced tariffs on imports of Cuban sugar from \$30 to \$18 a ton. Even with this reduction Cuban sugar pays the United States Treasury nearly half of its total collec-

tion of tariffs. Cuba has now enacted a sugar restriction act limiting home production to the Jones-Costigan quota, plus 855,000 tons for export to all other countries, plus 150,000 tons for home use, plus a permanent reserve of 500,000 tons.

As I write this chapter, Congress has not taken final action either to continue or to replace the Jones-Costigan Amendment. If the measure is allowed to die a natural death, 1942 may see sugar "wide open" for planting, harvest, and refining. A great many sugar-growers are praying for such an occurrence. For they are convinced that the really important sugar news no longer comes from the halls of Congress or any other political body. Instead, it grows with the cane or beets, in rich fields, laboratories, and test plots, in noisy mills and on busy store counters.

Nowadays most crops of the world are complicated. Most of the great crops are extremely complicated—in botany, economy, processing, and husbandry. Sugar is perhaps the most complex of all. The preceding remarks are a mere attempt to sketch a few of the high lights and current variations on the theme of sugar. The type frames of one mere book would rebel at any attempt thoroughly to "explain" the sugar business. And there is perhaps no one man living qualified to prepare a thorough exposition on sugar cane. The bibliography of sugar, though woefully incomplete, already fills hundreds of books and pamphlets.

Yet to a highly convincing degree the story of Cuba remains a story of sugar, which is a story of variable moods and complex circumstances. In any case the deciding story of sugar is rural. So is the deciding story of Cuba.

Most people like Cuba, and for varied reasons. My own particular enthusiasm is for rural Cuba. On the whole, it is a land of great beauty and charm; a land of blue-green mountains, nodding cane fields, and rank green pastures; of country people and country ways, which include frijoles, papayas, pineapples, breadfruit, rice curries, clear rum, and, most important, rural Cubans.

The real Cuban way is preponderantly a rural way. Habana, with all its splendors and charms, is more New York or Miami than it is Cuba. But the Cuban countryside is different. So is the Cuban countryman, whose rather plain life stamps him as a *buen hombre*, and one you need know if you want to know his country.

"*Buen hombre*" is the right phrase—a good man. Not the flare-tempered lending-library style of Latin who loves you passionately one minute and hates your very guts the next. Not the growler, nor the grimacer, nor the reveler in personal hates. The country Cuban is not essentially an emblem of caste or "mass." He is not vain-glorious and rude and he is not smug. He is polite without the Great Nordic Tradition of Social Condescension. Admittedly his politeness is an expression of kindness.

If it lacks veracity, it does not lack sincerity. As a Spanish-speaking citizen the Cuban is pleased when you address him in his own language. Therefore no matter how bad your Spanish may be (even if it is as bad as mine), the rural *hombre* of Cuba will listen in quiet admiration, assuring you at each convenient pause that your Spanish is superb, your inflections all but miraculous, even though he knows as well as you do that your Spanish is as bad as Hitler's German.

The rural Cuban loves tenderly and embraces profusely, a dignified but impetuous sort of embrace wherein he pats one of your shoulders, then the other, then delivers a quick squeeze with slight downward pressure. "My friend! My friend, Chico!" he will say as he goes slap-slap-slap on your right shoulder, slap-slap-slap on the left, followed by this impulsive but conservative squeeze.

An own son of a bountiful earth, the rural Cuban is not obliged to make believe that he is a grand *caballero*. He is not pestered by any thin veneer of Old World traditions or title conjuring. He is openly aware of the truth that he is of a conglomerate people, born of sons and daughters of many races and many nations blended and congealed into a great island frontier. With uncommon directness the rural Cuban accepts this truth so widely apropos of all of the Americas. He is not obliged to assume the mannerisms of Lord Somebody Something or to conspire toward getting his daughter

married off to the Earl of Plushbottom Settee. His society, though genteel and gracious, does not require a social registry or a Junior League (albeit at a country dance the rural Cuban and his hijo and señora and *muchacha* are likely to behave with more charm and dignity and grace than can be expected of the testimonial signing Piermont Astor Morgan Twerps of Twerpton Downs, Long Island, and of Twerpos Beach, Miami, who smoke Dromedary cigarettes at \$2,000 per testimonial and bathe with Stinko soap at \$500 per signature when and if they bathe at all). In general the rural Cuban is an individualist of the more amiable and gracious sort. As a rule he is not a man of isms. He may possibly subscribe to communism for a week, to collectivism or humanism for another week, but by the beginning of the third week he is again just and sufficiently a rural Cuban. Time and time again professional ism-sellers invade Cuba with all the zealous imbecility of self-appointed messiahs, and seek stalwartly or nefariously to convert, forgetful that the rural Cuban is perhaps the most proficient backslider in the whole world; that he cannot be tossed into dynamic frenzy by obtuse verbal formulas because he is not obtuse and because he is too well planted to be swept off his feet by a mere hurricane of words.

The daily bread of rural Cuba is usually "water bread," bought as a rule at the drowsy country store, and devised of water, a little grease, and a huge quantity of white flour. With the bread goes coffee, strong black coffee rather heavily roasted. And with the coffee go fried thises and thats, particularly chicken and rice, and ham and eggs and plantain, the staple cooking banana, which is baked or fried as a convenient substitute for potatoes.

Luckily for those who take exception to fried foods, Cuba enjoys what is probably the greatest range of citrus fruits in the world, including dozens of species and subspecies of tangerines always to be bought cheaply and easily, fresh from the trees and strung on cords for convenience' sake. Also Cuban truck gardening now takes a new lease on life, which atones to some degree for part of the failing fortunes of the sugar industry. Thus if you are an epicure of fresh tender vegetables—sweet lettuce, crisp young radishes, breath-

polluting scallions, crunchy white potatoes, sugary yams, and unsurpassable pineapples and papayas, Cuba is your hunting ground.

Also along Cuban sea fronts you are almost certain to encounter some of the best-flavored red snapper and Spanish mackerel in all the catalogues of sea foods. Inland you may meet with native venison from the small red deer of the island, as well-flavored a venison as this reporter has ever tasted. But the maximum mean poundage of Cuban food is fried (a majority of country kitchens are equipped only with grills) and whatever your doctor says, or whatever your text on dietetics tells you, frying or no frying, rural Cuba is a comparatively healthful country in which to travel or to live.

For two centuries Cuba has been variously pointed out as a land of disease and pestilence; as a foremost battlefield in the benevolent medical warfare against yellow jack and malaria, long listed as the scourge of Cuba and of the tropics generally. But in Cuba today yellow fever, at least, is as scarce as humility among authors.

Rural Cuba is a land of likes and loves—love for people generally, for señoritas, music, dancing, cigarettes, rum, politics, and cockfighting. The latter entry touches another spot of our story—Cuba's own country-style cockfighting. When the sugar cane begins to "run," so do the cockpits. It so happens that rural Cuba is a care-free and unscientific haven for all manner of poultry. Among this vast feathered population there live and breed an extremely combative minority of game birds, black or buff or mottled brown in color, but certainly tough of body, sharp of spur, and belligerent of spirit.

I defy anybody to classify Cuba's fighting roosters as to ancestry. They are simply part of the country and, like the red poinsettias, or the purple banana blossoms, or the whitish breadfruit, when the pushing season arrives they simply push.

For the professional cockpit a trainer is desirable, in fact virtually indispensable. I have sat for hours wondering what Cuban cock trainers do with the rest of their time.

I am advised that the trainer's theoretical job is first to make the bird want to fight. This answer, even though it comes directly from

the vast sportslore of Westbrook Pegler, simply doesn't make sense. From the first conscious moment of incubation these game cocks never knew one conscious moment when they did not want to fight. Keeping Cuban roosters from fighting would be the real job. Secondly, according to Mr. Pegler, the trainer's job is to teach the bird how to fight. But that answer is just as futile as the first one. Cuban roosters already know how to fight, and besides, how could any living man ever begin to understand the science, tactics, and strategies of poultry mayhem?

Nevertheless, weeks before sugar paydays begin, the local trainer takes his "family" of cocks into deep and mysterious seclusion, presumably to encourage the birds in grim and pugnacious meditation. Then on a heralded Saturday night out come the trainers and their trainees. The cane cutters and their *mujeres* and *señoras* pay admissions and place bets, and the first pair flutter into the ring.

It is absolutely the wildest gambling known to man. Training or no training, any rooster can win and any rooster may lose. One lightning-quick stroke of a spur can blind any bird and in a cockfight a blind bird is synonymous with a dead bird. Thus touted champions flutter to the dust and unknown scrubs march away victorious, all at complete random, while mortal winners and losers alike rise and cheer and pat shoulders.

In a sense Cuban cockfights, like rum, are a by-product of sugar. But so are many other significant institutions of the great island. There is factual and historical truth in the saying that Cuba lives with the cane crop. As before remarked, the rural *hombre* becomes gauged by the number of tons of cane he can knife and stack during a day or by his competence in the face of a cane fire.

Cuba lives with its sugar crop. Cuba also lives with its palms; the coconut palm as a minor agrarian industry, and the royal palm as the official government-protected tree of the island. For centuries this royal palm has yielded the thatch and clapboarding to build a majority of the rural homes of Cuba. And the enormous oily bean of the royal palm (as large as a small watermelon) has become the backbone and joints of Cuban swine raising, a principal livestock and food supplement of the rural countryside.

In terms of rural Cuba, modernity remains comparatively remote. The climate has something to do with this. Cuba is a moist and balmy land of tomorrow. Nature is too bountiful to bestir frenzied conflict with the lank gray wolves of want. If the worst comes the rural Cuban knows well that he can simply forage for the fruits, game, fish, and edible vegetation which are so bountifully and solvently a part of Cuba. He can boil sea water for his salt. He can build a palm shack and raise a few self-fed pigs. Environment tends to make of rural Cuba a land of perpetual youth. Geography co-operates by making it a land of eternal spring.

With an area of about 44,000 square miles, Cuba is by all odds the largest island of the Caribbean and one of the most densely populated agrarian republics of this hemisphere. Population of the island, now about four million, continues to increase rapidly. Habana (according to Cuban linguistics neither the spelling nor the pronunciation "Havana" is permissible) is not only the capital of the Republic of Cuba but the unchallenged metropolis of the Caribbean.

The population of Habana is around 600,000—roughly one-sixth of all citizens of Cuba. It is a rather beautiful city, a strange merging of magnificence and poverty, of youth with great age, of flamboyant Broadway and old-time Spain. It is a city of broad highways and esplanades, of flower gardens and parks, and sidewalk cafés. It is a superlative seaport from which millions of tons of American shipping have put to sea. Habana is to Cuba somewhat as New York is to the United States: unchallengeably the biggest town, the most persistent of foreign quarters, the financial and merchandising bulwark and breastwork of the republic. But Habana is not Cuba, any more than Manhattan is the United States. Cuba is a land of serene and subtropical countrysides, of intensely green hills and verdant valleys and pleateaus. In the main its people are securely wedded to its farms and fields and villages. Habana is their mecca for occasional tours and memorable pilgrimages. It is the home of Cuba's government, which is housed in some of the most magnificent buildings in all the world; golden domes and imposing halls of

marble and granite; also Habana possesses an ocean front which is a scenic wonder of the Western world.

Habana has its New York style of night life, with night clubs and gambling casinos and a great stadium. But the night life is distinctly à la gringo, wherein one rubs elbows with the late-hour swank-and-hard caliber of New Yorkers; not with the dons of the island. North American gunmen tend roulette wheels and card stacks; blond dance teams from Chicago and Cicero deliver trite infinities of floor shows. New York drinks take on Cuban names, and drunken dames from Tudor City, escorted by specialty salesmen from White Plains, perform sodden parodies on the rumba. The Spanish accent is pitifully feeble, the Bronx accent is rancidly strong.

Fortunately this rather phony transplanting of Broadway and the lower Bronx is not all of Habana. Habana remains a great city in spite of it and in many respects and parts it is a city of exceptional beauty.

From North American standards it is also an old city. Habana is home of many great buildings. The Hotel National, the National Theater, the new Capitol, the Palace of the President, the House of Representatives, the Convent of San Francisco, the incomparable Morro Castle fronting the great harbor. There is also the charm of old and little-exploited side streets, of gracious suburbs, of ancient markets and flower-grown parks.

For these and other reasons Habana remains a distinguished Cuban resource. But Cuba has other cities well worth the traveler's acquaintance. Its oldest town, and the original capital of the island, is Santiago de Cuba, founded in 1514 (the first Habana, a rival settlement, was founded in 1519). Santiago is now about one-fourth the size of Habana, and the memorable port city on the extreme southern shore of the island.

Santiago is impressively an Old World town. It is the capital of Oriente, the great center of Cuban sugar and the largest province of the republic. Its hinterland is a green wilderness of mountains, which extend for two hundred miles along the south shore. Santiago Bay cuts sharply inland, to shape a narrow entrance in the

vast natural defense works of hills. The city of Santiago has risen on the northeasterly shore of this bay, about six miles from the bottleneck of an entranceway. The oldest town of Cuba nestles securely among protecting mountains.

Santiago de Cuba is one of the most tropical towns of the island. The label is not entirely accurate, since Cuba is not truly tropical. Rather it is an in-between island with an in-between climate; a land without real winter, and with medium rainfall, averaging between 45 and 60 inches a year; a long island (about 750 miles) and narrow (25 to 125 miles). But its principal axis lies from east to west rather than from north to south, which serves to minimize its range of climate.

Columbus discovered Cuba on his first voyage of 1492, claimed the island for the crown of Spain and named it Juana. In deliberate course that name was changed to Santiago, then to Ave Maria, and finally to Cuba—its original Indian name.

Spain early realized the strategic place of Cuba as a doorstep to the New World. In 1511 Diego Velasquez was appointed royal governor of the island, and in keeping with the best traditions of his time, Velasquez promptly opened war on the native Indians, particularly the Siboneys. Three years later Velasquez and a band of perhaps fifty Spanish colonizers proceeded to explore the island and to found the settlement of Santiago (first called Santiago de Compostela) on the readily defendable south shore. The site of the first settlement was an Indian village, and properly respectful of the aborigine's understanding of a country, Velasquez drove away the Indians and founded the first enduring town of Cuba.

By 1550 the settlement of Santiago had become an important center for copper mining. In 1580 it was almost destroyed by an earthquake. But within a quarter century the town had been rebuilt and for two and a half centuries thereafter, indeed, until the time of the Spanish-American War, it remained a principal stronghold for Spanish troops and royal supplies.

To a notable degree the history of Santiago is the history of all Cuba. The first city became the scene of early struggles for Cuban

independence. Previously it had been a rich quarry sought unsuccessfully by British, French, and Dutch buccaneers. In 1762 when Britain dispatched Lord Albemarle and his army to capture Cuba from Spain, Santiago de Cuba stood firm against invasion. But Habana fell and for a year all Cuba became a British possession, until it was restored to Spain by treaty.

Cuba's heroic struggle for independence covered a period of eighty-one years—from 1817 to 1898. These struggles were born and repeatedly frustrated in or near Santiago de Cuba. The first two revolutions took place in the outlying towns of Yara and Baire. José Martí, "Apostle of Cuban liberty," was a citizen of Santiago as was Cuba's great hero, Antonia Mereo. Other patriots, including Bartolomé Maso and Maximo Gomez, fought Spanish rule from the ancient stronghold. Santiago was headquarters and central arena for the Ten-Year War beginning in 1767, a principal field of action for the Revolution of 1895, and for the Spanish-American War, where the battle of near-by San Juan Hill saw the downfall of Spain's last holding in the New World, and the end of Spanish rule in Cuba.

When you visit Santiago de Cuba, citizens are eager to show you the sights of the town: the ancient cathedral, the narrow and picturesque streets, the "stairsteps of city," the historic avenues such as Saco and Estrada Palma, and Parque Cespedes, the ancient plaza of the town. More than four centuries ago Diego de Velasquez laid out this plaza and rested in its shade. For generations the old plaza has purveyed restful shade to the weary, rendezvous for talks of trade and business, for love-making and child tending, and during more recent eras for the rather picturesque institution of newsboys mounted on roller skates. On the north side of the plaza stands the Palace of the Governor and to the east is the Casa Grande Hotel, one of the oldest hostelries of this hemisphere.

Music still keeps a place in the life of the old plaza, concerts by brass bands, by sleepy-eyed guitar players and musical mendicants. There is repose from the deafening, nerve-racking roar of near-by sugar mills; from the placid commerce of shops and stores; from the toils of a comparatively busy harbor. Not far away are the re-

nowned battlegrounds of San Juan Hill, with their plenteous monuments and tablets written in exquisite Spanish, their modest acres of shrubs and bright flowers and green grass.

Also in Santiago there are remnants of blockhouses and abandoned forts, quiet streets of blue and pink and yellow houses, low and patioed structures roofed with bright red tile. All told, if you like Cuba it is well to know Santiago de Cuba.

But Cuba is first of all an agrarian republic. Sugar is the chief crop of the island. But the rich earth of Cuba offers other crops and resources. There are tremendous resources in minerals, more than 2,500 registered mines, which are producing gold, zinc, copper, lead, manganese, silver, and antimony. There are numerous deposits of sulphur, asbestos, and petroleum. There are vast beds of asphalt and bitumen which as yet have been little exploited.

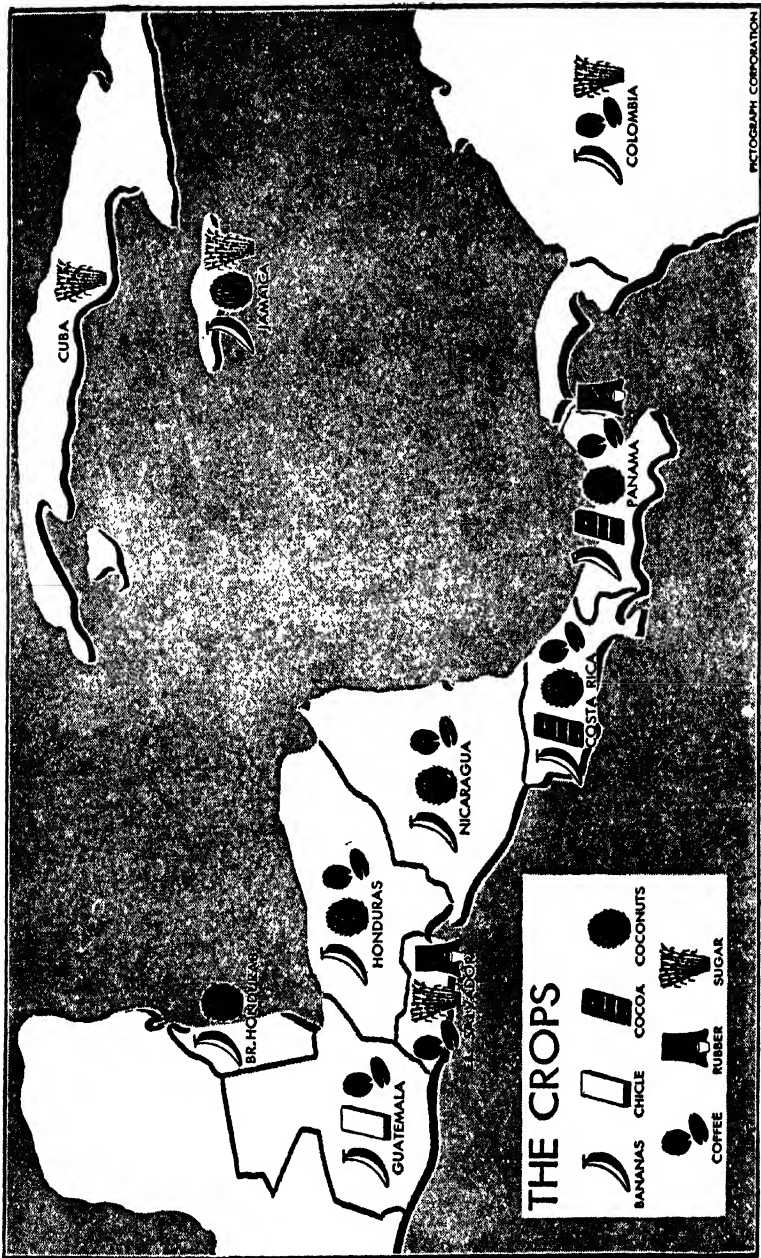
Cuba has no public domain. But there are still millions of acres of untenanted frontiers. There are enormous inland cattle ranches. There are newly planted cotton fields and orchards and vegetable farms. During the past five years Cuban truck gardening has taken a new lease on life, supplying thousands of tons of tomatoes, onions, potatoes, pineapples, papayas, and other fruits for markets of the United States. There remain the superlatively fine tobaccos of the "Vuelta Abajo." There are new enterprises in dairy farming. There are pottery shops and tileworks, shops and factories for the manufacture of shoes, paints, clothing, hardware, perfumes, and a lengthening list of other products.

But land is the essential life of Cuba, and sugar is Cuba's destiny crop. Perpetual plant growth and never-ending harvests are its ever-motivating news. This is pertinently true of Cuba; it is generally true of all Middle America.

It is impossible to know an agrarian nation, or a neighborhood of agrarian nations, unless one is generally acquainted with the decisive crops. Therefore the following section of this book deals with Middle American crops, current or potential harvests of eminent importance to Middle America as a whole, which takes life from the soil.

Part Two

THE CROPS



COFFEE

COFFEE is the largest and most far-scattered of all American orchard crops. Strangely enough, the tree is not American-born at all. It is native to Africa. From somewhere in that vast continent of darkish mysteries and scrambled geographies came this rather frail and beautiful white-flowering tree which now provides the greatest export crop of seven American republics and important harvests for ten others.

Though coffee was born of the Old World, the Americas now produce more than five-sixths of all that is consumed by man. And coffee has become the one and only orchard crop whose stand is counted in the *billions* of trees. Brazil's state of São Paulo alone is said to have approximately an even billion coffee trees now in bearing—which, according to available census estimates, is more bearing orchard trees than grow in all North America and all Europe combined.

Brazil, as we all know, is the world's foremost coffee producer, with more than 75,000 commercial plantations, at least one of which boasts an owned total of 8,000,000 trees in bearing. Colombia stands second, with at least a quarter billion producing trees. In Honduras, Mexico, Haiti, the Dominican Republic, and more particularly in Guatemala, Costa Rica, El Salvador, and Nicaragua, coffee keeps its place as a first commercial crop. In Cuba, Venezuela, Panama, and Peru and throughout West Indian highlands the economic and social importance of coffee continues to climb. In other countries, such as Paraguay and Bolivia, the agricultural importance of coffee

has recently tended to diminish and this is the case also in Chile and the Argentine.

But throughout Middle America as a whole, coffee dominions continue to gain acreage. Year after year export volumes have increased. And while Latin America has built its place as coffee supplier to the world at large, the United States alone now purchases annual imports totaling approximately 25,000,000 bags of American-grown coffee—roughly 10,000,000 bags, or 40 per cent, more coffee than we have ever consumed before.

These are enormous statistics dealing with an enormous subject. I hasten to confess that I am no "authority" on coffee. I have viewed the crop in various spaces and elevations of the Americas. I have watched apparently endless trainloads of coffee winding down narrow-gauge, steep-graded railways en route to the sea. By sleep-provoking hours I have watched literally mountains of brown and gray coffee bags being hoisted and sunk into the holds and hatches of ships. I have seen the vast orchards more or less snowbound with blossoms; the colorful armies of pickers invading groves where the trees are weighted low with red and pink-red berries; the caravans of oxcarts, pack mules, and trucks which haul the hand harvest to beneficios, or refineries; the sun-beaten yards and drying bins; the giant washing vats; the highly mechanized new-style beneficios where the berries are rid of pulp, skinned, sized, polished, dried, bagged, sorted, and graded. I have watched the sorting rooms where deft brown hands of thousands of women and girls sort and separate and "designate" perennial millions and billions of the dark and richly odorous "beans."

Coffee is an infinite sort of harvest, with an infinite variety of equipment, tools, and gadgets. Also an infinite range of problems, hues, and headaches. Coffee railroads, tramlines, overhead carriers, or "sky-buckets"; coffee water reservoirs, lakes, ponds, spillways, flumes, and canals which carry water now indispensable for coffee refining; the weary windings of irrigation ditches carrying more water, frequently from snow-topped mountains down into mountainside orchards of coffee; vast fincas, or *fanzedas*, considerably lost in mountainside mists; the languid-looking, bright green trees

which seem to drowse under tropical sun or hard-pounding rains or dense fogs sometimes colored with rainbows; graceful, dwarfish trees usually shaded with hardier and more luxuriant growths—banana plants, or plantains, or softwoods, or other shelter trees.

I am not sure just how a person goes about qualifying as a coffee "authority." The crop is not one to invite authority. It appears to have inherited and cherished the vagaries and whimseys and contradictions of ten million years of tropical life. At least to the layman's ears coffee talk seems a pleasant but absolutely meaningless babble of strange tongues. Great crops, as one can hardly help noting, are usually complex. But coffee rivals sugar in total attributes of complexity.

Coffee flourishes at sea level, or a mile or even a mile and a half above sea level. It grows in dozens of different types of soil, at an almost infinite variety of altitudes, in semidesert or in virtual jungle. It grows with shade and without shade; with fertilizers and without. Some hombres prune it one way and some another. Some hombres abandon it for other crops. Still more abandon other crops to make room for coffee.

Coffee ripens when and if it blazed well pleases. Even in the same locale harvest seasons vary widely from season to season. The same tree may bear a dozen or even two dozen types and grades of beans. A coffee bush is simply a coffee bush. But flavors, colors, and blends of commercial coffees are so varied that the consuming gringo has come to think of the product merely as a cup of hot and darkish liquid which he seeks in the morning and requests at noon and night, either to keep awake or to put himself to sleep, or just for the fun of it.

To this reporter techniques of coffee culture, pruning, harvesting, and refining seem about as varied as the reasons for coffee consumption. It's all a matter of place, time, and manners. It is a vast open-country industry without absolute rules or formulas; an old crop that is perpetually young; a non-American crop that has become a bona fide American institution, as varied as all the Americas and as incessantly interesting. After two intermittent years of roaming through coffee countries I desire to hazard one double-barreled cof-

fee platitude. The future of these Americas remains tremendously dependent upon coffee, and the destinies of American coffee now rest with the markets of the United States—the store shelves, sales counters, and market baskets of these *Estados Unidos*.

The first coffee paradox is one of genesis. It is an African crop. There seems to be rather general agreement among botanists that this bright green bushlike tree first grew in the roughly mountainous northeast shoulder of Africa, perhaps in Abyssinia. From there the plant was carried to Arabia and the Red Sea countries and thence by gradual stages to hot countries throughout the world, including seventeen American republics and more than a hundred islands and colonies of the New World.

According to Brazilian scholars, the first coffee seeds were introduced to the Amazon Basin in 1727. In Brazil that particular year is considered the authentic birth date of the American coffee industry. But the crop is said to have been brought to Brazil from earlier plantings in French Guiana and to have been carried from first planting in the Brazilian state of Pará to the Rio de Janeiro country by a Brazilian judge named Carillo Branco, during our own Revolutionary War.

Today Brazil's state of São Paulo is the greatest of all coffee-producing areas. This particular state covers about 110,000 square miles—about the area of Arizona or Nevada. São Paulo feeds directly into the port of Santos. It is principally a rolling plateau country, between 2,000 and 2,500 feet in altitude, watered by many rivers and carpeted with red-loam soils. It is a foremost industrial state of South America, a great railway center, and a billion-tree coffee center.

It is a young man's country, a great frontier coming into amazing prime. The coffee farms are called fazendas. Of the 40,000 coffee fazendas of São Paulo, William A. Reid,¹ writing for the Pan American Union, estimates that about 20,000 are owned by native Brazilians, 9,500 by Italians, 1,240 by Portuguese, 1,000 by Spaniards,

¹ Commodities of Commerce Series, No. 17, Pan American Union, Washington, D.C., 1936, p. 9.

500 by Germans, and several hundred others by people of various nationalities.

Perhaps this approximation of ownership is significant of the American coffee industry as a whole. It is a world crop that has attracted agrarian talent and capital from many nations—including the United States. But a large proportion of immigrant planters who now grow coffee in Latin America have become naturalized citizens of the countries in which they work and own properties.

It is also worth noticing that throughout most of the American centers of coffee growing, the era of coffee “kings” seems rather generally on the wane. Fortunes of coffee, even more than those of other crops, vary with the years and the seasons. During the first World War and the years immediately following, coffee incomes approached an all-time high. In São Paulo single plantations were netting a million dollars a year and more. In the highlands of Central America, in the great Colombian coffee belt, in Mexico and other parts of Middle America coffee wealth was accumulated in spectacular plenty.

There arose the blue-blood traditions of “coffee aristocracy” which spent most of its time in European capitals and swank Mediterranean watering places; of coffee profits which touched \$1,000 an acre and more; single harvests which sold for enough money to buy an entire plantation, with a barrelful of change besides.

Such chronicles of quick wealth from a bounteous earth are sometimes accurate. Frequently they are true in part. . . . But the stories incline toward exaggeration. So it has been, to a large extent, with the great industry of coffee. To consider the crop even casually it is well to understand something of the premier social and economic obligations of coffee.

First off, the crop requires an exceptional amount of year-around, resident labor. Rapid mechanization of the past quarter century has drastically revised the techniques of refining and transportation. But the actual production of the crop, nursery work, planting, pruning, weeding, and picking, as well as various stages of the processing, requires an enormous amount of painstaking, methodical hand labor. Thus the plantation, finca or fazenda, of coffee requires its

community of workers who must live on the land while working there.

The coffee plantation is usually a community with all the problems and obligations of community life. As a rule, the plantation must provide *barracones*, or houses, for the workers and their families. Besides wages and quarters and credit it must provide its workers necessary livestock and implements, stores and commissaries, frequently schools, churches, and hospitals; sometimes telephone systems, power plants, water and sewerage systems and various other public services on private property.

For a century or more the basic obligations of the coffee planter have remained heavy. Under burdening responsibilities it is human nature and routine history that some proprietors fail in some, or all, of their obligations. From the instances of failure have arisen the traditions and lores of coffee injustices: isolated wage rates which have been known to put coolie standards to shame; of *fincas* which continued to pay workmen from 5 to 8 cents per day even during a time when certain coffee lands were netting \$500 to \$1,000 per acre a year; of the plague of peonage, whereby uncounted thousands of coffee workers were bound hopelessly by debt and whereby a worker might toil his life away paying off some trivial debt incurred by his grandfather or his great-uncle Juan.

One still hears protests of coffee peonage, of families and generations of workers who have no chance to become literate, or to learn or follow other trades; of habituated collusion and intrigues waged by owners and inheritors of coffee properties; of meddling *patrones* who dominate the broods of peons, pat them on the head when they are good, whip them when they are bad, christen them when they are born, and bury them when they are dead, always at a profit to themselves.

Fortunately the majority of these stories are dated in past time. Unfortunately at least a few still prevail. But the fact stands undeniable that in many ways the present era of coffee agriculture is vastly more enlightened than its predecessors. As the problems of coffee production mount, the ethics of coffee production also rise. It is not easy to quote specific figures on coffee wages. But it is a valid

generality that the past fifteen years, repeatedly marked by slippings, slidings and virtual collapses of coffee prices, have seen a consistent improvement in coffee wages and in living standards of coffee workers.

In several American republics national laws and national governments now come to the aid of coffee worker and planter alike. One of the most enlightened and progressive chapters in the history of coffee legislation has been the pronunciamientos of General Jorge Ubico, distinguished president of Guatemala, whose administration has formally and finally ended peonage and landed indebtedness within that republic, prohibiting advances of wages for the purpose of holding the individual and thus dictating his work and future establishment. Other American republics of the great coffee arenas have comparable laws. Still others are in process of enacting them.

A competent discussion of current coffee legislation, like today's story of coffee brokerage and coffee transportation, could well fill a long shelf of books. But the widespread truth can here be noted, in briefest space, that even as coffee acreages, competition, and market loads grow greater, and as coffee price ranges continue to fall, coffee wages and living conditions of coffee workers tend to improve throughout all the Americas.

There emerges a new and distinctly enlightened tradition of coffee proprietorship. The story of the self-made planter climbs more and more into evidence. It is the recurring American success story; the poor youth who learns one or more of the trades of coffee, masters organization and routines, observes and enforces improvements thereof, and gradually climbs to the place of owner and director.

Don Antonio Rameriz of near San Antonio, in rich western Guatemala, typifies this transition. Don Antonio is son of a farmer who worked his way into ownership of land. But Don Antonio himself learned to work without benefit of land. In earlier years, when his father decided to send him to the United States for schooling, Don Tony proceeded to Philadelphia and other gringo havens and mastered our language and our business precedences, not in sheltered schools but in hard work, as holder of various and some-

times menial jobs. When he returned to Guatemala with what he believed the real and worth-while American education, he proceeded to apply this learning by buckling down to work on his father's farm. He traded gentleman's clothes for shorts, straw sombrero, and machete and went out into the fields to toil as a laborer. He likes work, and he remains convinced that any agriculture improves not so much by way of the bank or the swivel-chair theorist, as by the man who toils in the fields.

Don Antonio proceeded to learn at first hand how coffee and other great crops of his country are grown, also the habits, viewpoints and working ways of the plain citizens who till and harvest the crops. Thus gradually and with painstaking experiment he began to improve and extend the finca; to bring about an increase of yields, to improve cultivation, to install and operate a more efficient beneficio for processing and curing his coffee crop.

Don Antonio has prospered. His finca has grown into one of the finest in all Central America. His yields of coffee and bananas can compare favorably with any grown in the hemisphere. And he continues to find tremendous happiness in his work. Sometimes he plays an amiable little game with passing visitors. The calling caballero notices the well-tended fields where men are invariably at work. He inquires of a sombreroed machete-swinging individual the whereabouts of the boss. The man directs the caller to the plantation house. While the newcomer drives up the steep, sunny hillside, Don Antonio leaves the fields, takes a shortcut to the back door of his house, momentarily shelves his machete and sombrero, combs his hair and welcomes the guest with punctilious Castilian hospitality.

It is my own belief that Don Antonio personifies and typifies the new school of Pan-American agriculture; the finca proprietor who knows his business with thoroughness, who knows the views and will of workers as well as of proprietor, investor, and buyer. It seems to me that newer destinies of coffee are being shaped by hundreds and thousands of his kind.

It is altogether fortunate that coffee leadership continues to gain strength. For coffee times remain turbulent. It is no longer a trade

for the effete aristocrat. It is a master game for Americans who can work, plan and carry on, even in the face of a hard-swatting, fickle, and frequently treacherous international economy.

The actual agriculture of coffee is anything but easy. Cultivation demands railroads, highways, vast amounts of drainage or irrigation (in some cases both drainage and irrigation for the same land), painstaking planting and laborious, persistent tending. The propagation is usually by seedlings. When the seedling plants are about a year old, or several inches high, they are transplanted to the fields where several are placed in each hill. The hills are usually aligned in rows, ten to fifteen feet apart. Young plants, as a rule, must be shaded. During the first four or five years of cultivation, weakling plants are removed and the surviving stand is kept free of weeds and grass.

Young orchards usually come into bearing within five years with a productive life of from ten to forty years, depending on the type of soil, amount of rainfall, quality of cultivation, and many other factors. The tree is outstandingly graceful, usually ten or twelve feet high at maturity, with long bright green leaves, and branches crowded with berries during most of the year. Commercial coffee is the berry or seed "bean," which is heavily encased in a cherrylike pulp. In ripening the fruit changes from green to yellow and finally to red. The ripening, which is highly variable, occurs principally during the dry season; though autumn, or the final quarter of the year, brings out the main harvest from Middle American coffee lands. A pound of dry bean to the tree is a fair average yield, though in some areas the average is two or three pounds, with record yields of five and six. A probable majority of the entire American coffee crop is grown on comparatively small farms—of 250 acres or less. Brazil and Colombia have most of the large plantations, while coffee of the Central American highlands comes preponderantly from smaller farms mostly privately owned.

Variation in coffee culture is incessant. Where labor is comparatively plentiful, and where grade standards are high, the berries are picked from the tree by hand into bags or baskets. Brazilian coffee

is frequently harvested by "sheet stripping," spreading large cloths on the ground beneath the trees, then stripping off all berries and letting them fall onto the sheets. Such a harvest is called *panno*; the *verreduras*, or "sweepings," are the berries picked up from the ground. After picking comes washing, which separates the ripe berries (heavier than water), leaving the lighter immature fruit to float. Finished with the washing sluices, berries go to drying flats, and on and on through the complex and laborious routine of refining until finally the shiny cured beans go into standard bags weighing 132 pounds, or 60 kilos, and so to markets throughout the world.

Most treatises on coffee have a Brazilian setting, which is not surprising in view of the fact that the Brazilian crop is now the largest in the world. But as we have already noted, sixteen other American nations produce coffee in commercial volume. In Colombia fertile slopes of the three great mountain ranges and farther valleys of the Cauca and Magdalena Rivers have become world-renowned headquarters for dark mild coffees. Colombia's departments of Caldas and Antioquia grow almost half of the nation's crop, but various Colombian cities are preponderantly coffee towns. In Colombia coffee is harvested every month of the year. In the northern provinces the heavy crop ripens in late summer; in the south, during the drier season between April and July. But in all sections there is also the *traviesa*, or between-season pickings. So Colombian roads and trails are crowded with coffee and her great rivers carry unending flotillas of coffee-laden boats.

Colombian coffee has become a vast and expert subject. The product is named according to locales where it is grown, i.e., Bogotá, Cúcuta, Medellín, etc., and each place brand is variously subdivided into market brands such as Excelso, Primero, Segundo. Percentages of "Excelsos," or highest grade, are surprisingly high; in some sections as much as three-fourths of the entire yield. More than 35,000 coffeegrowers of the republic are now members of the Colombian National Congress of Coffee Growers, which has grown to be an outstanding producers' organization, and an active force in coffee selling.

There are abundant rivalries, many of them stimulative and constructive, between countries and sections of this vast arena of American coffee lands. Various areas prove drastic difference in coffee flavors, colors, uses, and market destinations. There are broad differences of grades, shapes, flavors, and processing of coffees, even within the same area or the same orchard or, indeed, the same tree. Coffee grading, a science in itself, rests substantially on taste preferences of different peoples in different parts of the world. Primary outlet for Brazilian and Colombian coffee has long been the United States. But Bolivian coffees, called the family of Yungas, find principal markets in neighboring countries of South America, particularly Chile. Similarly coffee grown in Ecuador is marketed principally in Peru and Chile.

Cuban coffee, which has only recently grown into a substantial industry, has increased primarily from home demand. As recently as 1920 Cuba was among the important importers of coffee. Today Cuban coffee holdings, estimated as fifty million trees and most of them just now coming into bearing, not only supply home demands but provide a surplus for export. There is a kind of poetic justice in this fact. Without doubt, Cuba is the greatest sugar-producing nation in the world. And for more than a century the world markets for sugar have tended to follow world markets for coffee—inveterate ally of the sugar bowl. But somehow Cuba's original coffee industry had shrunk as her sugar industry climbed to world leadership. Today there is reason to believe that the "twin crops" will again thrive together.

Coffee of Hispaniola, that rather amazing Caribbean island which includes Haiti and the Dominican Republic, has grown to greatness on the strength of import demands of France. Hispaniola, incidentally, is one of the oldest of American coffee territories. It is made up of small farms tended principally by hand. Island production, which now totals around nine million bags for the two countries, continues a slow but persistent expansion at the rate of about one per cent a year. Duly blended with chicory and other ingredients, Hispaniolan coffee is a base for various well-known

French coffees and for breakfast brews of Louisiana and other parts of our own South.

Mexican coffee is principally for domestic consumption and for export to the United States. It is an unusually hardy bush with a growing range which includes sixteen states of that republic, the heaviest yields coming from Veracruz and Chiapas. The annual crop is about 650,000 bags, most of it grown on garden-sized farms of five or ten acres, each tended principally or entirely with home labor. The Mexican coffee acreage is not particularly large. According to the Ministry of National Economy, total coffee planting of all Mexico is about 83,000 hectares or roughly 200,000 acres, which, actually, is not so large as one "super" fazenda in São Paulo, Brazil. But Mexico's coffee, grown on more than 20,000 garden-sized farms or fincas, aptly demonstrates the surprising versatility of the crop. Producing areas are comparatively small and far-scattered, ranging from sea level to altitudes of 9,000 feet or more, from the flat shorelands of Veracruz to the high west slopes of the Sierra Madres in Chiapas and to the cloud-littered brim of the great volcanoes.

I do not know Mexico well. But at various times I have been amiably impressed by the jovial informality of the Mexican coffee crop. It appears to be a glorified family trade somewhat bespangled with gala and magnificent occasions. Independently grown, in the main, the crop is also independently sold. The pickers are of all possible ages, wearing costumes that would put to shame the most ambitious of Hollywood fantasias in technicolor. They come down from the hillsides with baskets and trays piled high with the ripe red berries, which they sell directly to *beneficios* or brokers and straightway spend the earnings for refreshments purchased from the inveterate peddlers who vend strong drinks, sweet drinks, peppery foods, bright beads, serapes, *sombreros*, silverware, and sandals—all from the same brightly colored hampers. At one time or another I have seen a great many different kinds of stores—in buildings of every imaginable architecture and size, in tents, in private homes, palm-thatched huts, prison corrals, subway stations, in ships,

automobiles and trucks. But nowhere except in Mexican coffee harvests have I seen stores kept in baskets.

Rightly or otherwise, Mexican coffeegrowing impresses me as a rather temperate and extremely amiable fiesta. In Colombia and Brazil it is a huge and skilled industry. In a country such as Paraguay it is an incidental experiment in which the general public does not seem particularly interested. In Peru it is a "specialty crop," carefully studied and diligently tended, but apparently grown for a specific market or a particular caterer, a small crop that is outstandingly good and as versatile as the "premium demands" it usually succeeds in meeting.

In Venezuela I acquired still another estimate of the coffee business. Here coffee is the chief crop of the country, a great crop introduced by a missionary priest in Spanish exploration days and gradually adapted to local climates and needs. Venezuelan fincas are carefully placed in high valleys and on sheltered hillsides, where soil, rainfall, and sunlight combine to produce particular grades and "specialties," including a renowned "blue" coffee.

Venezuela takes third place in American coffee production with an annual harvest ranging from 800,000 to 850,000 bags. But the country is big and frontierish, and coffee, though a major crop, is actually a minor work. Like other nations of America, Venezuela is a country little molested by unemployment, a country where a WPA would be as unnecessary as a fifth leg on a race horse. But giant petroleum resources continue to lure farmers and farm families away from fincas. Coffeegrowers must vie for labor in competition with petroleum grabbers, an extremely difficult feat in view of prevalent price levels for coffee. Yet somehow even in this "petroleum storehouse of the world" the coffee industry survives, which is proof extraordinary of the astonishing economic virility of the greatest of orchard crops.

Such proof is by no means the exclusive property of Venezuela or any one coffeegrowing nation. The American saga of coffee has also shaped itself into a significant chronicle of labor and labor relations. Coffee is still preponderantly a hand-labor crop. It provides profitable use for the work energies of the entire family. Tractors

and tractive equipment can be used in preparing the fields and for facilitating irrigation and drainage. But actual planting, cultivation, and harvest are dominantly by hand.

Coffeegrowing is even more laborious than cottongrowing and definitely less adapted to use of machinery. Though the industry of coffee has entered an age of great mechanization in terms of final processing, though the modern beneficio and the modern grinding and blending plant have great batteries of machines, many of them extremely complex and costly, the actual field cultivation, pruning, picking, and first curings have not yet been effectively solved or even convincingly approached by machinery.

It is not that coffeegrowers cannot afford such machinery or that coffee associations would not be highly co-operative in promoting its manufacture and use. It is simply that mortal ingenuity has not yet succeeded in adapting machinery to a great portion of the work of coffeegrowing. In coffee there is no counterpart to the place of the mechanical combine for harvesting and threshing wheat; or tractor cultivators and tractor harvesters for growing corn; or automatic harvesters for cotton; or modern Diesel-powered spray plants, the giant draglines, the mechanized irrigation, and numerous other mechanics which make possible the modern banana industry.

Reasons are essentially botanical. By nature coffee is a crop of tremendous individualism. Its respective stages of production are evasive to absolute planning and mechanical routines. The idea of a machine to hoe or prune coffee bush or to pick the enchanting red berries is still rather fantastic. Certain portions of the curing, drying, sizing, and grading can be and have been mechanized. But even when the crop has been picked there is still need for slow days and weeks of handwork: raking, stirring, piling, and covering the berries at night, sizing and sorting the unavoidable portions of the crop which defy the most ingenious of mechanical sizers and sorters.

So obligations of coffee include an ever-growing demand for labor, which must be bought under ever-sharper competition in the labor market; higher wages for workers despite declining world prices for coffee; more and better facilities for providing schooling, health services, and desirable homes for the hundreds of thousands

of American workers whose services are essential to the life and furtherance of this great and colorful agriculture.

Personal preference for a particular coffee land can be as variable as personal preference for coffee brands and blends. But it is my own belief that coffee culture of mainland Central America is second to none in agrarian interest or, as the serious thinkers say, in "social significance."

In Guatemala, El Salvador, Nicaragua, and Costa Rica coffee is the leading crop and chief export. In Honduras and Panama it is also a significant crop with widespread bearing on national prosperity. In respective chapters dealing with these republics mention has already been made of the "key crop," its development and current growth.

But Central America can also be considered an essential unit of American coffee lands. Widespread Central American highlands, plateaus, and mountainsides hold dozens of world-renowned centers for premium-flavor coffees, which figure prominently in beverage markets not only of the United States but in England and in much of Europe (during the precious intervals when Europe is not at war). Prior to the present World War the majority of Costa Rican coffee was exported to England. For a hundred years, or more, London has remained the destination for many fine grades and blends of coffee and for a century Costan Rican "bean" has been a London favorite. Until a decade or so ago most of the Nicaraguan crop, of 200,000 bags or more, found markets in France, with the remainder going to Germany. Today the majority of Nicaraguan coffee, as indeed of all other Western Hemisphere coffees, comes to the United States.

With an average yield of nearly three-quarters of a million bags per year, Guatemala ranks first among all Central American countries and intermittently takes third or fourth place in coffee volume among all American republics. The foothills of the western and northern parts of the colorful republic and the sides of various of the higher mountains have long been Guatemalan centers for

coffees, which through the years have maintained outstanding popularity on the markets of the United States, Germany, Holland, Sweden, Norway, and Spain. By cartload, trainload, and shipload this great harvest continues to go to market, from high orchards of Quezaltenango, Alta Verapaz, San Marcos, and other states, and from the tropical ports of San José, Champerico, and Puerto Barrios.

As in other Central American areas, Guatemalan soils and climate are approximately ideal for coffee—rich loams reinforced by volcanic ash, uniform rain, superb drainage, long and open harvest seasons. Costa Rica, where production now ranges from 300,000 to 400,000 bags per year, holds closely comparable advantages of land and climate and produces quality coffee second to none.

The coffee industry of Panama has been the last to gain headway and is still the smallest of continental central America. It includes only a few thousand acres, but the volume has increased from about 8,000 bags in 1930 to 30,000 in 1940, approximately one-third of which is consumed at home. Most of the harvest is from high country, at altitudes of 3,500 to 6,000 feet, particularly in the Boquete region in the southwest highlands. As you continue south in Central America you notice that harvest seasons for coffee grow progressively later—November, December, and January in Costa Rica; December, January, and February in Panama.

The feat of writing a competent story of coffee is one of the most difficult in all expository journalism. To the best of my knowledge it has never yet been accomplished. For the story of coffee is a vast and changing river of news, problems of tillage, problems of marketing, processing, and labor; of fast-changing markets and facilities; of an old trade which for these reasons and others is forever new. Today the coffee picture is somewhat dark. It has been dark many times before, yet coffee remains the greatest export crop and the greatest employment crop of Middle America. Somehow it must endure.

12

BANANAS

BANANAS, one of man's oldest cultivated crops, now becomes man's most highly modernized agriculture. Long rated as grubstake for the tropical tramp, the banana awakes to find itself the speediest and most highly mechanized of all major harvests, a harvest which marks the ultimate wedding and welding of agriculture with transportation, requires an average outfitting of about two tons of machinery and equipment per producing acre plus more man-hours of labor to the acre than any other principal crop of the modern world.

Even in the languorous tropics manna is no longer to be had for the easy taking. "Banana gold" can no longer be lifted from luxuriant earth without huge investments of toil, sweat, and cash. New and colossal mechanization of banana lands vociferously defies the credo that new machines must inevitably rob men of jobs. Actually it almost doubles requirements for human labor, quadruples tropical wage scales, calls for about 250 different trades and professions, and remakes Central America's "Banana Republics" into Elysiums of employment where there are frequently more jobs than men to fill them.

The banana changes from a jungle crop to an international industry wherein agriculture and transportation are welded into one. It has become a cash crop which pays Middle American governments more than \$10,000,000 a year in direct revenues, hands at least \$40,000,000 in cash wages to some 140,000 national citizens who are employed in the banana industry, another \$40,000,000 for general merchandise and properties incidental to banana production, and

many millions more in direct purchase of the fruit from citizen planters. Yet only a minor part of the total productive expenditures in banana lands are agricultural.

Banana shipments help materially to maintain and operate much of the railroad mileage of the American tropics and most of the highways, bridges, levees, and drainage systems of Central America.

New Latin-American social laws requiring that major plantations provide and support public schools for employees resulted in hundreds of new banana-kept schools from Guatemala through Colombia. Banana companies are introducing playgrounds, recreation centers, and native clubs into jungle backwoods. Modern banana operations open with the building of field hospitals and medical dispensaries, mosquito-control work, jungle drainage, and wholesale vaccination and medication of native citizens. Nowadays preliminary soil tests for proposed banana plantings make Central American banana lands leaders in accredited soil surveys.

Water chemists set about locating the essential supply of dependable drinking water. "Explorers," or jungle engineers, frequently graduates of United States technical schools, then slip into high rubber boots and wade out into swampy wildernesses long shunned by natives, and plot future fields, bridges, culverts, levees, and irrigation canals. Jungle-busting railroad men, usually led by rough hard-cussing road masters from the United States, then charge into the wilderness with formidable assistance of "dullozers" or caterpillar-mounted "draglines," which slosh and roar as they upset trees, straddle giant logs and wallow through seas of mud to scoop drainage canals and lay railroad grades. Track crews place crossties and rails on jungle mud, then ballast roadbeds and perfect grades as time and convenience may later allow. In the beginning there can be neither time nor convenience. Materials must get in before bananas can get out. Rails laid one day frequently carry trains the next.

Camp builders, often native carpenters, then raise work camps and towns in the wilderness, elaborately bracing every structure to make it earthquake proof. Machine shops, power plants, commis-

saries, and retail stores must be completed and in operation before planting time.

Banana planting happily defies all horticultural precedence. Farm crews clear the underbrush from the jungle and bury the bulbous roots in rows of shallow holes, spaced fourteen to eighteen feet apart. Then timber crews attack the jungle forests with axes, slash all timber and vegetation, leaving them to rot and further enrich the soil. All told, the banana game is one of first frontiers. In a sense it is a glorified and superpictorial version of our own rough-and-tumble agrarian West of a century ago. It flaunts apparent extravagances, slays and sometimes wastes timber by uncounted billions of feet, shouts loudly, spits and cusses, and changes machete-swinging mozos, aristocratic professionals, beachcombers, tropical tramps and venturesome North Americans to companion jungle busters, democrats of an incredible world wherein yesterday plunges into tomorrow.

But the crop of supreme paradoxes shapes paradoxical frontiers. Banana lands, not free for the taking, are fantastically expensive in money and toil. Banana harvests blandly contradict innumerable credos of botany, philosophy, pathology, economics, and mathematics.

The banana's "scientific name" is *Musa sapientum*—fruit of the wise men. The Koran calls it the Tree of Paradise. But the banana doesn't grow on a tree. It is the harvest of the largest terrestrial plants completely lacking a woody stem; a semibulbous plant with a leaf structure somewhat similar to that of the ordinary garden canna; the true stem, or rhizome, is underground.

It is a harvest that grows upside down, since the weight of the heavy cluster soon points the bearing stem toward the ground. It is a crop that cannot be ripened successfully on the plant. Hollywood to the contrary, there is no epicurean joy about plucking ripe bananas direct from the bush. The harvest must be cut green, since in final processes of plant ripening natural flavor is destroyed and the "fingers," or individual bananas, split, exposing the edible pulp to insects and decay.

American republics of Guatemala, Honduras, Costa Rica, Pan-

ama, Colombia, and Mexico, and Britain's crown colony of Jamaica, are now the commercial banana centers of the world. But the real homeland of the crop is completely around the globe from these points, in Southern Asia, most likely in the hot wet valleys of India, where Alexander the Great encountered the crop during his conquests and described it as a crop whose seed was even then completely sterile. Having underwritten numerous dynasties and civilizations of Asia and the Orient, the non-American banana, carried to the New World in 1516 by a Spanish missionary priest, now contributes to the national economies of about a third of all American republics.

The name "banana" is neither Asiatic nor American. It is taken from a Negro dialect once current along the Guinea Coast of Africa where the plant was reputedly carried via dried-root trade from India. That lowland India was botanical home of the banana is borne out by sculptures and friezes to be seen on the walls of the Stupa of Barhut, a Buddhist monument of lower India presumably built about 175 B.C. This is probably the oldest-known representation of the fruit. But references to bananas appear frequently in Chinese writings of the Tang dynasty which were contemporary with the Early Christian Era. Chinese physicians brewed medicines from the roots of the plant; the fruit was considered a precious food and tonic, and stalk fibers were used for weaving mats.

It is probable that by the beginning of the Christian Era, banana roots were a well-established commerce of the Polynesians, having been carried by primitive ocean craft from Malayan coasts and Indonesia throughout the South Sea Islands and even to the mainland of northeast Australia. Thus the banana circled the equator and became perhaps the nearest universal fruit of tropical man.

In 1698 Thomas Gage, soldier of fortune, commented in his report, *A New Survey of the West Indies*: ". . . our chief care . . . was to look to our bananas . . . The fruit pleased us all exceedingly, judging it to be as good or better as any fruit in Spain. It is not gathered ripe from the trees; but being gathered green, it is

hung up some days, and so ripens and grows yellow and mellow, and every bit as sweet as honey . . .”

Writing from Cairo, Egypt, in 1831, to his sister Sarah in England, the ever-cautious Disraeli said, “. . . the most delicious thing in the world is a banana.”

A few decades later the journals of Livingstone and Stanley tell how for almost two years Stanley and the white men of his expedition lived largely on banana flour cooked into thin gruel. For centuries there has been voluminous testimony of the banana's importance as food for tropical man and beast. It is one of the few crops to become a staff of life for man and beast alike. Fed green to livestock, the banana approximates the nutritive worth of grass and grain since starch and mineral content of the unripened pulp compare with those of grain, while the green skins are a valuable source of chlorophyll. Livestock economy of many tropical lands is considerably dependent on bananas.

But it was not until the middle of the nineteenth century that business minds began to realize the possibilities of bananas as a food for peoples of temperate zones. Now that these possibilities are at last being realized, the banana awakens to new and momentous social and political significances. Half a billion dollars of United States capital are invested in its production. The peace and stability of at least six American republics, whose revenues and institutions are substantially shaped by bananas, stamp the Monroe Doctrine with a figurative watermark of bananas.

For today the banana is the greatest of all export fruits, a premier American business card in international trade and the one American export crop whose volume and consumption range is rapidly growing during a decade of embattled nationalism. This is another paradox with yellow skin.

Not content with exploding numerous gospels of botany, transportation, and foreign trade or the bizarre feat of hoisting a once lowly agriculture to an international post in shipping, government, and social institutions, the unique banana now begins to devise a distinctive trade arithmetic.

Though banana production costs per acre have approximately

doubled during the past twenty years, United States retail indices for bananas are about innately one-half their 1920 level for a fruit which requires refrigerated or controlled temperature for shipment averaging about 3,000 miles from harvest place.

In practice the banana industry of today becomes a three-continent denial of the highly contagious credo that an economy of scarcity is indispensable and that crop surpluses destroy markets. The banana is a crop of inevitable surpluses. And it is a perpetual harvest. On the modern banana plantation routines of planting and pruning are such that the fruit can be cut for market every week and virtually every calendar day of the year. A hill, or "stool," comes into bearing within twelve months after planting, and one stool frequently produces about two bunches a year for as many as twenty-five or thirty consecutive years.

Also, the banana is one of the few major food crops of the world which remain virgin to government pegs or subsidies or political experiments in acreage limitation or market quotas. Yet its significance as an intercontinent trade leader continues to grow and the once humble *Musa* continues to pay more revenue into more public treasuries than any other food crop. That is why banana abandonment is the worst nightmare of the warmer Americas and why the phrase "banana republic" was never more pertinent than it is today.

The march of the *Musa* is inevitably forward. For with astonishing speed the new banana age has changed tens of thousands of unskilled workers of Central America to skilled craftsmen or to professionals—railroad crewmen, carpenters, plumbers, Diesel and auto mechanics, metal welders, schoolteachers, physicians, pharmacists, nurses. No crystal gazers are required to predict that banana-made living standards will not give way docilely to a return to jungle subsistence.

In terms of the American tropics, the banana business has grown too big to die or even to loiter. Since scattered shipments of red bananas first found their way into United States ports some ninety years ago, the banana trade has known lusty and rapid growth. Even during these dark and querulous times when most export

crops are waning, while most international trade is floundering, American banana production holds doggedly to grounds already gained while reaching avidly for new.

Formerly a here-and-there crop rarely supported more than five or ten years by the same soil, today's banana plantings anticipate permanence. Costlier mechanization, fertilizing, drainage, harvesting and tillage methods provide the industry a new strength of anchorage. New-style banana irrigation is a significant phase of this anchorage. Banana land is traditionally country of heavy rainfall. For thousands of years Eastern banana culture has kept with moist wetlands and about three-fourths of all American banana lands are in heavy rainfall zones.

But wet country is no longer wet enough for new modes in banana growing. Already in widespread use throughout western Guatemala and in portions of Honduras, the new-style banana irrigation consists of linked series of 25-foot metal towers fed by Diesel-driven pumps from artesian wells, rivers, or canals. Each tower is topped by a patent "riser" rotated by a water-pressure motor to throw a fire-hydrant type of spray over about three acres of planting for the equivalent of two inches of rainfall every week.

Such irrigation requires an additional ton of metal pipe to the acre, keeps bright rainbows above the dark-green wonderlands of bananas, and consummates the most advanced irrigation applied to any major crop.

But the very phenomenon of banana stability is a paradox. The crop must be increasingly stationary. Yet the new banana industry must avoid too great concentration of acreage and it must keep moving to new strongholds and reserves. Banana losses from hurricanes, floods, and "blowdowns" average between 12 and 20 per cent of commercial harvests. When plantings are grouped in one concentrated area a single hurricane or flood can wipe out an entire crop and thus tumble any planter or dealer into bankruptcy. This has happened time and time again. Surviving banana firms now must spread their holdings and operations over trading fronts geographically bigger than the destructive swath of any one hurricane

or flood, thus assuring a market supply of bananas even though average shipping distances and production costs be doubled.

Thus in much of Central America new banana "operations" are jumping the inland mountains to claim rich wilderness lands along the still primitive Pacific coast. Here new banana railroads crowd through little-known jungles to meet arms of the sea which have never before been met by ships or rail. There are few natural seaports along Central America's Pacific coast and the new race of the bananas has seen recent completion of three man-built Pacific ports: at Armuelles, western Panama, where the Chiriquí Land Company has opened a new division of about 25,000 prize banana acres; at Quepos Point, western Costa Rica, where the Compañía Bananera de Costa Rica has lately changed a mountainous land's end to a deep-water seaport and a model banana headquarters colony; and at Golfito, also on the Pacific coast of Costa Rica, where the same company now opens to world traffic a still larger port. During 1939, a jungle railroad pushed through to link Quepos with a new and streamlined banana center at Parita. In western Guatemala, about Tiquisate, the Compañía Agrícola de Guatemala completes one of the greatest of all banana centers in new volcanic-ash soil, railroading the fruit across Guatemala's central mountains to Puerto Barrios, now the greatest of Caribbean banana ports. This is the longest green-fruit haul in the banana world and one of the most amazing attainments in transportation within the tropics.

On all fronts the banana race grows faster. Contrary to the best fiction formulas of tropical languor, the banana business now changes from a habitual stubborn dogtrot to a sprint. Haste in hot country is the most continuous of banana paradoxes.

The harvest cannot be stored. The day, preferably the hour, it is reaped must see the green fruit on its way to market. Shipping orders are radioed and telephoned to farm overseers before the banana ship calls at port. Then starting at dawn cutting crews lead pack mules into the closely crowded fields, notch the soft porous stalks to "break" the fall of the heavy bunches, then whack off the fruit stems with machetes, load the bright green stems on insulated mule packs and carry the harvest to midget tramcars which haul it

to loading "spots." Sometimes the harvest starts to market on padded shoulders. In negroid Jamaica it is toted on bare, deft heads. On the Cia Agricola's 18,000-acre banana plantation at Tiquisate all fruit is taken from the fields in tractor-drawn carts.

At the loading spots the stems are culled, and packed in railway cars heavily insulated with dry banana leaves or patented blankets for the fast haul to seaport. Even slight bruises change possible banana profits to certain losses.

Banana trains roar into shipping yards where miniature armies of tropics-model stevedores lift the fruit tenderly from the padded cars, hoist the stems to padded shoulders, and under the tense gaze of inspectors lay them into canvas "pocket conveyors" which carry the stems into refrigerated hatches where storage crews stack the fruit in compact tiers, after checkers with automatic recording meters have counted the cargo. Twelve hours is average loading time for a 50,000-stem ship.

Aboard ship and until final delivery the bananas must be kept at accurately controlled temperature and humidity, for the fruit must still be green when reaching final port after an ocean haul of five to eighteen days. From seaboard the green stems must be distributed rapidly by fan-ventilated and temperature-controlled freight cars or vans, under supervision of "messengers," expert handlers. Nowadays banana wholesalers and jobbers keep specially built ripening rooms in which banana color changes from green to yellow at about 64 degrees Fahrenheit. After three to ten days in ripening rooms the clusters, or "hands," are cut from the stalk and packed in cartons or boxes for distribution to retailers. The picturesque institution of the bunch of bananas swung behind the store counter rapidly draws to an end.

The banana race speeds on. Its sweepstakes are more promising than ever before—unquestioned American control of the greatest of export fruits and an unmeltable stake in the perennial poker game of international trade.

13

OLD COCO

IN A hillside village of western Guatemala Al and I were looking for something to eat. There is no restaurant in this particular village and no hotel. If there were, we probably would not have had the price of admission. But since there are none, and no general store, we foraged in the manner of roving ruralists dropped a hundred miles from a coffeeshop.

The village has no formal accommodations. But it does have the traditional tropical peddlers, Indian girls and women who assemble from near-by mountainsides to celebrate the arrival of the daily train and to peddle. And among other things, they peddle food.

We willingly spent ten *centavos* for a hand-picked lunch of black-bean tortillas and water coconuts. No epicure (which we are not) could expect a more adequate or satisfying meal. For the black beans had been roasted almost to a crisp, then ground fine as flour and rolled into mealy flapjack-style tortillas, which had again been toasted to produce a mild-flavored staple fit for honest Indians, indigent banana chasers, or for the gods.

After we had destroyed three tortillas apiece, we were ready to drink. So we invested our remaining four centavos in four green coconuts, freshly plucked from the wild palms, cool and moist and deeply encased in husks. The Indian girl who peddled *los cocos* deposited her basket on the bluish earth, lifted a machete which she had worn mysteriously secluded somewhere in her skirts, and with ingenious dexterity proceeded to whack off the tip of the husks and to open a mouth-hole about the size of a half dollar in each of the coconuts.

So we drank the sweet cool milk and then with grandiloquent extravagance tossed away the green husks and uneaten nutmeats, which the vendor promptly recovered for future use.

Adjectives, lead slugs, and type frames cannot do justice to this drink—cool, bona fide juice drunk direct from the green bona fide coconut. It is far in front among the most delectable liquids ever to pass down mortal gullets; a drink for a king or a poet.

Being neither of these, merely a plain citizen more interested in flavors than in vitamins, I nevertheless recall having read a tremendously scholarly report by the Pan Pacific Research Institution of Honolulu which declares that milk from the well-developed green coconut is probably the only plant or animal material that is virtually identical in food content with breast milk of the healthy human female.

For purposes of advertising blurbs this passing testimonial is not too savory. Big he-men cannot be expected to warm with enthusiasm and rise avidly to the occasion of drinking the chemical equivalent of mother's milk—no matter how enthusiastic we may have been on the subject these thirty, forty, fifty, or sixty years ago.

But it seems to me that this particular scientific finding is distinctly apropos of the world-spanning sufficiency of "Old Coco." For the coconut palm is probably the most widely scattered and all-sufficing plant growing on earth. It is the only great crop which from a common source supplies man's needs for food, clothes, and housing. With the possible exception of rubber and timber, no other harvest meets so great a variety of mortal needs.

Throughout Middle America—in fact, throughout most of the moist tropics and subtropics of the world—both green and mature coconuts are an essential food for tropical citizens; an invaluable vegetable milk as well as a staple protein and oil. Leaves and trunks of the palms are still among the most used housing materials of the American tropics. And the mature coconut, not excepting cottonseed, is man's foremost source of vegetable fat. United States consumption of copra, the dried meat of the nut, is approximately a billion pounds per year. This copra is the principal source of

coconut oils, which are used by the millions of tons by almost all industrial nations in the manufacture of soap, oleomargarines and other butter substitutes, candies and confections, candles and imitation waxes, perfumes, glycerin, cosmetics, various pharmaceuticals, and for dozens and hundreds of other uses. The residue, or pulp, of copra makes excellent feed for various sorts of livestock, particularly sheep, hogs, poultry, and cattle.

Coconut shells meet a comparable range of uses. Most pertinently, when burned to charcoal they provide the standard filter material for the new-style gas mask. Halved, or otherwise carved, they can be changed to dishes, dippers, bowls, spoons, and a hundred other household "novelties." When ground they become a cellulose base for linoleum and a long list of commercial plastics. Outside fibers make doormats, brushes, felts, and many similar products. Ripe husks are proving an important commercial source of phosphoric acid, potash, and "conversion ashes." The trunk wood of the palm is an outstandingly valuable timber for building houses, boats, furniture, and numerous other constructions. The leaves are a still more valuable resource, for they make the thatch which roofs literally millions of tropical homes. In addition to roofs and shelters, the leaves make baskets, mats, and other products of handicrafts variously essential to tropical life.

There is a huge catalogue of incidental and less-known uses for this amazing palm. Young shoots and first leaves are a highly edible green vegetable. Juice in the trunk or stump of the palm is a base for yeast and for hard-swatting liquors. The trunk sap also supplies bases for gums, liquid cement, and other adhesives. I cannot state the exact number of commercial and industrial uses for coconut products, but I am certain that they number into the thousands.

Companion to this astonishing variety of coconut uses is the equally astonishing variety of coconut habitats. Nobody is absolutely certain of the origin of the palm. Some believe that it is native to Middle America. But today the coconut palm grows, without propagation, in virtually every tropical or subtropical country in the world, where alluvial loam soil is available, where rainfall is greater than

forty to fifty inches a year, where the range in temperature is between 70 and 90 degrees Fahrenheit, and most important, where a seashore is near by.

Though millions, perhaps hundreds of millions, of coconut palms are findable inland, the plant shows a vital affinity for the sea, and a particular fondness for islands, where ratio of seacoast to mainland is at maximum.

Every tropical traveler knows the appearance and particular charms of this strangely graceful palm, so amiably persistent in its will to live and increase; so amiably inevitable to tropical shore lines. For centuries the coconut has been high up on the list of crops. It is not impossible that the American tropics, particularly Middle America with its 50,000 miles of tropical coasts and its hundreds of fertile islands, are by natural bounty, and might be commercially, the world's foremost center for coconut growing.

To date this possibility has not been realized. From a standpoint of recorded world trade, at least three-fourths of all commercial production of copra and other coconut products is centered in the Oriental tropics. Ceylon leads with more than a million acres in tended coconut plantations, and its copra exports average around half a billion pounds a year.

There is a definite flavor of irony in the fact that before 1940 the United States (which is today the world's greatest consumer of coconut products) imported more than half of our total supply of copra from Ceylon despite rapid growth in demand and unquestionable proof that an almost infinite acreage of marketable coconuts is available within the great family of American republics. Next to Ceylon, our foremost suppliers of copra are the Philippines, also halfway around the globe. At least until 1946, when these far tropics became liberated from our nominal protectorate, Philippine copra enters United States ports duty free, which enables it to compete with coconut imports from Middle American countries only a few hundred miles from our shores.

Without wishing to enter any political controversy this reporter respectfully points out that from a standpoint of geography and

proved agriculture, Philippine coconut is distinctly inferior to that of the American tropics in flavor, oil content, and average yield per mature tree; and that prevailing wages current in the Philippine Islands, as recorded by official and publicly owned surveys of the United States Department of Labor are far below the level of minimum wages commonly paid or specified by national law in a majority of the republics of Middle America. I also wish to point out that until the outbreak of the current Axis war Nazi Germany was one of the foremost importers of copra and that, unless business and political interests of the United States can become sufficiently "American-minded" to allow coconut producers of the tropical Americas a reasonable share of the trade, the future of the American coconut exports will be heavily dependent on German markets and the credit devices of Nazi trade.

The essential agriculture and marketing economy of the crop are unique. For in terms of American production the coconut is still primarily a wild crop. Like Guatemalan chicle or Brazilian Hevea or Honduran indigo, it is preponderantly an agricultural wealth taken from the wilds. In huge areas of the Eastern tropics the coconut palm has been fitted into the regime of plantation agriculture. This is the minority instance in certain portions of Middle America. For example, in Trinidad (thus far a British possession) there are probably at least 150,000 acres of systematically managed coconut plantation, which regularly export thousands of tons of nuts and copra.

Some of Trinidad's commercial groves, or plantations, are brilliantly managed. Recently the Agricultural Society of Trinidad opened a coconut experiment station "to improve and develop the industry in the western hemisphere." Also on the British island of Jamaica are about 200,000 acres of tended coconut groves, most of them in coastal areas. And for the past quarter century a major part of the whole coconuts consumed in the United States (perhaps 30,000,000 per year) have been imported from these two British colonies.

Along the Brazilian coastal plain an estimated 2,000,000 palms

are now in bearing. Dr. Alva de Lima, renowned Brazilian authority on tropical crops, believes this figure could be increased a hundredfold without going beyond the boundaries of the Brazilian state of Bahia. Coconut areas of Brazil are perhaps the most extensive in the world since they include a land surface approximately the size of all the United States east of the Mississippi. Thus far, however, the tremendous resource has been little realized. The recorded harvest is consumed mainly within Brazil. But experiment plantations of coconut are beginning to appear. To date the largest, with more than 150,000 palms, is in the state of Pernambuco.

As a crop the coconut palm is languidly defiant of statistics and census tabulations. According to the Pan American Union, the commercial coconut industry (i.e., harvests taken from organized plantations or privately owned groves and shipped under count of port authorities) now amounts to at least eight billion coconuts a year. Of these perhaps one-fourth are grown within the American tropics.

For a century or more the coconut has held a noteworthy place in international trade. It has long since changed from a novelty to a staple. From a consumer's standpoint it is a three-in-one crop; the green, or water, coconut, a source of an appetizing and nourishing drink; the ripe whole nut exported for direct consumption; and copra, dried meat of the ripe nut.

Copra is the particular item that is now changing coconut growing from a picturesque tropical grab bag to a world industry. For the past half century the compact and highly convertible product has gained vantage in intercontinental trade. At the time Europe spilled into her newest war, Germany led the Old World in purchase and manufacture of copra; France came second, the Netherlands third, Great Britain fourth, and Denmark fifth. Meanwhile the United States had climbed to first place among all nations in actual consumption of copra and other coconut products. During the past ten years our imports of copra have approximately doubled.

This development is a noteworthy omen for future bases and vistas of inter-American trade. The primary use of copra is for oil,

and in the United States market competition between sources for fats and oils is more than averagely fierce. During most of the past ten years copra prices have stayed at approximately half their price level of the first World War. But average price of coconut oil has remained considerably above the averages for cottonseed and other important vegetable oils, which implies clearly that this doubling of coconut consumption suggests that oils from copra serve particular uses more effectively than do cheaper oils from other vegetable sources.

Today at least three-fourths of our annual billion pounds of coconut imports are for nonfood uses; almost half of the total being used in manufacture of soaps, cosmetics, and glycerin. In terms of United States demands, Old Coco grows to greatness by nonfood uses. Nevertheless, flavor quality remains a highly important consideration. In this respect the tropical coconut is like the Temperate Zone apple. From somewhat painful experiences I have learned the perils of reciting the flavor merits of a particular variety or locale of apples. For New York State, New York apples are second to none in flavor. In Vermont, Vermont apples taste better than any others grown by man. Down in Ole Virginny, anyone who hesitates to agree that Virginia apples, women, and horses are the most cherishable in all creation, suh, deserves to hang (and probably will). In Indiana, Hoosier apples are best; in Maine, it's Maine apples; in New Jersey, it's Jersey apples. In Washington and Oregon, Wenatchee and Hood Valley apples respectively are the best damned apples grown by man, whereas down in Arkansas . . .

So it is with coconut. Speaking as a reasonably well-meaning gringo who spends considerable time in the tropics and has a great deal to learn about coconuts, I respectfully decline to state which coconut has the best, the sweetest, or the richest flavor. I like them all.

From a standpoint of tropical agriculture, it is my own impression that grove tenure of Jamaica and Trinidad is second to none. From a standpoint of available land and potential volume, there is scarcely any doubt that Brazil could and eventually may lead in coconut production. Besides its vast potential acreage, this Brazilian

coconut industry has unusual facility in developing home markets for the milk (which has become a staple baby food); the husks for fuel; the leaves for roofing material; the fiber for twine and the meat for everyday fare.

From a standpoint of progress in coconut disease control, respectful mention is due the Agricultural Society of Trinidad, the Peradeniyen Experiment Gardens of Ceylon, and the gallantly surviving Netherlands Experiment Station of East Java (Proefstaaten Oost Java).

And I clearly remember eating coconuts in Panama. This republic has highly efficient coconut plantations with total exports of ripe coconuts averaging about a million a month. In Panama some of the best groves and the best harvests are tended by Indians, particularly the San Blas tribes who own and tend more than 300,000 acres of coconut groves scattered and parceled among the three hundred or more San Blas Islands which in turn are scattered generously along the Caribbean coast for a hundred miles east and south of the isthmus.

Along the north coast of Honduras the five Bay Islands are another renowned home for superb coconuts. These are called the Lazy Man's Islands and they look the part. Roatán, the largest, has about 3,000 inhabitants with the sustained appearance of never having thoroughly awakened. But the shore lines of these five islands grow immaculate "gardens" of coconut and the Lazy Man's Islands harvest of more than 10,000,000 ripe coconuts per year supplies a considerable part of United States demand for the mature fruit, while offering a first-class paradox in place names.

The coconut palm appears lazy. To watch its lacy branches sway in slow wind is an almost instant provoker of sleep. But harvesting the crop is not a lazy man's work. If you doubt this, señores, someday try climbing up and picking a few.

Nature co-operates—somewhat. Each year, when the circle of lower leaves is shed, the trunk of the palm acquires a circlet, or

ring. God, we reverently infer, decreed it thus to provide toeholds for adroit tropicals to climb to the high-growing harvest.

It was a divine idea. For the coconut palm grows rapidly and high, to 20 feet, 50 feet, to 70 or 80 or 100 feet. The slenderness and bareness of the trunk make it appear still higher. The giant cluster of nuts grows well toward the top. In order to reach the cluster the amateur sheds his shoes and socks, plants his bare feet on the successive rings and climbs, or wishes he could. The adroit coconut climber becomes an eminent, if unsung, craftsman, a shin-and-sole artist extraordinary. Having climbed to the high cluster of leaves, he must take out his machete, whack off the thickly burred nuts and let them fall. More nuts are forever maturing. Monthly harvests are the working rule on commercial plantations.

In copra making the harvest may be left to the will of the wind, or the nuts may be knocked down with clubs or sticks or with stones thrown from slings or shot from oversized peashooters. Sometimes the climbers are equipped with pole belts and ankle spurs and so master the working technique of the gringo telephone lineman. Sometimes pole-handled clipping knives can be used. In any case coconut harvest is not lazy man's work.

Neither is preparation for market. The nut must be taken from the giant husk, scraped, crated or bagged for export, or cracked and stripped of meat to be dried as copra. The processing represents hard work, with the initial stages mostly hand labor. Thus far there is no elaborate machinery used for the processing. Size and type of refineries depend on the particular uses made of the coconut and the extent to which the by-products are recovered. Complete use of husks, fiber, and shells requires miniature factory assemblage. Virtually none of the American crop is completely processed.

Indeed, it seems likely that only a tiny fraction of the American coconut crop ever finds its way into trade. As already stated, the total commercial harvest of coconuts is estimated at eight billion nuts. Perhaps five times that number, or ten or fifty times—fall from the tree and rot where they fall. There is no such thing as a coconut census, for counting the coconut palms of the tropics would

be a great deal like counting the grains of sand which make up a desert.

In the Americas the coconut—*Cocos nucifera*, to be scientific—range begins at the far tip of Florida, covers many ocean fronts of Cuba, Hispaniola, Jamaica, and shore areas of hundreds of other islands of the Caribbean and the lower Gulf of Mexico. The “coco range” includes both coastal plains of Mexico, both coastal areas and extensive inland sites throughout Central America as well as shore-line republics of tropical South America, from Ecuador on the Pacific to Central Brazil on the Atlantic. In all there are perhaps one and a half million acres of American coconut palms under harvest. (This estimate is by Belford and Hover, London.) In the Orient, Ceylon alone has almost a million and a half acres in commercial plantation.

Throughout all ocean-front tropics coconut is a long-term resource. The palm comes into bearing in five or six years, and frequently continues bearing for three-quarters of a century or longer. Usable coconut lands of the Americas can be measured by the hundreds of millions of acres. It is entirely probable that without new plantings commercial harvests could be doubled or tripled within a year.

Almost innumerable areas of coconut palm wait exploitation. For example, citizens of Guatemala regularly gather and sell hundreds of thousands of coconuts from native palms which grow profusely near both ocean fronts. The Nicaraguan crop, representing an annual export of perhaps two million nuts, is gathered principally from wild trees, though plantations are being planted along the Caribbean coast in the area of Punta Roca. Alongside Nicaragua's Caribbean coast are the Corn Islands, leased properties of the United States and another important center of los cocos, as well as some of the most magnificent tropical scenery ever beheld by man. And in Costa Rica, in the areas of both Puntarenas on the Pacific and Limón on the Caribbean, there are sufficient native coconut groves to supply background for enough tropical movies to last Hollywood for the next ten thousand years. With Old Coco nature and tropical earth were never stingy. Thus the coconut today is potentially one of the greatest of all crop resources of the Americas.

CHOCOLATE

COCOA, or cacao (the latter spelling is Spanish-American and more or less antiquated in commercial usage), is another distinguished American contribution to world agriculture. That cocoa is native to the American tropics is botanically certain. We are not certain of the exact area of the New World in which the chocolate tree originated. Some botanists believe that the tree first grew along the basin of the Amazon. Others contend that its botanic homeland was in the basin of the Orinoco River, within the boundaries of what is now Venezuela. Still others believe that the tree was a native of Central America.

But there is complete agreement that the homeland of chocolate was in tropical America. There is also agreement on the statistical truth that cocoa is the one great food crop of man whose aggregate consumption has increased fivefold during the past thirty-five years.

Though the American tropics gave cocoa to the world, Africa has recently produced more than two-thirds of the world's supply. American tropics were likewise botanic home of the Hevea tree, now source of most commercial rubber. But British and Dutch naturalists diligently commandeered that plant, with the result that the Eastern tropical possessions of those two nations, particularly British Malaya, Ceylon, and the Netherlands East Indies, now produce an overwhelming majority of the world's rubber supply. The same is true of quinine and many other New World crops.

Exchange and adaptation of plants is a fascinating chapter of man's history. Cocoa's place in international trade is of more than ordinary interest since trade in it appears to have been the working

basis for Latin-American commerce long before the time of Columbus. Furthermore, because cocoa is one of the few crops of the New World which for many centuries and during comparatively recent times has served as money.

In the art and economy of the Mexican Aztecs, cocoa was a staple food; cocoa bean was the common medium of exchange; the tree was regarded as sacred (a gift direct from Quetzalcoatl, the gardener of heaven) and therefore the subject of almost innumerable hieroglyphics and heroic drawings. The entire monetary system of pre-Columbian Mexico was of cocoa, with prices and values gauged in counts of beans—in multiples of twenty. The great Emperor Montezuma collected revenue in cocoas. At the time of earlier Spanish conquests the imperial treasury of the Aztecs consisted of stores of chocolate. Slaves were bought with cocoa, and as late as 1880 the beans were still common currency in isolated towns and backwoods communities in many parts of Mexico and Central America.

According to Spanish records, the soldiers of Cortez were paid in chocolate beans. No doubt their earnings were nutritious. For in earlier centuries cocoa was a staple food of tropical Americas. First travelers into Middle America were introduced to a highly edible mush or gruel made of cocoa bean ground with corn, seasoned with spices and chili, then stirred into dough—in *yucateros*, or earthen churns. Cortez reported to his emperor, Charles V of Spain, that the gruel was a strength-giving food but rather too bitter for pleasurable eating. Apparently the conquistadors and their followers set about remedying this culinary fault. In 1528 Cortez is said to have carried a shipment of cocoa bean to Spain, where it became classified as a medicine and tonic for ailing plutocrats.

During the following century such "medicinal" uses of cocoa became common throughout Europe, but in the Americas the same bean, duly flavored with vanilla, cinnamon, and sugar, became a luxury drink of conquistadors. By operation of the imperial cartel, Spain gained a world monopoly on cocoa exports, which by royal decree were banned to all other countries.

Invention of cake chocolate is attributed to Indians of Guatemala who sought to preserve the precious food over long periods of time.

But Spanish factories and sweetshops were the first to manufacture chocolate sweetstuff commercially, and the royal government of Spain zealously guarded the secrets of the manufacture in order to make the royal monopoly more profitable. So chocolate became an early luxury of the wealthy grandees as well as a superb revenue for the crown of Spain. Also, and in due course, the Holy Church began to serve liquid cocoa at masses.

Then between 1680 and 1720 there came an era of chocolate bootlegging. Dutch and British traders discovered native cocoa orchards in Venezuela and Ecuador and proceeded to develop a contraband trade, calling their product "caracas," after the renowned Venezuelan capital. During this period chocolate, or caracas, "houses" began to appear in London, in Amsterdam, Paris, and other of the swankier Continental cities. Lord Byron and his fun-loving confederates became star customers of London's original "Chocolate House," which later became the Literary Club.

The popularity of the drink may have been enhanced by its tremendous cost. Louis XIV of France, who was certainly no penny pincher, ordered chocolate banned from his court functions because it was too expensive. But throughout England, Germany, parts of Italy, and France the cocoa trade continued to flourish, and chocolate factories were opened. *Chocolaterie Royale* appeared in Paris in 1776, almost fifty years after Fry and Sons of Bristol had become the first commercial chocolate makers of England. Steinhund, founded in 1756, was the first German chocolate works, while Walter Baker and Company of Dorchester, Massachusetts, began manufacturing chocolate in 1780.

These first factories produced only powder or bar chocolates for beverage use. More decades were required to develop a widespread trade in chocolate candies. The first sweetbar chocolate was introduced into the United States in 1831. A Swiss candymaker named Daniel Peter manufactured the first commercial milk chocolate about 1870, after various types of chocolate candies had gained commercial importance in England at intervals between 1835 and 1860. Two Frenchmen, Doret and Pelletier, pioneered inventions of chocolate-making machinery. A Hollander named Franz van

Houten perfected the so-called cocoa powder, which, being highly soluble, became a welcome substitute for the earlier and over-oily chocolate bars.

In all there are about twenty different species of cocoa tree, but today the most grown is the *Theobroma cacao*—which means “food for the gods.” There are various subspecies of this particular tree; among them *Criollo*, a rather rare and delicate variety which produces superbly flavored chocolate principally for use in fine candies, and *Forastero* a hardier variety which is the ingredient of all of the so-called bitter chocolates, and with proper refinement supplies numerous commercial grades of candies. The *Criollo* grows best, as a rule, in Venezuela, Ecuador and Java. *Forastero* is cultivated most widely in along the Gold Coast of Africa, in Brazil, Central America, and various other countries throughout the cocoa latitude, which ranges for the most part from 20 degrees north latitude to 20 degrees south, and at altitudes of from sea level to 2,000 feet, always in wet country, where soil is deep and readily drainable.

The trees are started from seedlings, and like other common fruit trees they are usually grafted to hardy roots, then planted ten to twenty feet apart, usually, though not invariably, in partly shaded fields. Some planters use native softwoods for shade, others use bananas or plantains. But nowadays there is an increasing tendency to avoid the practice of shading. The seedling tree usually begins bearing within six years after planting, though it rarely reaches its prime before ten or fifteen years, and with good care frequently continues in bearing for half a century or longer.

The cocoa is a beautiful tree. It is rather small, rarely more than fifteen feet high. Its bark is dappled with bright silver and its leaves are shiny and broad and blackish green. The fruit, or pod, is borne on tiny stems which grow directly from the trunks or limbs, not on twigs or smaller branches. Harvest is comparatively easy, a mere matter of clipping the fine wiry stem and collecting the pods, which weigh from half a pound to two pounds each.

Since the tree is small, and the fruit easily accessible, the crops

can be harvested without any tools except machete or other style of worker's knife, or clippers.

The pods are oblong and appear somewhat like a small squash of the Des Moines or small Hubbard variety. They are dark green until ripe, when they turn rich yellow or leathery brown. Like citrus fruits, they ripen intermittently throughout the entire year. Also like citrus, the heaviest harvest periods occur about twice a year, the exact dates varying considerably with locale. Central American cocoa frequently requires harvest once a month, or even more often.

After being cut the ripe pods are stacked in open piles and left for several days of "sweating" until they are ready to shell. The shelling is hand and machete work since care must be taken not to cut or scar the bean pods. The inner contents, consisting of wet pulp and oblong beans—about double the size of a large kidney bean, are scooped out by hand. A well-developed pod usually contains between twenty-five and forty beans and the yield of dry beans per tree varies widely from two pounds or less to six pounds for highly improved varieties grown in extremely rich soil.

The next step is curing the beans, a complex and rather delicate task, since a considerable portion of the pulp clings to the bean and without proper treatment may cause the entire harvest to mold and rot. The older technique, still observable, is that of the sweating box, open wooden boxes with bottom drains to expel the drippings of pulp and water. The best curing temperature is around 120 degrees Fahrenheit which can sometimes be obtained by stirring the contents frequently under full force of the tropical sun. But nowadays mechanical hot-blast equipment effects the "sweating" with greater speed and efficiency.

Properly managed, the same process of wet fermentation which removes the viscous pulp from the bean also improves and develops the flavor of the chocolate. The next step is that of drying, formerly by spreading the beans in thin layers on rocks or shallow trays in full sunlight and stirring them frequently with paddle or rake. But today the cocoa beneficio is becoming a fixture of choco-

late agriculture, assuring greater volume, smaller weather losses, and more dependable quality.

Despite modernity and mechanics, cocoa remains a whimsical and generally likable crop—a rich fruit born of rich earth, of plentiful rain, bright sun and deep shade. It is a crop of honest sweat and sharp machetes; of virtually unfinishable work which can tolerate an occasional siesta. The orchards must be planted, pruned, and weeded principally by hand and the pods must be plucked, split, and started to refinery by hand. It is still a family crop, instead of a pell-mell man's man-and-machine crop, and a crop for citizens who can endure the honest might of a tropical sun.

Throughout the American tropics cocoa keeps numerous picturesque touches: native shacks, wooden saddlebags, deliberate and dozy pack mules, the songs, jokes, and rompings of easygoing peoples. Beyond home fields the crop is no longer primitive. But it continues to epitomize the fertile charms of rich tropical earth and the history of cocoa becomes an important part of the history of Middle America.

Meanwhile the range of cocoa lands continues to grow as volume of harvest and numbers of uses continue to increase. Brazil now lists cocoa as its third most important crop, with more than 100,000 acres in improved orchards and annual exports ranging from a fourth to a third of a billion pounds. The *Instituto de Caca da Bahia* has arisen as a premier co-operative for improving and exploiting the ancient crop. The Dominican Republic, tropical neighbor to Haiti, takes second place in Western Hemisphere cocoa production, with yields that have increased more than tenfold since the beginning of the century to a present export of between 60,000,000 and 75,000,000 pounds a year. Venezuela, homeland of the renowned Criollo grades, and formerly the greatest of cocoa-growing nations, holds third place in Western Hemisphere production, with annual exports of around 40,000,000 pounds. In Venezuela are to be seen some of the oldest and most modernized of cocoa fincas—more than 10,000 commercial orchards, which supply

materials for most of the renowned French and Swiss chocolates and for some of the well-known brands of American-made chocolates.

Cocoa is also the first crop and leading export of Ecuador where the harvest, which fell drastically because of fungus enemies, now begins to regain its former strength. In Ecuador are some of the largest cocoa plantations in the world—estates and orchards with a million or more bearing trees; numerous fincas with chocolate orchards ranging from a quarter to a third of a million trees. Among the more renowned grades of Ecuadorean cocoas are the *Balao*, *Machala*, and the superfine *Arriba*—highland bean.

In various areas of Central America the agriculture of cocoa is reawakening. The Caribbean coast of Costa Rica, from Limón north toward Almirante, Panama, now ranks as one of the newer centers of cocoa, with bearing orchards totaling about 70,000 acres, making chocolate the third export crop of the "Rainbow Republic" (coffee is first and bananas second). During the past twenty years the Costa Rican yield has more than doubled with tens of thousands of acres of former banana lands now successfully planted to cocoa. The United Fruit Company, with orchards totaling about 53,000 acres, is the largest producer in this republic and one of the largest of the hemisphere.

Virtually all exports of Middle American cocoa now come to the United States. The Costa Rican crop is principally the Forastero variety, which is now securely adapted to a soil and climate nearly ideal for its growth. Costa Rican orchards suffer exceptionally few diseases (more serious cocoa plagues, such as the cocoa beetle and the leaf fungus called witch-broom disease, are virtually unknown). Furthermore, the locations are comparatively well sheltered from trade winds and hurricanes, another good reason why Central American cocoa operations show a promising increase.

Operations in Panama, principally in the sheltered north-coast area of Almirante and the south-coast "banana plains" of Chiriquí, closely parallel those of Costa Rica, though at present Panama's cocoa production is only approximately half that of Costa Rica.

Both republics are conducting elaborate experiment stations in cocoa cultivation and processing; work which serves to increase yields per tree as well as quality standards.

In place of drying yards and open stirring trays, the bulk of the new Central American crop is being cured in huge refineries where artificial heat and giant revolving pans are substituted for the rather erratic sunshine. One also notices exceptionally high standards of orchard cultivation and various noteworthy experiments in grafting, budding, and breeding to the end of producing higher yields per tree. The highest yielding cocoa lands in the world are now located in lower Central America, and persistent experiment in cocoa breeding succeeds in doubling or even trebling former yields per tree.

Thus far we have noted only those countries with substantial export surpluses of cocoa. Actually there is not one republic of the American tropics whose domestic economy and routine agriculture is not, in one way or another, influenced by this crop. Today the United States is by all odds the largest consumer of cocoa and chocolate products of this hemisphere. In 1940 we consumed at least 65 per cent of the combined American exports of about 210,000 metric tons of cocoa. American cocoa exports have doubled during the past thirty years, and so have United States demands for chocolate. During intervals of peace, Germany is the next greatest purchaser of American cocoa, Britain third, France fourth; Switzerland, Holland, and Italy the runners-up.

But the life and future of the entire American cocoa industry is now primarily dependent on United States markets. However, there are other American markets. Mexico, for example, consumes its entire cocoa crop domestically and imports more than two million pounds yearly. Nicaragua, which produces some of the world's finest-flavored chocolate, also imports substantial quantities from near-by republics. Cuba's consumption almost matches its production. The same is generally true in Honduras, El Salvador, and Colombia. Guatemala, which grows excellent cocoa, and was one of the earlier exporters of the crop to Spain, now imports several thousands of tons each year in addition to domestic yields.

Rapid and persistent growth in American demands for cocoa is a significant barometer to cocoa futures. Until very recently preponderant demands for the product have been centered in great industrial cities—New York, London, Liverpool, Birmingham, Berlin, Hamburg, Amsterdam, etc. Barring destructive wars, all these great cities remain important markets. But today, from a standpoint of international trade, New York has become cocoa capital of the world, and the New York Cocoa Exchange establishes buying and selling prices and margins for all the trade. Various other federations and associations of growers and marketers of cocoa co-operate and otherwise promote the cause of chocolate. Gradually but undeniably, the crop changes from a “fad” or novelty drink and confectionery to a staple and essential food and drink.

Thus the Americas swing into a distinctive new era of cocoa. But, as previously noted, the Gold Coast of Africa has risen to world leadership in volume of cocoa production. According to records of the British Admiralty, the Gold Coast made a first export of cocoa to England in 1891—a shipment of two burlap bags of raw beans. Twenty years later the colony's export had risen to more than 40,000,000 pounds. During 1938 Gold Coast exports reached half a billion pounds—almost 500,000 metric tons, or about two-thirds of the entire world exports. The Gold Coast colony has about a million acres planted in cocoa orchard, which are tilled and tended by more than 200,000 farm proprietors—a multitude of small farms which thrive or fail principally by the energies of Negro wives and children.

In quality standard this huge African crop is distinctly inferior to American grades. It suffers from numerous fungus and insect enemies from which American crops remain comparatively free. Yet its producing areas have been extended—to the Ivory Coast, Nigeria, Cameroons, to the Portugal's colony island, São Tomé. and eastward to Ceylon, Java, and other of the Oriental tropics. Offsetting disadvantages in the form of lower qualities and less favorable climate and natural fungus and insect enemies, foreign cocoa has long held the price advantages of cheap native labor with extremely low living standards.

But despite local advantages, economy of crops changes with the rise and fall of nations. A new and superlatively destructive European war upsets equilibrium of African cocoa and brings revolutionary changes to colonial agriculture. Particularly in Africa and the East Indies, cocoa production has been of recent and mushroom-like growth, heavily subsidized and supervised by parent nations. Recent paralyses and disablements of great merchant marines are proving enormously injurious to these new and more or less impromptu areas. One after another European powers are withdrawing cocoa subsidies. One after another principal European markets are being isolated or destroyed.

The future of cocoa, like that of many other colonial crops, is today largely unpredictable. Recent news dispatches tell of collapse and bankruptcy of agencies and clearing centers for cocoa, particularly in Africa and the Netherlands East Indies. It is freely prophesied that the entire African cocoa industry now faces collapse and that Javan clearinghouses cannot long survive the ruinous isolation with which they are now confronted. During the first year of the current Axis war, European cocoa consumption has dropped to less than one-fourth of its previous year's level. During this same year aggregate American consumption of cocoa has shown increase. Thus ranking authorities on cocoa begin to predict that the American tropics, cradle of cocoa and cocoa industries, may again regain world advantage in this great crop discerningly named "food of the gods."

CHICLE

CHICLE (in Central America called "chick-le") is a great "sap crop" and forest resource of Guatemala. It is the adhesive base and essential ingredient of chewing gum, that distinctive gringo product which has assumed far-reaching and almost devastating social prominence to the North American scene. Chicle has various other uses: in commercial adhesives, particularly in surgical tapes and other bandage materials; in dental supplies; in assemblage of delicate plastics used in radio and photo-electric insulation; also in certain complexities of photography and various commercial chemistries. But its premier use and decisive demand is that of chewing gum—the perennial cud of the workinggoil and bonanza of the office boy, and the football coach.

For the most part chicle remains a crop of the wilds, and one of the most fascinating harvests of the tropics. Guatemala's northmost department of Petén, which includes almost two-thirds of the area of that republic—an area as big as the state of Maine—is the chief commercial headquarters of the tree gum.

For the most part Petén is a wild forest and jungle country, largely lacking in roads and navigable rivers. The story of commercial chicle began, and to a large measure remains, one of lingering isolation, of portage by back and shoulder, and of adroit, primitive craftsmanship. Throughout most of the world "modernity" in the guise of pavement, railways, airports and factories has conspired to rob forests of their most precious timbers. Had Petén been an open and easily accessible country, it is a safe bet that the *Achras chicle pittier*, or chicle tree, would long since have been ravished.

Commercial chicle is taken from two types of tropical timber, trees of related species with approximately the same latitude and habitat. In the wildly beautiful, densely forested and still roadless area of Lake Petén-Itza in Guatemalan department of Petén grows the *Archas chicle pittier*, or "chewing gum tree," already mentioned. South of the lake country and along the banks of the Pasi6n River, in the neighboring Guatemalan states of Petén and Verapaz, grows another type of chicle tree called *Chiubull*. For commercial purposes the resin of the latter is somewhat inferior to *Achras* because it is red in color (instead of white), because it is slow to harden, melts easily when exposed to sun, and is therefore extremely difficult to transport.

However, it is now common knowledge that the two gums can be mixed to produce a satisfactory raw chicle and for some purposes the red gum is actually preferable to the white.

Chicle harvest is confined to the rainy season—most of the work taking place between the first of May and the first of November, since this is the period of sap flow. The traditional harvester is the *chiclero*, a tree-climbing genius of the primeval jungle, usually a forest Indian who makes tree tendings and bark slitting a skilled profession. His working equipment is forthright and simple: a reel of small rope, a pair of heel spurs similar to those commonly used by telephone repairmen, an outfit of tree tins or rubber bags, and a good sharp knife or machete.

The *chiclero* forms a personal and highly intimate acquaintance with each tree. He begins the harvest by making a herringbone pattern incision on the trunk of the tree, close to the base of the body log. This deep cut drains into the bucket or bag attached at the lowest end of the bottommost incision. Nowadays the rubber bag is the most used receptacle; a thick rubber wallet about a foot long and six inches wide, which is attached to the trunk of the tree by means of the two sharpened wooden pegs.

Having "set" the bag, or bags, the *chiclero* is ready for climbing. He stretches a rope about the tree trunk and ties it slip-noose style to his own waist, then by deft use of his climbing spurs to mount

the trunk, with both hands free for knifing, he begins spiraling the cuts or otherwise shaping them to feed most directly into the catchbag.

Present conservation laws of Guatemala stipulate that the trees shall be "bled" only on the main trunks. In earlier days chicleros gashed the larger limbs too in order to increase the recovery of gum. The latter practice frequently kills the tree. The newer spirit of conservation, now evident throughout the functioning of Central American governments, is distinctly opposed to greedy massacre of so valuable a forest tree.

The cutting is a delicate process, wherein pruning knives are beginning to replace the old-style and all-purpose machete. The goal is to drain out the most sap while doing the least possible damage to the tree; to plan and co-ordinate the incisions so that a maximum amount of sap can be collected in the fewest bags. A first-class knifer is likely to have his own distinctive technique of cutting, whereby inner bark layers can be uniformly drained, without waste of sap or unnecessary wounding.

When the cutting is finished and the sap flow has begun, the chiclero's next task is to collect the resin in tins or wooden buckets, to mix it with equal parts of water, and to boil it in kettles. This cooking is also a skilled trade. The fire must be extremely slow and the chiclero must maintain unfailing vigilance, stirring the brew continually with wooden paddles until the gummy "syrup" has reached the proper thickness. Then he empties the sap into wooden molds where it cools to form solid blocks, or *marquetas*, of chicle. He wraps the blocks in coarse canvas or burlap and sews the wrapper securely. The product is then ready for market and export. The more or less traditional price received by the chiclero is 10 cents per pound, or \$10 per quintal (hundredweight) at the *hato* (a specified delivery point). This first transportation is usually by mule pack. But in the rougher stretches, or in areas where sparse forage or lean purses discourage the ownership of pack animals, the chiclero frequently carries the harvest by shoulder pack, for ten, twenty, or fifty miles or even farther, following trails and passes which few gringos

would dare navigate, making his way through morasses and deserts, through thorny jungles and little-known passes, frequently with shoulder burdens of 200 pounds per man.

It is traditionally a contract trade. The chiclero, though an individual of great personal independence, usually has a contract with an established contractor who promises a minimum price at the *hato*. The contractor in turn signs to deliver the ware at a given collection point or port. In Petén, the bulk of the harvest is collected for shipment either upon Lake Petén-Itza or at newly improvised jungle airports. To clear from the *hato* to the final shipping place is usually the most expensive stage of chicle transportation. It frequently requires a week or ten days of laborious travel along jungle trails, in course of which the price of each quintal climbs from \$10 to \$15. Nowadays chicleros also take contracts to open bush paths or trails to the *hato*, while local buyers maintain pack trails to central loading points.

From first harvest to final purchase the price of a quintal of chicle is likely to increase about 50 per cent. Roughly 50 per cent of this is transportation costs; the rest is a highly involved system of profit, credit, and tariff.

Señor José Tercero gives the following itemized account of the average value in United States currency of a hundredweight of chicle, from a jungle *hato* to shipboard at Belize. The estimate was compiled prior to the advent of airplane freight, which we shall discuss later.

Extraction permit and municipal taxes.....	\$2.80
Paid to the chiclero.....	10.00
Transportation from the <i>hato</i> to Lake Itza.....	10.00
Transportation on the lake.....	.50
From Lake Itza, Guatemala, to Cayo, British Honduras	10.00
From Cayo to Belize port.....	1.70
Export duties at seven cents per pound.....	7.00
Transit tolls through British Honduras.....	1.50
Wrapping materials.....	.50
	<u>\$44.00</u>

Señor Tercero offers the following general exposition:

The Chiclero is, as a rule, a hard worker. He is . . . of a cheerful disposition, likes to dress well, and is a generous spender, quickly doing away with his earnings at the end of the season . . . Accustomed from early youth to borrow liberally—being very particular to repay—when the chicle season opens he overworks himself in order to earn enough to pay his debts and maintain his good credit.

The contracts between chicleros and contractors are authorized by municipal authorities, and, as a rule, are not remarkably easy. The chiclero agrees to deliver to the contractor a given amount of chicle at the end of the season, rating his producing capacity lower than it actually is, partly in order to be sure of delivering the exact amount of chicle agreed, and partly to enable him to do a little trading of his own, exchanging whatever chicle he has in excess of the amount called for by his contract for money, liquor, or, very seldom, something more useful. The trading is very cleverly done without the knowledge of the contractor and in spite of the latter's most zealous vigilance.

The chicle industry in the Department of Petén is the source of all sorts of small business among the natives. At the beginning of the season the exporters or concessionaires advance the contractors some funds in the form of "vales," which are something like I.O.U.'s of nominal value. The contractors cash these among the merchants who collect a commission for their services. The contractors, in turn, lend the chicleros small amounts for their meagre supplies during the season, and this practice is responsible for the fact that every house in the small towns and villages about the chicle district, mostly adobe dwellings, contains a shop of some kind on a small scale, equipped with a tiny counter and shelves, from which the chicleros purchase their none-too-abundant provisions . . .

The chicle game is characterized by colorful and devious sleights. In Petén it has become a one-crop enterprise wherein the crop is not cultivated, and to a large measure is taken from open forests held under concession. The national government of Guatemala makes a modest recovery through concession fees and export duties, while at least fifty thousand national citizens take livelihoods from the picturesque crop. Chicle taking is a rigorous life, an enterprise of hard work which to the neophyte would also be extremely dangerous

work. But the chicleros keep to their trade year after year, matching dense jungle and rough terrain with brawn, skill, and quiet nonchalance of courage.

From a standpoint of frontier economy, chicle remains one of the most interesting of harvests. Its exploitation is distinctly nonagrarian, at least in the more conventional sense of the term, and its working economy is most similar to that of placer mining. For chicle harvest is actually the recovery by independent enterprise of a natural resource. Since this is true, the government of Guatemala and that of the Department of Petén assume some degree of supervision and control of the product. They enact laws to prohibit ruthless destruction by malpractices in reaping and enforce the laws through regular employment of public servants, by issuance of official licenses to chicle contractors and concessionaires, and in return for these services they collect what amounts to a severance tax on the product.

Chicle is further remarkable in that it is one of the few crops or resources of the world in whose production one particular area of one nation holds what amounts to a natural monopoly. There are chicle trees beyond Guatemalan boundaries. We do not know how many, or how productive they might be, but it is reasonably certain that the growing range of this particular treasure tree is so drastically limited that the commanding portion of the crop grows within boundaries of one small American republic.

Thus the story of chicle becomes one of particular challenge during a time when the United States and many other governments indulge in political control or limitation of crops, most of which by reasons of botany, climate, and adaptability to lands of many nations are stubbornly defiant of control measures. Chicle is one of the extremely few crops which one particular government can control absolutely if that government so chooses. Guatemala has not sought to control chicle in any absolute or arbitrary sense of the word.

Since 1935 chicle is the one international crop whose transportation and general economy have been more or less revolutionized by the advent of commercial aviation. The age of wings has brought

comparatively little noticeable change to the everyday life and work of the chichero. But airplane freight now carries a majority of all chicle export from the hato to seaport, and in some instances to final market. At strategic intervals throughout these remote jungles and hillsides of Petén miniature landing fields now appear; not the graded and gadgeted airfields to which we gringos are accustomed, but modest and amazingly small rectangular clearings in the jungle. Freighting pilots must dip quickly, their propellers grazing the tips of tall jungle trees, and land as gently as possible on footing that is usually soft. They must take off without a lengthy run, lift planes at spectacular angles, carry through runs in rains and mists, fly blind without benefit of the numerous ground signals and other safety devices which are now orthodox resources of commercial flying in the United States.

Chicle flying has thus become a major instance of jungle busling via wing and propeller, a rapid and efficient traffic into a part of the world largely devoid of land communications. Theoretically an extremely expensive means of freighting, plane transportation has actually reduced haulage costs of chicle to approximately a third of former levels, reduced haulage time to a tenth or less, while substantially increasing the volume, distribution range, and quality of the product. The story of chicle is also a saga of transportation; of great wealth guarded by dense jungle, and of man's stubborn struggle to break down the barriers of natural history.

RUBBER

RUBBER is superb instance of a momentous New World resource which has been filched, revised, farmed, and almost monopolized by the Old World.

Today the principal source of commercial rubber is the sap of the Hevea tree, *Hevea brasiliensis*, which is native to the vast Amazon Basin of Brazil. The story of rubber is therefore another saga of tropical forests—not only of Brazil, but of Central America, Mexico, and some of the Caribbean islands as well. It is comparatively certain that first manufacture of rubber was an art and trade developed by Indians of Middle America, and northern South America. There are stories to the effect that Columbus, in the course of his second voyage, recorded that Haitians played games with rubber balls. It is also recorded that in 1519 Cortez, then at Tenochtitlán (now Mexico City), saw Aztec athletes playing a native game with balls of rubber.

During the years between 1734 and 1744 a French scientist, La Condamine, traveled through the tropical lands of northern South America, from Ecuador down the Amazon to Pará. His journals contain accounts of aboriginal uses of rubber:

. . . In many parts the Indians . . . make use of certain seeds put within the hollow of a pointed rod, which being run into the earth, serves at the same time as a candlestick. The Rosin, named *Cabout-chou*, in those countries of the province of Quito, adjacent to the sea, is also very common, on the banks of the *Marañon*, and serves for the same uses. When it is fresh, they work it with molds, into what shapes they please, and it is impenetrable by the rain; but, what renders it the most

remarkable, is its great elasticity. They make bottles thereof, which it is not easy to break; boots and hollow bowls, which may be squeezed flat, and when no longer under restraint, recover their first form . . .

The "elastic magic" made from the sap of *Hevea* trees found its way to Europe by way of Portugal, which resolutely prohibited export of Brazilian wares to any nation except itself. However, in 1808, when the armies of Napoleon overthrew Portugal and occupied the kingdom, the Portuguese court fled to Rio de Janeiro, and for the first time Brazilian trade was opened to the world at large. And for the first time the amazing resource of rubber came into world demand. Rubber shoes manufactured by Pará Indians became popular novelties in the United States as early as 1830. By 1850 Yankee clipper ships were carrying cargoes of rubber shoes and boots out of Brazilian ports and the great saga of rubber industry was begun—from American sources and under American leadership.

In 1840 Charles Goodyear, of New York, perfected the process now known as vulcanizing, which made possible firm texture and uniform elasticity of rubber devised from the *Hevea* "sap balls," which had been coagulated merely by toasting over smoky fires. Perfection of this vulcanizing process brought rubber into world importance. By 1853 Brazilian rubber exports had reached 5,000,000 pounds and, though the state of Pará remained the principal harvest center, traders learned more of the enormous growing range of rubber-bearing trees, which in Brazil alone covers about 1,500,000 square miles (half the area of the United States) besides large areas of Peru, Bolivia, Venezuela, Colombia, and Central America.

Not all rubbers came from *Hevea* trees. Peruvian harvest was taken from the related *Castilloa* tree (sometimes called *Castilla*) and various latex-bearing trees discovered or rediscovered in other areas of the American tropics. Meanwhile British scientists and explorers had found still other latex-bearing plants in lowland India and the Oriental tropics, particularly Sumatra, and by 1860 were beginning to make minor commercial uses of the newly discovered gums.

But the real marathon of rubber began in the United States around 1890 with the invention and development of the pneumatic tire. Then the birth and spectacular growth of the automobile industry hoisted demands for rubber to a point where the available supply was far from sufficient.

By 1915 this situation had succeeded in making rubber a world crop, with all great industrial nations striving to develop supplies within their own colonies or trade areas. France, Belgium, Great Britain, and Germany dived frantically into Africa and began to scoop up latex-bearing jungle plants, which included *Landolphia*, a rubber-bearing vine which an American missionary named T. L. Wilson discovered in the Belgian Congo about 1860.

But during this period of frenzied exploitation of possible sites and sources, raw "Pará," or rubber, from the Amazon Basin continued to supply at least two-thirds of the world's consumption. And prices for Amazon rubber soared to undreamed-of highs, in 1910 touching a peak of \$3 a pound.

Rubber was gold, and literal gold hunters of a previous generation were replaced by rubber hunters. But speculation and overexploitation of Pará rubber brought about an inevitable morning-after. Markets tumbled despite ever-growing automotive demands, and British, French, and German investors vied with one another in planting and developing rubber plantations, using the distinctively American *Hevea* tree. By 1913 enough foreign-owned *Hevea* plantations were in bearing to snatch away Brazil's world leadership in rubber production, a leadership which American nations have thus far been unable to regain.

But between 1900 and 1912 recovery of wild rubber of the Amazon had assumed bonanza proportions that made the fabulous California gold rush of 1849 feeble by comparison. For example, the town of Pará, or Belém, in northern Brazil, tripled in population between 1900 and 1915 and the sleepy river town of Manáos far up the Amazon became "wild rubber capital of the world," with a million-dollar opera house, luxurious trolley lines, golden goblets, silver-topped bars, and \$20 cigars, all of which were to vanish almost as abruptly as they had come. Other towns and villages along the

banks of the great Amazon, as far upstream as Iquitos, 2,500 miles from Rio de Janeiro and the last portcall for oceangoing vessels, became lesser El Dorados of rubber.

In 1900 there was no such commodity as plantation-grown rubber. During that year Brazilian exports were about 27,000 tons, while exports from Africa and the Oriental tropics were perhaps another 27,000 tons. In 1912, greatest rubber export year in Brazilian history, the wild crop of the Amazon amounted to about 42,500 tons. But world exports had risen to nearly 99,000 tons of which nearly a third was being raised on farms outside the American tropics. Within another year plantation exports had risen to about 47,600 tons to exceed Brazilian harvests which meanwhile had slipped to 39,000 tons. By 1920, 89 per cent of the world's total harvest of rubber, then 304,000 tons, was grown on plantations, and Brazil's recovery of rubber had further fallen to 30,790 tons, only 9 per cent of the world supply.

Meanwhile Brazil, as the focus of American rubber production, had launched a governmental campaign to conserve the wild trees; to plant additional forest acreage to *Hevea*, *Castilloa*, and other latex bearers, to organize rubber experiment stations, to promote the growing of subsistence crops by rubber workers, and better standardize the quality of rubber exports.

This valuable work is still in progress. But the domination of plantation-grown rubber seems inevitable. The year 1926 found two and a quarter million acres of rubber plantation cultivated and in bearing in Malaya, nearly two million acres in the Dutch East Indies, and nearly half a million acres in Ceylon.

With Europe ablaze with another Titanic war; with status and nationality of the Oriental tropics in profound uncertainty, American republics now give renewed zeal to the study of rubber, which during half a century has changed from a whimsical novelty to one of the vital materials of modern life.

From a standpoint of commercial source, rubber remains a tropical crop. The *Hevea* tree, either in the wilds or under cultivation, is still the decisive source of commercial rubber. There are scores, per-

haps hundreds, of latex-bearing plants scattered from the equator to farthest limits of the Temperate Zone, but the majority of these possible rubber sources are still unproved.

The first World War and the present World War are demonstrating the fact that synthetic rubbers of many types and uses can be devised. This truth is particularly well proved by the conduct and equipage of the Nazi army. During the past third of a century industrial chemists have developed many workable processes for devising "artificial" rubbers. But it remains a reasonably safe inference that even the most practical synthetics cannot be produced as cheaply as the natural latex.

But the current Axis war, charging and spreading on rubber tires instead of shoe leather, gives new import and powerful motivation for creating larger volumes of synthetic rubbers, motives arising not only from supermechanized warfare, but from blockades, tariff barriers, national price control, and numerous other industrial complications.

Chemically the issue of rubber fabrication is comparatively simple. The basic rubber material, sometimes called "Isoprene," is a hydrocarbon—one of the most common atomic combinations in nature—the basis of alcohol, coal, petroleum, and fats. The task of synthesis is one of rearranging the atoms of carbon and hydrogen to produce a rubberoid material.

But industrial chemistry apparently prefers to avoid the term "synthetic rubber." "Elastomers" is the current term for substitute materials which approximate the structure of true rubber, rather than its actual chemistry. "Buna" from "butadiene," a gum base similar to rubber and obtainable from numerous hydrocarbon sources, and "natrium," German title for sodium, a metal used to expedite formation of butadiene, has proved the foremost elastomer thus far used by equippers of the German army.

This particular rubber substitute is no feather in the cap of German chemistry. It was suggested by an English chemist in 1910, and is one of more than twenty elastomers which have been manufactured by various United States industries to meet specialized plastics needs. The Du Ponts, Standard Oil Company of New Jersey, Union

Carbide and Carbon Company, Dow Chemical Company, the B. F. Goodrich Company, and the Firestone Tire and Rubber Company are among United States manufacturers who had developed workable elastomers long before Hitler climbed to power.

Commercially speaking, the manufacture of rubber substitutes still evidences serious drawbacks. As this book is written genuine Hevea rubber is worth about 20 cents a pound, while the basic costs of rubber substitutes range from 35 cents to \$1 a pound. Except for use in war or promotion of boycotts, exorbitant costs of rubber substitutes are to be justified only on grounds of particular industrial properties wherein a synthetic can be made superior to natural rubber in resistance to heat, acids, or other specialized uses.

All too evidently, the possibilities for meeting United States rubber requirements with synthetics are entirely out of reason. During 1939 our rubber imports totaled 592,000 tons, while total manufactures of synthetic rubbers probably did not exceed 2,000 tons. It is currently estimated that, if the United States were forced to fabricate its entire rubber supply by the Buna or comparable industrial processes, costs of necessary factories alone would be at least a quarter billion dollars, with many more millions to be spent for indispensable research and years of ruinously expensive waiting.

Factually speaking, today's story of "natural" rubbers is materially more challenging than that of synthetic elastomers. As we have already noted, the principal supply of all natural rubber, whether from the wilds or from cultivated plantations, is the *Hevea brasiliensis* tree, an equatorial plant which grows most densely in a vast semicircle, beginning with the Brazilian state of Pará and ending at the foothills of the north Peruvian Andes.

This Hevea tree is rather unusual in appearance. In the jungle country it grows to a height of 100 or even 150 feet with a trunk diameter of from two to five feet. The trunk is a sort of ashy gray and extremely straight. The branches grow high and the dark-green leaves appear almost black under the tropical sun. When grown in the open, the trees are much smaller, and broader of top.

Six pounds of latex a year is a good average yield for a mature

“wild” tree. Plantation yields of raw rubber range between 600 and 1,200 pounds to the acre yearly. The tree grows rapidly, and can therefore be tapped when it is ten to twelve years old. The usual period for draining the sap covers the “dry season” of the area, or lasts from four to five months. When overbled, or tapped regularly for several years in succession, the Hevea frequently becomes *can-sado*, or tired, and the flow of gum diminishes throughout a “rest period” ranging from two or three to seven or eight years.

Amazon-style Hevea tapping is a highly formal and routinized labor. The *seringueiro*, or sap taker, having learned the trails and the trees, begins work at early dawn—since midday heat retards the flow of sap. Nowadays his basic working tool is an extremely sharp, blunt-faced pruning knife. It used to be the *machadinho*, a sort of hatchet or hand ax. As in chicle harvest, the incisions are made into the inner bark, and are skillfully spiraled and interlocked to feed into small catchcups.

Each day during the harvest season these cups must be collected and drained of the thick milky latex. By rubberland custom the *seringueiro* spends his mornings at tapping trees and collecting the “milk” and his afternoons at smoking or coagulating the raw rubber. To do this he simply builds a fire in the smokehouse, or *fumador*, which is a hut usually thatched with palm. Since the fire must be extremely smoky, palm nuts are the common fuel, and a metal cone placed above the fire concentrates the smoke rise while the *seringueiro* takes a long wooden pole, dips it into the latex, turns it above the smoke funnel and so starts the *pella*, or ball, pouring on additional “milk” by the cupful. It is slow and tedious work completed only when the big black ball of spongy rubber grows to a weight of around a hundred pounds and so becomes ready for shipment to market.

Though harvest techniques vary with the place and time, grades of Hevea are comparatively uniform: *fina*, or “fine hard Pará”; *entrefina*, the medium quality; *seramby*, the low-grade and scrap rubber. But in terms of realistic commerce, “wild” rubber is most definitely on its way out. For example, in 1937, the last year for which export figures appear to be available, Brazil’s total shipment

of the jungle harvest was only 14,793 metric tons and Ecuador's was 144 tons, for a South American total which amounted to only 1.41 per cent of world exports of a crop which once grew almost exclusively within the Americas.

Thus South America, home of the all-precious *Hevea*, falls far behind the present-day international parade of rubber. Considering 1937 a "typical" rubber year, the following table recites the story in rather nonelastic digits:

SHIPMENT OF CRUDE RUBBER FROM PRODUCING
COUNTRIES, 1937

<i>Country</i>	<i>Tons</i>	<i>Per Cent of Total</i>
1. Malaya (British).....	469,960	41.40
2. Netherlands East Indies.....	431,646	38.02
3. Ceylon (British).....	70,359	6.09
4. French Indo-China.....	43,399	3.82
5. Siam	35,551	3.13
6. Sarawak	25,922	2.28
7. South America.....	16,008	1.41
8. North Borneo.....	13,213	1.16
9. India	9,777	.86
10. Africa	7,731	.68
11. Burma	7,232	.63
12. Mexico (guayule tree).....	2,692	.23
13. Philippines and Oceania.....	1,617	.14
14. All other countries.....		.50

Thus the march of rubber has progressed eastward, with about 96 per cent of the entire commercial harvest now taken from the Oriental tropics. The story of this migration is primarily a study of plantation development and of the ambitious investment enterprises which have made such development possible. Thus Singapore has replaced Pará as "rubber capital of the world" and the colorful work of the American *seringueiro* is largely replaced by highly modernized Far East plantations; with thousands of well-tended acres planted to the orderly lines of the gray-barked trees, with railroads

and tramways instead of jungle trails, with modern mills and warehouses replacing the picturesque fumadores.

These rubber plantations are supplemented by vegetable gardens, rice fields, and subsistence plots for the low-waged laborers, and with secondary field crops for lesser profits to the proprietors. Trees are planted about two hundred to the acre. Latex is strained into giant vats, coagulated with acids, and milled into porous sheets called "crepe," which are graded and baled for export.

The United States now consumes more than half the entire rubber production of the world. But the ponderously huge and skillfully managed Hevea plantations of the south Orient have gained not only a virtual monopoly on natural rubber production, but an all-powerful cartel for its international marketing. The story of this amazing cartel is told as follows by José Carlos de Maredo Soares.¹

Confronted by the low prices accompanying the depression of 1920-22, when rubber sold for 14.5 cents a pound, Great Britain, then controlling approximately 69 per cent of world production, enacted what came to be known as the Stevenson Restriction Act. This law provided for the restriction of rubber exports from and the harvesting of rubber in British territorial possessions. It went into effect in November of 1921; during the ensuing five years exports lagged behind the increasing demand, and in 1925 prices went to over a dollar a pound.

Meanwhile the Dutch, contrary to joining the British plan, augmented their production enormously through extension of plantations and use of the bud-grafting system which they had developed. Between 1921 and 1927 annual rubber exports from the Netherlands East Indies increased by 157,000 tons. . . . The Stevenson plan consequently went out of existence in 1928 and no other action was taken until 1934, when the Dutch and French agreed to cooperate with the British in putting a new plan into effect.

The new Rubber Producers' Agreement applied to British Malaya, Netherlands East Indies, Ceylon, British India, Burma, French Indo-China, North Borneo, Sarawak and Siam . . . and was to remain effective until December 31, 1938. With minor modifications the Agreement

¹ *Rubber, an Economic and Statistical Study*, Constable & Company, Ltd., London, 1939.

was extended through 1943 by action of the member countries on August, 1938. Under the Agreement each member country is granted a quota based on the average production for 1929-32; export percentages of these quotas are then fixed at intervals by an International Rubber Regulation Committee in accordance with world prices for raw rubber. The new agreement, while including more producers than the old Stevenson plan, is more elastic with respect to exports of rubber in relation to demand and so far has not tended to drive up the prices unduly.¹

Besides being one of the first widespread experiments in acreage and export control of a vital international crop, the Stevenson Act was successful in arousing several American manufacturers of rubber to the serious dangers of allowing foreign powers an absolute production control of natural rubber. The United States Department of Agriculture and agricultural ministries of several Pan-American governments have recently renewed their studies of American rubber-bearing plants and agrarian possibilities for reviving the once great rubber resources of the Americas. As we have already noted, the Goodyear Company bought rubber-growing concessions in Panama and Costa Rica, in 1935 and 1936 respectively. Still earlier the Ford Motor Company, which began manufacture of automobile tires in 1938, had organized a Brazilian corporation, Companhia Ford Industrial de Brazil, which has acquired a concession from the state of Pará for about 2,500,000 acres of Hevea-bearing lands at Boa Vista on the Tapajos River, and at Belterra, where first Hevea seed were exported for foreign planting more than half a century ago. "Fordlandia," headquarters for the Boa Vista plantations, is now a highly modernized town of some 2,500 people, and perhaps 15,000 acres are already planted to rubber trees.

The Panama plantation of the Goodyear Company, located in the lowlands near Gatun, is just now coming into bearing. Seed from the Hevea trees acquired by Goodyear are being delivered to the Panamanian government for distribution to national farmers and planters. By concession terms three-fourths of all employees of the plantation are citizens of Panama. The same general situation ap-

¹ *Rubber, an Economic and Statistical Study*, Constable & Company, Ltd., London, 1939, p. 132.

plies to the Goodyear Costa Rican Hevea farming experiment which is now beginning to produce excellent commercial rubber. Both undertakings are being watched with widespread interest. For they are highly significant tests of Central American capacity for producing commercially, and by plantation tenure, the Hevea heretofore untried in the Middle American mainlands.

But certain other rubber-bearing trees are distinctly indigenous to Middle America: the *Castilloa elastica*, for example, which is native to many parts of Central America and well proved as a commercial rubber source, and the guayule, a native Mexican shrub, which is already under commercial cultivation in several sections of that republic. Harvest of rubber from *Castilloa*, or *Castilla*, is considerably different from that of the Hevea harvest. *Castilloa* trees can be tapped only three or four times a year. Since extraction of this latex, called *caucho*, is rather more difficult than that of Hevea milk, this has led to careless destruction of a considerable part of the wild growth of the tree. For the aboriginal practice is first to bleed the tree at its base, then fell the tree, cut circular grooves about the trunk and thus to allow the latex to pour out and coagulate on the ground. Self-evidently, such extravagant harvest cannot endure.

Continued spread of a vast Old World war, the fact that American factories now produce at least 2,000 staple products made of rubber, and that the American republics actually consume nearly 70 per cent of the world's supply of natural rubber sharpen the challenge to regain this superlatively important crop.

Without rubber our gigantic automotive industry would most probably collapse. With the demise of automobile manufacture would go most of the demand for gasoline and petroleum products—along with the jobs of perhaps 15,000,000 American citizens. Failure of rubber would almost unquestionably spell collapse of the industries of steel, glass, and electrical manufactures. It would incapacitate or impede most tractive machinery used in agriculture and public works. Since 1919 United States demands for rubber have increased twelvefold. If rubber-producing resources of South and Central America could be restored, rubber might again become the

greatest of all bonanzas to inter-American trade, for inevitably our demands will continue to increase.

During 1939 the United States imported for manufacture a total of 592,000 tons of raw rubber. This represents the harvests of two-thirds of a million acres of rubber plantation, employment of nearly a quarter million people, and the beyond-the-hemisphere outgo of about \$135,000,000 in United States buying power. (This estimate is based on prices current August 1, 1940.)

A vast, newly instituted national defense program for the United States throws into still bolder relief the hazards of continuing surrender of an indigenous and vitally important American crop to insecure colonies of a belligerent and tragically upset Europe. Indeed, lack of an American rubber supply is today one of the ominous weak points in plans for co-ordinated defense of this hemisphere. Furthermore, now that the British production of raw rubber is one of the most ambitious monopolies in the history of international trade, there is no certainty that world prices of rubber will remain stable or that the present United States supply will not be seriously restricted or even cut off.

This too evident dilemma is equally applicable to most other American republics. Latin America now uses several times as much rubber as it produces. Even Brazil, world center for wild rubber, and first cradle of rubber industries, now imports thousands of tons of British and Dutch latex from the Eastern tropics as do Argentina, Chile, Cuba, Colombia, Mexico, Peru, Guatemala, and Venezuela.

But there is an improving chance that American republics may regain at least part of the great agrarian heritage of rubber, and a distinct chance that the rubber plantation may eventually become a productive American institution. But to date American development of rubber plantations is infinitesimal. There are reasons for this. The agriculture of rubber is more than ordinarily debatable. For one thing it involves recruiting and holding suitable supplies of native labor. It requires the building and maintenance of costly roads and railroads which frequently must reach far into jungles,

mountains, and swamps. It requires extensive medical facilities, since no tropical agriculture can succeed unless its working personnel is in good health. It involves the usual dangers of destructive rivalries between producing sections, and requires long-term investments, credits, and leases, since twelve to twenty years are required to bring the Hevea tree into profitable bearing. Like virtually all other vegetation, rubber-bearing plants have disease enemies, and the fact of adapting any wild crop to plantation agriculture can be expected to involve additional disease-prevention problems.

Furthermore, high prices for crude rubber are no longer to be anticipated. Since 1934 the general trend of rubber prices has been downward. According to rubber experts, profits are still readily possible on plantation-grown rubber. For example, Everett G. Holt, rubber authority for the Bureau of Foreign and Domestic Commerce of the United States Department of Commerce, in an address delivered before the Eighth American Scientific Congress in Washington during May, 1940, said:

Experience with international rubber regulation over the period since 1934 indicates a probability that those in control will strive to maintain the average price at 15 cents a pound, or higher. This price is sufficient to yield good profits to properly organized, efficient plantations which are not subject to excessive taxation. So long as international rubber regulation is successful in the eyes of rubber producers in controlled areas, it must obviously hold a price level for rubber that will in effect guarantee very nice profits to any equally efficient plantation operated outside the restricted areas.¹

Continuing his discussion of rubber marketing, Mr. Holt says:

. . . One must always remember that to some extent rubber is replaceable, and may be less used if its price is too high. Reclaimed rubber made from wornout rubber products finds greatly increased use when new rubber is high priced. In 1927, when rubber averaged about 40 cents a pound, the United States used over 50 percent as much reclaimed rubber as new rubber; in 1939, with 17-cent rubber, our manufacturers used less than 29 percent as much of reclaim as of new rubber. Plantation

¹ Quoted from the *Bulletin of the Pan American Union*, Vol. LXXIV, No. 7. July, 1940, pp. 496-497.

rubber-producing interests do not desire to retard demand for their product by stimulation of competition, either by way of reclaimed rubber, or by the production and use of synthetic rubber, or by the planting of additional areas of Hevea, or by experimentation with other rubber-producing plants. Nevertheless, they are maintaining a price level which is moderately encouraging to research in all of these directions.

Ever since the plantation industry put an end to the era of advancing prices for jungle rubber, informed Americans have desired that rubber production in the Western Hemisphere might recover its position of leadership in world output of the commodity, and present world conditions afford an opportunity for such an undertaking to gain headway, and almost demand its initiation . . .¹

Mr. Holt adds that, should the present regime of international control of rubber production come to an abrupt end, there is a good chance that rubber prices might temporarily fall. But he does not see the manufacture of rubber substitutes as a serious hazard to Hevea agriculture:

After a careful survey, my division finds that in the United States in 1939, the manufacturing industries used less than 2,000 tons of neoprene, thicol and imported buna synthetic rubbers, against over 590,000 tons of natural rubber and about 170,000 tons of reclaimed rubber . . . There now exists, therefore, a commercial opportunity to develop natural rubber production on plantations in this hemisphere.

Mr. Holt states the belief that factory production of synthetic rubber can be increased more rapidly than new plantation production of natural rubber. But I discover that actual developers and manufacturers of synthetic rubbers are inclined to take issue with this opinion. A laboratory director at Du Pont's emphatically denies the premise and a chief construction engineer for the Standard Oil Company of New Jersey tells me that, whereas Hevea plantations are ordinarily brought into production within fifteen years, actual building and equipping of factories for making synthetics, if accomplished in "normal business order and without heavy government subsidies," would require between fifteen and twenty-five

¹ *Bulletin of the Pan American Union*, Vol. LXXIV, No. 7, July, 1940, pp. 496-497.

years; even with "lots of good luck." They suggest also that, if subsidy must be resorted to, it might be considerably cheaper to subsidize or advance credit to actual rubber planters than to super-technical chemical industries.

These opinions are merely quoted. But the fact that rubber plantations are now materializing within the Americas is noteworthy. A new generation of tropical planters shows promise of succeeding in enterprises in which earlier ventures failed. For example, early *Hevea* plantations in the Guianas were abandoned when invaded by the so-called South American leaf disease, one of the more serious natural enemies to tree rubber. Today, authorities such as Loren G. Polhemus of the Bureau of Plant Industry, United States Department of Agriculture, believe that control of this leaf disease is easily possible. Commercial plantations of *Castilla*, or *Castilloa*, tree, principally in Mexico, have thus far failed to endure, because of revolutions and political ferment frequent in that country.

Certainly the problems of American-grown rubber are not simple. The day is clearly past when highly routinized industries can be provisioned from the jungle. Yet it was rubber snatched hastily from the American jungle that launched an industry now of vital importance to all mankind. And, regardless of upset economies in a badly tumbled world, it seems inevitable that manufacture and consumption of rubber will continue to expand. Even in an age of synthetics and of rapidly changing sources, it is a reasonably safe bet that the inveterate competition of basic materials will in one way or another survive. Thus far, perhaps, no crop of dominant world-wide importance has been abandoned or made obsolete by competition of synthetics.

The Americas still lead the world in uses of rubber and in per capita consumption of rubber. Since the Americas are botanical home for rubber-bearing plants, since American initiative can still be expressed in agriculture, transportation, manufacture, merchandising, and investment enterprise, instead of in dive bombers, flame-throwing tanks, and incendiary bombs, to predict an early revival of American rubber production does not seem an unreasonable hazard.

Recently the United States Department of Agriculture, with a special appropriation from Congress and the help of several Central and South American governments, renewed studies of American rubber-bearing plants, which include the Mexican guayule shrub, already under commercial cultivation, the Castillos, as well as Hevea.

Late in 1940 field forces of the United States Department of Agriculture began location of six rubber-growing experiments scattered throughout Central America, with a central experiment colony being located near Turrialba, Costa Rica.

I have recently had the pleasure of visiting in Central America with such rubber-growing authorities as Rand and Allard of the United States Department of Agriculture and with Hargis of Good-year, who is perhaps the highest authority on rubber plantations of the Oriental tropics.

In general, these men and their associates believe that Hevea rubber can be grown successfully and in substantial amounts within various portions of Middle America—in medium highlands as well as in low-lying jungle country. They are visibly aware of the hazards and difficulties involved. In general they believe rubber plantations can become a commercial success and that native labor supply is sufficient; that principal railroads already in operation are sufficient for primary communications, and that comparatively high levels of farm wages (estimated at approximately two and one-half times wage levels now common to the Oriental tropics) can be met by use of higher producing varieties of Hevea trees.

First surveys suggest that Guatemala, Costa Rica, and perhaps Panama are among the more promising of potential rubber plantation areas of Middle America. Survey work and initial planning still await completion. The first hope of the Department of Agriculture researches is that, when once rubber plantations are brought into successful bearing, interest in the crop will "take" among local governments and native planters alike, and thus bring to fruition perhaps thousands or tens of thousands of independent rubber plantations which can ultimately win and hold a place in the production of natural rubber.



COCONUTS FOR
PLANTING



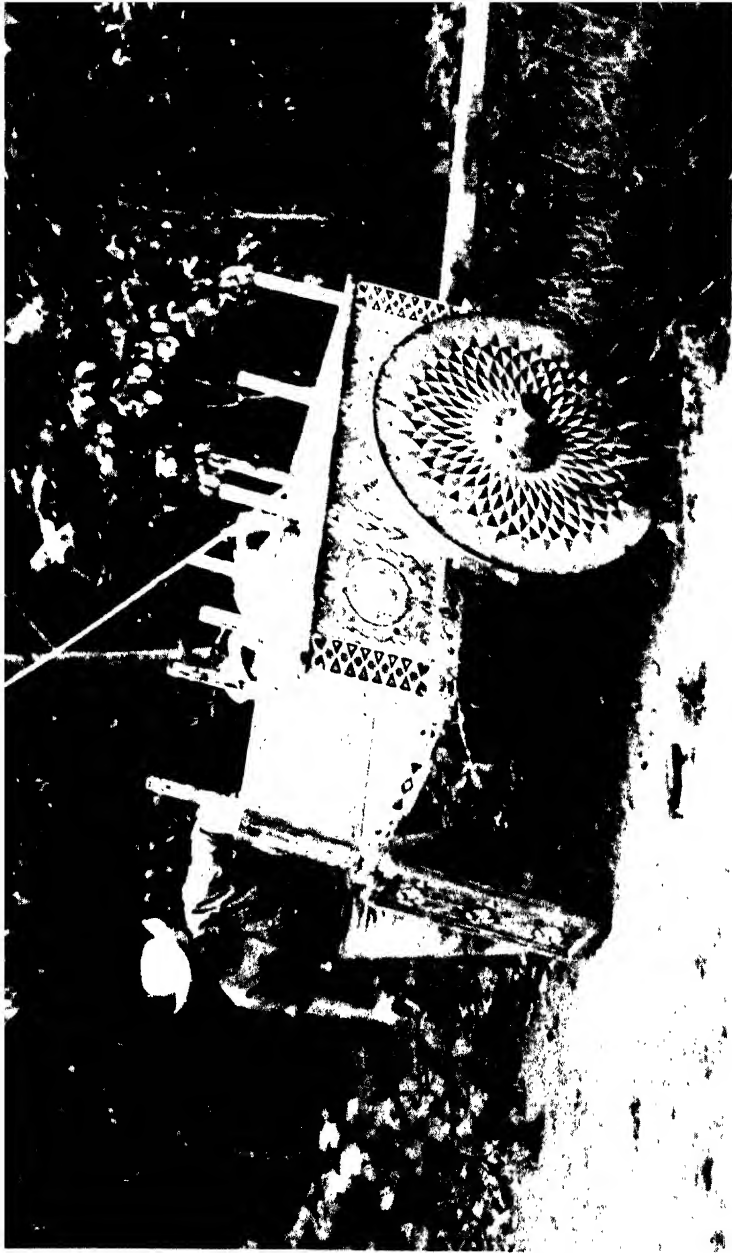
HARVESTING COCONUTS



(Top) THE CHOCOLATE, OR COCOA, PLANT.
(Bottom) A FIELD OF SUGAR CANE.



(Top) ALTERNATE ROWS OF COTTON AND CORN.
(Bottom) THE CORN GROWS TALL.



THE FARMER'S PRIDE: HIS BULLOCK CART BEAUTIFULLY DECORATED IN AZURE AND GOLD

EXPERIMENTAL CROPS

THE PHRASE "experimental crops," as applied to Middle America, is convenient if only mildly accurate. Middle America is actually a world cradle of vegetation. It is a far-flung geography which tends to support the pre-Darwinian contention that life began in the tropics; that most, or all, of the great plant families began and multiplied in tropical settings, which are free of winter freezing, severe drought, and other grave liabilities of temperate climates. Perhaps during Mesozoic ages all the earth was lush and tropical.

No doubt actual locales of tropics have changed drastically through the centuries. But lands and climates of Middle America, ranging from equatorial tropics to highly modified subtropics, have endured long enough to cradle and sponsor propagation of many of the greatest crops of mankind.

Earlier chapters of this book have mentioned great crops, such as coffee, bananas, and sugar, which have been transplanted to Middle America—there to gain world dominance, while of other Middle American crops, such as rubber and quinine, producing centers have been removed from Middle America to other tropical portions of the world. It is also worth pondering that many of our great Temperate Zone crops have likewise been lifted or adapted from the botanical wonderlands of Middle America. For example, corn, by a wide margin the chief field crop of these United States, is presumably an aborigine of Middle America. So is the white potato, now the foremost vegetable crop of the United States and Continental Europe. So, perhaps, is the peanut, one of our more important food

legumes. So are avocados, papayas, and other harvests which are gradually becoming adapted to southernmost areas of the United States.

Middle America remains an important botanical laboratory of the world. Its plant census is enormous—thousands of species of forest trees, tens of thousands of species and varieties of herbaceous plants. The briefest possible listing of all important plant families of Middle America would fill this and several other books.

Not long ago, in an eternally pictorial public market of Guatemala City, I sat and meditated on this dilemma. As hundreds of perennially interesting and likable Guatemalan Indians offered their home-grown wares for sale, I counted, besides at least fifty kinds of native vegetables, about eighty different kinds of Guatemala-grown fruits. These included quinces, bananas, oranges, limes, peaches, grapes, melons and cherries; also avocados, mangoes, papayas, perote granadillas, sushines, zapotes, coyoles, manzanas, pomarosas, injertos, tunas, guayabas, coconuts, nances, jocotes, caimitos, manzanillas, acerolas, sunsas, chicos, isacos, nisperos, piñuelas, ayotes, mastasanos, granadas, pitahayas, tangerines, paternas, guapinoles. Most of these harvests are common to numerous areas of Middle America. Some, such as mangoes, papayas, and pinuelas, are already finding place on food markets of the United States. Sooner or later many others may be buyable at your corner fruit stand.

Any recitation of agricultural resources of Middle America must remember that apparently minor or experimental crops of today have a talent for becoming great crops of tomorrow with important bearing on inter-American trade and social relations generally. And, locally speaking, many of these "minor or experimental" crops are neither minor nor experimental, for they have become staple necessities of a given area, wherein they have been propagated and harvested for many centuries. Some crops, of unquestioned importance to Middle America, are apparently and for one reason or another pretty well removed from business horizons of the United States. For example, Middle American crops such as indigo and cochineal, highly important dye materials, are apparently antedated by a prime era of industrial or synthetic dyes.

But among Middle American crops which I here take the liberty of listing as experimental are three plant families which now seem to be of particular importance to life and industry of the United States—vegetable waxes and oils, tanning materials, and hard fibers.

Linseed, the main vegetable oil export of Latin America, is not widely adapted to lands of Middle America. In fact, linseed and cottonseed are the only important vegetable oil crops now commonly grown outside the tropics or subtropics. Otherwise vegetable oils are preponderantly of the tropics. This is true also of vegetable waxes, another topic of extreme importance to United States industry today.

The terms "fat" and "oil" are interchangeable. So, generally, are their sources, whether vegetable, animal, or mineral. But chemistry and commercial uses of waxes are very different from those of fats and oil.

Middle American resources in vegetable oils include many members of the vast family of palms—the coconut, the royal palm (which bears a melon-sized, extremely oily bean), and the cohune palm which is particularly common to Guatemala and Honduras, though its proved growing range stretches from southern Mexico to southern Brazil. The cohune nut contains a highly oily kernel enveloped in a shell or burr. The oil, easily extractible, is similar to coconut oil and is used for making butter substitutes, for confections and soaps, for hair tonics, leather processing, and in pharmacy. There are various subspecies of the same palm which are known as *coquito* or *corozo*. In all, cohune nuts have long been harvested in all principal republics of Middle America. At the present time their exports are of no great importance, though their local uses are numerous and important.

Castor oil, made from the seed of the castor plant, is another eminent crop of the American tropics. The plant, *Racina communis*, grows wild as well as under cultivation throughout Central America and tropical South America. Besides being a medicinal stand-by and topic terrible for young children, the oil is of tremendous im-

portance in aviation and gunnery, in manufacture of inks and imitation leather, in dyeing cloth, and (believe it or not) in the manufacture of perfumes. Brazil is foremost American exporter of castor seed, with exports to the United States increased eightfold during the past fifteen years. However, at least temporarily, a great majority of the world supply of castor products comes from India and South China, where British colonial enterprise and Japanese merchandising intrigue again "beat the time" of the Americas. Yet, the harvest gradually increases in Central America.

Sesame, or *ajonjoli*, or teel, is another oil-bearing plant of Middle America, which at least in Mexico, Cuba, and in limited areas of Central America begins to find its place as a cultivated crop. It is a low, leafy herb, two to four feet high, bearing clusters of deep-red or pale-yellow seeds rich in a sweet oil highly popular as a base for salad dressing and various types of confections.

The peanut, also a crop indigenous to Middle America, is another noteworthy source of vegetable oils which is outstandingly important to tropical Americas, though it has not yet become a noteworthy export. But in terms of United States trade it is worth noting that, while the peanut is an extremely important crop of the United States, we do not produce nearly so many peanuts as we consume and at least until the present year our manufacturers have been importing huge amounts of peanut oil from China, Japan, India, and Africa. The sunflower is another oil-bearing native of Middle America. So is the *Argemone mexicana*, or prickly poppy, from which is made luminous paint. Furthermore, Oriental oil crops, such as the tung tree and soybean, are beginning to find places in the agricultures of Cuba and Central America.

But in terms of Middle America as a whole the future of wax crops seems even greater than that of oil crops. The United States, the world's greatest consumer of waxes, lacks a sufficient domestic supply of vegetable wax. Our honey and apiary industries provide only about half of our needs for beeswax. In Mexico, Central America, Cuba, and other Caribbean islands, where flowers are eternally in bloom, there now develop highly promising honey and beeswax industries with steadily increasing export.

Our most important industrial wax is carnauba, taken from the leaves of the carnauba palm, and essential to manufacture of furniture polishes and floor waxes, automobile finishing, various types of insulation material, for phonograph records, shoe polishes, carbon paper, and other uses.

Carnauba is a wild-growing palm, some fifty feet high, and topped with a giant circle of webbed leaves. The wax forms on the surface of these leaves. It is harvested by the direct method of clipping off the leaves, drying them, then beating off the wax which falls in particles on canvas sheets, then heating the wax and molding it into bricks or transforming it to liquid solutions.

Brazil is home of carnauba and principal producer with exports of about 21,000,000 pounds a year, roughly 60 per cent of which comes to the United States. But the palm can also be grown in lower Central America where its commercial future is of definite promise.

Similar to carnauba and even more versatile of use is another vegetable wax of Middle America called *candelilla*, a perennial herb which grows extensively in Mexico and Guatemala and to some extent in midland areas of lower Central America. This wax is extracted by boiling the plant in water to which a dilute acid solution is added. Also in Middle America grow numerous grasses commercially worth while because of volatile oils. Lemon grass, or citronella, is typical of the group. And there are various others which may someday be of comparable importance, most of them growing wild.

Tanning materials, essential to our huge leather, hides, and shoe industries, include another group of Middle American crops which hold outstanding promise of future greatness.

Processes of commercial leathermaking require vegetable tannin as a curing agent. There have been and remain numerous sources of this material and many types of tannin are required in leather trades. The barks of oak and hemlock trees were the original sources here in the United States. Other common North American trees such as sumac and canaigre have also provided commercial tannin. But for many years the foremost United States source of

tannin has been chestnut-wood extract, superior in various ways to all rival woods of North America. But beginning about 1920 forests and wood lots of chestnut native to our eastern and southeastern states were stricken with a highly contagious blight presumably imported from the Orient. Within ten years comparatively little white chestnut timber remained on this continent.

Today and for a number of years past, the leather industries of the United States have been seeking new and more dependable sources of vegetable tannin—suitable timber stores for supplying approximately a quarter million tons of extract consumed yearly by our leather industries.

Our fast-vanishing domestic supply of chestnut is now capable of furnishing less than half this requirement. And the ruinous blight spreads to remaining holdings of the timber, with the strong probability that within another decade chestnut timber will be face to face with extinction. Meanwhile since 1900 a considerable part of all tannin used in the United States has been imported. This proportion is now at least one-half and between a fourth and a third of our total consumption of tannin now is taken from the vast Quebrecho forests of lower South America.

It is commonly agreed that the republics of South America hold the largest reserves of virgin forest in all the world. It is evident that the quebrecho pine is a superb source of commercial tannin and that its stand is immense. But we know, too, that there are many other sources of tanning materials in Middle America. Scores of the materials are used locally and with success throughout the entire area of the Latin-American cattle ranges—extending from northern Mexico to Tierra del Fuego. Dr. T. H. Norton, of the United States Department of Commerce, listed 143 vegetable sources of tannin in Latin America, sources which include the bark, root, fiber, heartwood, leaves, or fruit of as many trees and shrubs.¹

It seems reasonable to forecast that some of these tannin sources will eventually be of vital importance to the ever-important leather

¹ *Tanning Materials of Latin America*, by Thomas H. Norton, U. S. Department of Commerce. Washington, D.C., 1933, pp. 1-19.

industries of the United States and many other American republics. At the present time only three sources of tannin are in widespread commercial use within the United States. These are quebracho, mangrove, and divi-divi. Mangrove is a dominant tree growth of the tropical jungle from Mexico south; a tangled sprawling tree which grows by the unmeasured mile along coastal plains and riverbanks of Honduras, Costa Rica, Panama, Colombia, Venezuela and the Amazon Basin, and throughout the American tropics. One of the most common of all tropical plants, mangrove supplies the type of tannin used in heavy or stiff leathers, particularly shoe soles. Were it not for mangrove tannin, our shoes probably would wear only half as long as they do.

If the resource were harvested, even in one comparatively small area of American jungle, any one tropical republic could probably supply all mangrove needs of the world. But here again is a startling inconsistency of inter-American trade. Mangrove grows also in Africa, India, and the Oriental tropics and manufacturers of the United States, even during a touted era of "Inter-Americanism," continue to import most of their supplies of mangrove extracts from Portuguese East Africa—of all places in creation! Small imports come from Haiti and the Dominican Republic. Other of our American neighbors, particularly Colombia, have striven to make the product commercially available to North American consumers. A prize of nine acres of choice mangrove jungle is herewith offered anyone who can list as many as three intelligible reasons why our shoe soles must be cured with a material imported from Portuguese East Africa when a world's plenty of mangrove waits next door in these Americas.

Divi-divi (to be formal, *Caesalpinia coriaria*) is another tannin crop of Middle America. Its habitat fronts the waters of the Caribbean from Mexico to Venezuela. Divi-divi is a small tree, rarely more than thirty feet high. The tree bears a plump seed pod with a tannin content of around 40 per cent. Thus this tree of the Caribbean coast line becomes one of the most readily available of all tannin harvests, with prices averaging in the vicinity of 5 cents per pound.

The algarobilla tree of Chile is a related plant and a similar source. The cascalote and canaigre plants of Mexico are still others. And, as a member of the Pan American Union remarks, "These various tannin-bearing plants have all emerged to a greater or less extent into the light of recognition and appreciation by the world's tanners and chemists. But occupying a twilight region or still hidden away entirely in the dark are a multitude of trees and shrubs the bark, leaves, roots and other parts of which would prove invaluable aids to the business of making leather."¹

Also among the host of comparatively unsung but superlatively important crops of Middle America are the fiber crops—among them sisal and henequen, the stand-by fibers for binder twines.

Throughout most of the world of today agricultures and industries continue to merge. Consider, for example, our small-grain crops, particularly wheat (greatest of our cereals), oats, rye, barley, and indeed all other small grains now under mechanical harvest.

In our grandfathers' time all these great crops were harvested by hand—cut with scythe or sickle or cradle and wrapped into bundles with handfuls of straw. Times and practices change. Today in the United States at least 100,000,000 acres of cereal grains, producing between two and three billion bushels yearly and underwriting the economic life of our livestock and farming industries, are being harvested mechanically—with reapers or with the highly mechanized combine which mows, threshes, and sorts the grain at a single operation.

Mechanical harvest has created enormous demands for binder twines with which hundreds of thousands of mechanical reapers tie hundreds of millions of bundles of grain. During the first World War, United States consumption of binder twines totaled about 200,000,000 pounds per year with an additional 100,000,000 pounds exported to graingrowers of other nations. Nowadays demands vary considerably with acreage of grain and continued development of grain-harvesting mechanics. But the demands for hard-fiber twines remain of essential importance to graingrowers throughout the

¹ *Tanning Materials*, Commodities of Commerce Series, Publication No. 6, Pan American Union, Washington, D.C., 1938, p. 16.

Americas. This means, among other things, that the supply and cost of our daily bread are still directly dependent on the supply and cost of binder twines.

Most commercial binder twines, and a long list of similar products, are made of henequen, a distinctive crop of the dryland of the American tropics, and sisal, which is grown principally in tropical East Africa, the Bahamas, Java, and the Hawaiian Islands. A similar crop, called abaca, is native to the Philippines. Soft fibers, such as hemp, jute, and flax, though of essential importance in other manufactures, are not suitable substitutes for the sisal-henequen group of hard fibers.

For the past century, the world stronghold of henequen production has been Yucatán, that somewhat wild, highly distinctive state of Mexico. Since 1900 Yucatán henequen has provided approximately 80 per cent of the world's total and indispensable supply of binder twines; sisal furnishing approximately 10 per cent.¹

Henequen is invariably a crop of the dryland tropics. It is a sort of cactus, three to six feet high, dull green, with burry stub and long spearlike leaves striated with tough, resilient fibers. Its botanical name is *Agave fourcroydes*, and it is presumably native to the Yucatán peninsula. Its propagation demands a tropical or subtropical climate, entirely free of frost and a conservative annual rainfall of from 25 to 40 inches. It thrives in various types of soil and today it is grown successfully in many other parts of Middle America. For three-quarters of a century the amazing state of Yucatán has contained numerous henequen plantations, which include some of the most ambitious farm structures of this hemisphere. There are now henequen plantations in the other Mexican states, in Chiapas, Sinaloa and Tamaulipas, for example, and in northern Cuba, El Salvador, Guatemala, and other comparative drylands of Central America.

We know with comparative certainty that the henequen can be grown successfully throughout the semidry areas of Middle America and that it apparently cannot be grown with success in any other

¹ My authority is T. H. Edwards, Specialist in Fiber-plant Production, Bureau of Plant Industry, U.S. Department of Agriculture, Washington, D.C.

tropical countries. Sisal, a close relative of henequen, can be, for it is grown commercially in many other tropical lands. But henequen appears to be a distinctively American resource. As such it is an important crop which bids fair to gain still greater importance.

It is a more or less continuous harvest, and its economy is somewhat similar to that of tropical orchard crops. As a rule the plants are started in nurseries, transplanted to fields where they require comparatively little cultivation. There is considerable variation in rate of growth, but the plant usually reaches productive maturity by its seventh or eighth year. Thereafter, at intervals ranging from twice to five or six times a year, workmen go into the fields and clip off the underlayers of sharp-spiked leaves, which they stack or bale and carry to a fiber-removing machine which strips the tough fibers from the blades, or "spines." Mechanical clearance of the fiber requires considerable machinery and for purposes of efficiency it is usually desirable that acreage be large enough to keep at least one fiber-removing machine working all the time.

Today henequen is far past the stage of experiment. It is, and long has been, a staple world commodity. But its growing range continues to increase and its significance in Pan-American trade becomes greater, particularly in dryland areas whose capacities for growing marketable crops would otherwise be seriously limited.

Throughout Middle America there rise new echelons of experimental and probable export crops. Some are already well proved. Hundreds of others wait in the shadowland of potentialities. In this catalogue are hundreds of species of trees, some already used in building trades and furniture making, others virtually undiscovered. Almost without exception, commercial realization of these armies of new products is beset with problems and barriers of one kind or another, impediments which are not easily and probably never will be easily overcome.

But the versatility of tropical earth is infinite. In order to appreciate this truth it is well to notice an amassing of plant life such as one sees at the world-renowned Botanical Gardens at Castleton, Jamaica, or the Lancetilla Experiment Farm near Tela, Honduras.

The latter is a tremendously important center of tropical research, sponsored by the United Fruit Company and ably supervised by the Republic of Honduras. In this dazzlingly green valley, three or four miles inland from the palmy port of Tela, have been assembled tropical timbers, bamboos, fruits, spices, dyewoods, corks, and other tropical crops from scores of tropical countries. Many crops from alien tropics thrive and multiply. And as one studies the amazing arena of transplanting, he realizes that crops can be moved from east to west as well as from west to east.

The situation of quinine, one of the essential vegetable derivatives in curative medicine, was never so challenging as it is today. South American countries are the native habitat of the quinine tree, *Cinchona calisaya*, the bark of which yields this essential therapeutic. For three centuries the Andean republics of Peru, Bolivia, Colombia, and Ecuador were the source of quinine for the entire world. Today more than nine-tenths of all commercial quinine comes from Java, Sumatra, and neighboring Oriental islands, where labor is forever cheap, where abundant capital has facilitated well-managed plantations, where scientific cultivation as developed by Dutch botanists, shrewd cartels for international marketing, and planting stock direct from the Andes have united to lift from the Americas another crop of world importance.

Throughout the north Andean states native stands of cinchona are now scarce because of the long-practiced native technique of cutting the trees in order to harvest the bark, and alas, failing to replace them. And yet, the United States demands for quinine continue to grow. The Oriental tropics have gained and earned what now amounts to a world monopoly of supply. Today it is easily possible that the entire cultivated store of cinchona could be lost to the United States and to Latin America. Or ruthless alien combines could conspire to multiply quinine prices tenfold or a hundredfold, leaving the Americas to pay the price (which may be beyond the abilities of tens of millions of Americans to pay) or take the consequences of far-spread and never impossible epidemic malaria.

There is no absolute substitute for quinine. Such newly developed

antimalarial drugs as atabrine and plasmochin, though of great value to mankind generally, are not now and never were represented as complete replacers of quinine. Malaria remains one of man's cruelest enemies. Every year the world total of malaria deaths probably climbs high into the millions. It is common estimate that malaria-type microbes are directly responsible for at least one-third of all tropical sickness. Each year thousands of deaths occur within our own southern states as an immediate result of malaria. At present federal public health services proffer the estimate that as a nation the United States pays an annual tribute of at least \$500,000,000 to malaria and that perhaps 4,000,000 of our own citizens are suffering from malarial infections. It is entirely appropriate that the United States Department of Agriculture now actively co-operates with planters and government authorities of Brazil, Guatemala, Puerto Rico, and other countries of tropical America in varied attempt to perfect seedling cinchonas which can be grown successfully as farm crops for the warmer Americas.

Very recently wholesale drug firms of the United States have begun limited imports of cinchona bark from Guatemala. After trial shipments, independent plantations (in several instances coffee fincas) are today producing some of the highest quality quinine ever to enter a United States port. As virulent malaras wait at our doorsteps, so does a vast agrarian bounty in the form of the one world stand-by malaria curative.

For reasons already indicated, it is neither easy nor particularly accurate to classify Middle American crops as "experimental." New crops and old merge perpetually in botanical commune. The actual agriculture or indigenous propagation is far less "experimental" than are the problems and progress in commercial export. This reality will be discussed at better length in the final chapter, "Middle America Considers the Future." The same chapter will present, at least in outline, some challenging problems incident to rising wage levels of Middle America, which in turn are a substantial part of Middle America's current and gallant strivings for more gracious living standards.

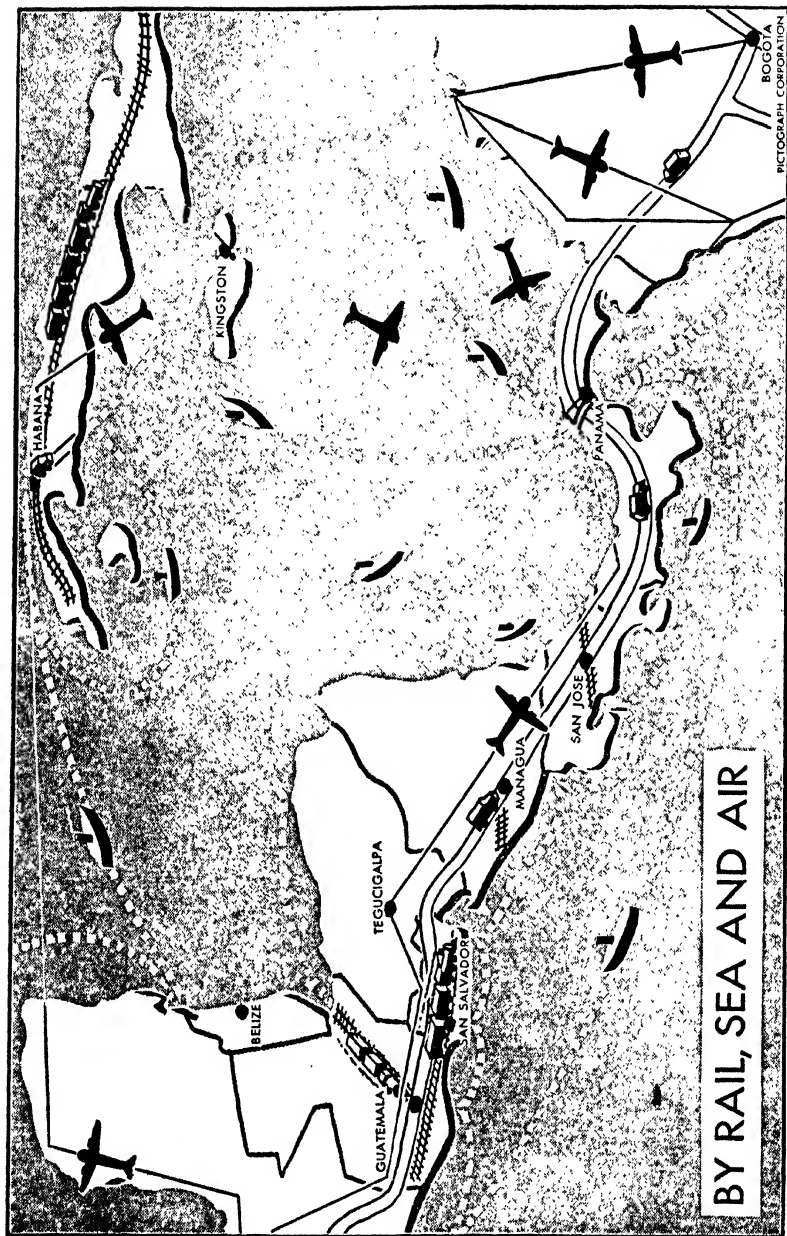
Evolution and development of commercial exports are likewise dependent on the solvency of domestic crops, fruits, grains, livestock, fibers, and other products which, though never intended for export, are nevertheless indispensable to placing into trade the great harvests which are exportable. As previous chapters have suggested, corn is probably the most important crop of the American tropics today. For it is the chief item of human food, a primary staple for millions of citizens, an indispensable for millions of indispensable workers. Beans and rice apparently take second and third place in entries of domestic fare. Casually grown but enormously important citrus fruits, the numerous native fruits, the palm harvests, the glorious abundance of flowers which are bases for some of the best peddler trade of Middle America, the still unmeasured wealth of native timbers, great and perhaps little-known mineral resources, and various other gifts of an ever-generous tropical nature are all essential to the rational development, indeed to the survival, of Middle America's proved exports.

The same is substantially true of the domestic resources in livestock, particularly cattle, swine, and poultry. For these are highly beneficial food items which cannot conceivably be imported for general consumption by poor people of the American tropics. Further, the somewhat promising cattle industries of Middle America also supply a considerable part of motive power required for cultivation, harvesting, and marketing of export crops, as well as leather sources for keeping alive numerous native crafts. Other native crafts, such as hand-loom weaving, are considerably dependent on local production of suitable grades of cotton, while native pottery, wood carving, basketmaking, and similar crafts are absolutely dependent on the local harvest or reclamation of necessary materials.

My point here is simply that the feat of placing great exports of the American tropics into interhemisphere or world trade is unavoidably dependent on purely local agriculture and homecraft within Middle America. However vital a particular export commodity may be to Middle American economy or to our own prosperity or industrial stability, that export cannot be considered a self-entity. It is produced not only from rich earth and propitious

climate, but also from a localized social economy and an indigenous, interlocked routine of agriculture.

Also the birth, growth, and survival of Middle American export trade is unavoidably and endlessly dependent on transportation facilities within itself. For here, as almost anywhere else, wealth is not wealth until it can be carried to market.



BY RAIL, SEA AND AIR

BOGOTÁ
PICTOGRAPH CORPORATION

BY RAIL, SEA, AND AIR

MIDDLE AMERICAN transportation now merges and congeals into one of the most dynamic stories of shipping and communication which the world has ever known.

The story of the banana holds an extremely important place in the still spectacular saga of tropical transportation within the Americas. For the story of the banana goes forward as a story of portability, and of trail blazing.

According to fruit market tradition, the first importation of bananas occurred in 1804, when the Yankee schooner *Reynard* brought thirty stems of Cuban bananas into the port of New York.¹ Presumably these were red bananas, and presumably the public was not particularly impressed with their merits or demerits. For half a century the banana trade remained desultory and occasional. It was confined to ports of the Atlantic seaboard and involved irregular consignments of bananas carried by small sailing schooners used principally for bringing pineapples from Cuba and the Bahamas.

Tropical trade via the schooner may have been "romantic" but presumably it was not substantial. Shipmasters were the proprietors. They sailed tropical waters under tremendous hazard of hurricanes, trade winds, and "hot calms." They anchored at palmy ports, buying any kind of native goods which appeared salable back in the States. Frequently they bought the goods by barter—using whisky, rum, beads, ribbons, Yankee ready-mades, castoff uniforms, or gaudy lodge regalia—in lieu of money. Ultimate success or failure of the

¹ *Fruit Trade Journal*, Vol. 10, No. 9, December 20, 1893.

fruit-carrying voyages depended on wind and weather. If the return voyage could be made within two weeks, there was a chance that the highly perishable tropical fruits could be sold. When sailing conditions were bad, cargoes spoiled. And since schooners usually lacked heating equipment (first imports of bananas were almost invariably deck cargoes), tropical fruits were salable in the United States only during the summer months.

Beginning about 1864 occasional schooner shipments of yellow bananas began to find their way into the port of New Orleans. The Civil War was drawing to a painful close. Southern ports, harassed by partial blockade, were short of food. Independent shipmasters saw the opportunity to take bananas from Bay Island, off Honduras, and auction them at the New Orleans levee markets, one of the few points in the South where gold was still in circulation. In 1866, after the war was ended, an enterprising German immigrant named Carl B. Franc, who had served as ship's steward, began dealing in deck shipments of yellow bananas which he shipped from Colón (then a Colombian port) to New York. For several years Herr Franc, and his associates, now apparently unknown, continued to develop a banana market in New York.

But banana destinies seemed to gravitate toward Boston, hub and capital of New England. For Boston was still home port to Yankee clippers and to Cape Cod schooners which continued to carry the trade of Boston to and from the seven seas.

In 1870 a maritime Bostonian, Captain Lorenzo D. Baker, master and owner of the schooner *The Telegraph*, had filled a contract to carry a party of gold miners with machinery and supplies to a location three hundred miles up the Orinoco River in Venezuela. On return he made a port call at Kingston, Jamaica, to "pick up" a cargo suitable for sale in Boston. Since suitable freight was scarce, Captain Baker took on a speculative cargo of bananas, had them stowed on deck, and set sail. Favorable winds facilitated a speedy return voyage and *The Telegraph* arrived in Boston in fourteen days, delivered the cargo to Seaverns and Company, an old-line firm of Boston fruit brokers. In transit the bananas had changed from

glistening green to rich yellow and the trial cargo proved salable. So far as the records show that was the beginning of the banana shipping trade, Boston-style. Captain Baker repeated the speculative venture and brought more cargoes of the "tropical gold," earning excellent profits when weather allowed a "quick trip" of fourteen to seventeen days, losing when unfavorable weather resulted in poor sailing time. Meanwhile the Pacific Navigation Company, affiliate of the original Isthmus of Panama Railway, was launching a schedule of marine passenger service.

In Seaverns and Company worked a quiet, diligent clerk named Andrew W. Preston, who acquired the specific task of selling banana cargoes brought to Boston. Andrew Preston's first job with Seaverns and Company was that of sweeping out the office and the storeroom. Patiently and quickly the little man with the large well-shaped head began to earn promotion. He was particularly interested in salesmanship, and through a long and successful business career Andrew Preston held to that interest.

He was the unobtrusive type of Yankee. He usually spoke in subdued monotone. But Andrew Preston was a perceiving soul and a determined worker. The latter talent, added to a remarkably promising record in selling the fruit novelty, bananas, led Captain Lorenzo Baker to take the Seaverns salesclerk into a partnership which later became the Boston Fruit Company.

Andrew Preston believed there was a great future for the banana in the United States. Quietly and tenaciously he worked to prove his conviction. He noted two developments of particular importance to banana futures: a widespread trend to replace schooners and sailing craft with speedier and more dependable steamships, and the fact that Cuban banana farms were changing from red bananas to the Jamaican type of yellow fruit, definitely the more attractive to gringo consumers. The unofficial Mr. Preston demonstrated admirable skill for inspiring confidence. His quiet enthusiasms were definitely contagious and his promises were uniformly good.

Other circumstances were working in favor of the strange new fruit of the tropics. Bananas had become a "rage" of the Philadelphia Centennial of 1876, where individual "fingers" were sold at ten

cents apiece and carried home as curios by thousands of prospective consumers. Meanwhile Captain Alonzo Baker had taken Andrew Preston into informal working partnership, changed *The Telegraph* to a banana ship, and rented still other boats to carry home the bizarre cargo. Andrew Preston envisaged a time when banana fields of the tropics could be linked with market wharves of Boston by a central management. The suggestion was attractive to Captain Alonzo Baker, and his partner in shipping, another mariner of the old Cape Cod school, Captain Jesse H. Freeman. So in 1885 the two shipmasters and the unpretentious commission salesman joined in organizing the Boston Fruit Company. They invited seven other businessmen into the venture. Andrew W. Preston became Boston manager.

The going was hard at first. Bananas arrived in unpredictable quantities with long and embarrassing intervals when there was nothing to sell. Within two years the original \$20,000 of the company's capital had been lost. The ten sponsors subscribed \$100,000 more. Andrew Preston led on in mild and deliberative stubbornness. He remained the star salesman of bananas.

For the first three years the company used only the ships owned or leased by Captains Baker and Freeman, and a few other chartered vessels. The former schooners were now equipped with auxiliary engines to speed sailing schedules. In 1888 the company purchased its first steamship, the *Marion*, and extended port calls to include New York, Philadelphia, and Baltimore.

The problem of supply began to take a tropical turn. The bulk of bananas was being imported from Jamaica during summer months. Hard-pressed sugar planters, virtually without markets for their sugar, had turned frantically to banana production. When seasons were favorable they could produce many times as much fruit as the Boston enterprisers could sell. But sudden droughts cut short the supply and unpredictable hurricanes blew down banana stands and made all fruit unmarketable.

Andrew Preston realized the enormous hazards of depending on one small area for his supply of bananas. So he began to look about for other bases, areas of cheap labor and fertile inexpensive lands

easily accessible to water. The company proceeded to buy a huge tract of about 60,000 acres, later extended to 90,000, fronting on Banes and Nape bays in the Cuban state of Oriente, not far from Santiago. It also purchased and planted a banana site in Santo Domingo. The Cuban lands are now planted in sugar cane.

In the early days, the actual agriculture of the banana was extremely simple. One simply hired labor to clear forest and jungles, planted the rhizomes, or roots, and let a benevolent tropical nature do the rest. It was easy; in fact, too easy. Speculators proceeded to charter ships and make grabs at the quick wealth of the tropics. Speculators bought up portside cargoes at the lowest possible price and casually tossed the cargoes upon Atlantic seaboard markets. At least 110 banana companies were incorporated between 1885 and 1899. Only twenty-two of them survived as long as ten years; only four were of notable importance; one of the four being the Boston Fruit Company, which by 1899 had formed six branches or affiliated companies.

Meanwhile another strong man of banana lands was looming impressively on southern horizons. His name was Minor C. Keith, a New Yorker, born in Brooklyn in 1848. The close of the Civil War found Minor Keith seventeen and a \$3-a-week clerk in a Broadway haberdashery. Next he was a lumber surveyor, and a few years later the proprietor of a cattle ranch on Padre Island off the Texas coast. At twenty-three Keith again changed trades and joined his older brother, Henry, and his uncle, Henry Meiggs, who had taken a contract to build a transcontinental railroad across the Republic of Costa Rica.

Minor Keith's first assignment was one of recruiting 700 laborers to open the work in a mosquito-infested jungle which has since become the important port of Limón, Costa Rica. Most of the workmen immediately died of tropical fevers. Costa Ricans had long shunned the coastal lowlands as holes of pestilence and death. Jamaican Negroes hesitated to go into the lowlands. Minor Keith

again tried recruiting laborers from the United States, took down another force of 1,500, all of whom died.

During their first year of tropical railroad-building the Keiths completed only four miles in the Puerto Limón area where the year's rainfall was 250 inches—enough to keep the fever-plagued port underwater most of the time. In 1874, after two more years, about twenty miles of the track had been laid.

At that date, excepting the forty-six miles of Isthmus of Panama line, there were still no railroads within the American tropics. The Keiths and their jungle-busting employees proved their way as they went along and from the group came eminent railroading talent of later years. One of Keith's assistants, George H. Latham, of Virginia, later built the railroads of Jamaica. Another, H. D. Norris, became directing engineer of the British-built Nicaraguan Railroad and A. J. Scherzer, still another Keith assistant, pioneered the Salvadoran railways.

In 1875, after Henry Keith had died of yellow jack, Minor carried on the railroad building alone even though the Costa Rican government was then without money or credit. Studiously he began to consider possibilities for freight trade. The line was still not long enough to reach into the rich coffee growing highlands of inland Costa Rica. Minor Keith became convinced that banana production was the one and only way to create freight traffic, which is absolutely essential to railroading as it is to any other kind of commercial transportation.

But bananas were not grown commercially in Costa Rica. The New York jungle buster, who had by then assumed the stature of an American Cecil Rhodes, sought out Carl B. Franc, who was quietly in the process of becoming "banana king of Panama." Franc furnished banana roots and suckers with which Keith began plantations in several areas of north-coast Costa Rica—along the valleys of the Matina and Zent rivers, and on the plains of Santa Clara.

Accordingly, the Central American banana industry was on the march—as a supplement to railroad building. Keith organized the Tropical Trading and Transport Company to take over his banana

holdings, chartered the steamship *John C. Meiggs*, and entered into an export partnership with Franc. He next extended the plantings to Nicaragua and formed another export partnership with the Atlas Shipping Line, then operating a fleet of ten small steamers. Keith anticipated no profits from bananas. He wanted the fruit as freight sold at actual cost. Thus first jungle railroad ventures began to flourish on banana freight.

Railroad builders continued to die of tropical fevers. During the late seventies the funeral train was a regular daily service of the Costa Rican Railway. Two more of Minor Keith's brothers died in the hot swamplands. But Minor carried on. Time and time again he was taken with fevers. But he shunned medicines and doctors and somehow or other recovered. Adding to his hot nightmare of railroad building and his rapidly expanding holdings of bananas, Minor Keith began to establish a chain of general stores, from Limón and Bluefields north to Belize. He acquired two small steamships and employed them in buying, shipping, and selling vanilla beans, tortoise shell, rubber, and other products of the hot countries. He induced the government of Costa Rica to issue \$10,000,000 worth of sanitation bonds, bought the entire issue and proceeded to clean up the new port of Limón, to build a sea wall, install one of the first sewerage systems of Central America, to fill in swamps and to acquire a water plant. When he finished the railroad in 1896, Minor Keith had grown into an established Costa Rican institution.

In 1898 a New York bank which had played an important part in financing the Keith operations tumbled into failure. So Minor C. Keith, greatest of jungle fighters, now stately and fifty, proceeded to talk business with Andrew W. Preston and the Boston Fruit Company. This meeting resulted in the Preston-Keith partnership which was also the birth of the United Fruit Company, of Boston and points south, north, east, and west.

The executive team of Preston and Keith proved an astonishing study in human contrast. Keith was the jungle fighter and romantic activist, who had spent millions and earned millions matching effec-

tive imagination with Titanic gusto and bravery. Preston was the quietly alert, coolly philosophical genius of selling and order. Keith was a chaser after stars and a builder of new worlds. Preston moved with his feet securely on earth and sought better use of tangibles already at hand. The two names belong high on the comparatively small list of great men of the banana industry and of tropical transportation.

In his unpretentious determination to extend banana markets, Andrew Preston had long considered the possibilities of selling American-grown bananas in Europe. When the Boston Fruit Company was founded, British and European markets regarded the banana as an "exotic rarity." According to researches of Philip K. Reynolds, the first bananas imported commercially into England came from Madeira in 1878 and from the Canary Islands in 1882. By 1884, when United States imports were about 10,000,000 bunches a year, English imports were about 10,000 bunches. In 1894 A. H. Stockley and A. R. Ackerley, associates of the London firm of Elder, Dempster and Company, began importing bananas to England from the Canary Islands.

In 1896, or 1897, Minor Keith opened trial transshipments of Costa Rican bananas from New York to Liverpool aboard the fastest transatlantic liners of those times. Bunches were packed in crates or boxes, heavily insulated with dried banana leaves, and were shipped weekly in amounts ranging from 1,000 to 2,000 stems for auction at Covent Garden Market. Much of the fruit spoiled in transit. The part that did arrive in good condition brought unprecedented prices of \$15 per bunch. The English market seemed eager to receive Central American bananas. But lack of direct shipping schedules was the ruinous drawback. The first European shipments operated at a loss. After three years Minor Keith abandoned the adventure.

A solution appeared in 1901, when Sir Alfred Jones, Chairman of Elder, Dempster and Company, established the Imperial Direct Shipping Line between Bristol and the island of Jamaica, fitted steamships with refrigerating apparatus and so made possible the

bimonthly portage of 25,000-bunch cargoes of bananas from Jamaica. During the same year, Sir Alfred Jones founded Elders & Fyffes, Ltd., a sales company organized to distribute American bananas to markets of the British Isles and Continental Europe. Arthur H. Stockley, of the British concern, came to Boston, became acquainted with Andrew Preston, and in 1902 Elders & Fyffes became actively associated with the United Fruit Company and immediately began to build and to charter a commercial fleet of refrigerated ships for carrying banana cargoes from Jamaica, Costa Rica, Colombia, and other Caribbean strongholds to England and Continental Europe.

Andrew Preston and his American associates watched the birth and growth of an American banana trade in Europe. The Elders & Fyffes fleet grew in proportion to the increasing European trade. In 1910 Elders & Fyffes became a part of the United Fruit Company. By the outbreak of the first World War, Central American and Caribbean bananas were being sold regularly in the British Isles, Belgium, France, Germany, Holland, Switzerland, Sweden; in leading cities of Russia and during summers as far north as Spitzbergen, about three hundred miles north of the Arctic Circle.

Thus in less than thirty years Yankee traders, with aggressive British associates, spread the selling range of Western tropics bananas from occasional markets of four cities on our own Atlantic seaboard to areas which, barring major wars, include markets of thirty nations on three continents. They had changed a primitive grab bag of the jungle to one of the most accurately co-ordinated of all industries, linking farms, fleets, railroads, and selling offices into a durable working community. Tropical transportation had been born in substantial part of the rich, green, dearly earned bounty of the banana.

This particular Middle American story continues. The greatest railroad-building program in the world today (so far as I can discover) makes progress within a new banana site of Pacific-coast Costa Rica, where the *Compañía Bananera de Costa Rica* now builds several hundred miles of new 42-inch gauge main line which will link the present and forthcoming banana centers, replacing jungles and forests from Quepos Point down to Golfito, for a

potential banana plantation frontage of more than a hundred miles.

This rather astonishing construction work reawakens the long-dormant odyssey of railroad frontiering. Preceding the enormous undertaking in railroad building was the same company's recent building and opening of the two new ocean ports of Quepos and Golfito, seagoing outlets for new banana lands fronting the Pacific coast of Central America, which has few natural deep-water ports. The port of Quepos was opened during 1939; Golfito in 1940, while Armuelles, a comparable banana port of south-coast Panama, has been opened to ocean traffic since 1929.

Self-evidently maritime outlets are of little use unless there are also outlets by rail. Together new ports and new railroads are opening in the sparsely settled rolling wilderness of this southern and western Costa Rica what may someday become the largest group of commercial banana plantations ever planted. Meanwhile the railroad pushes forward, making way for bananas and "modernity." Native workmen skilled only in use of the machete learn to use gringo tools and implements.

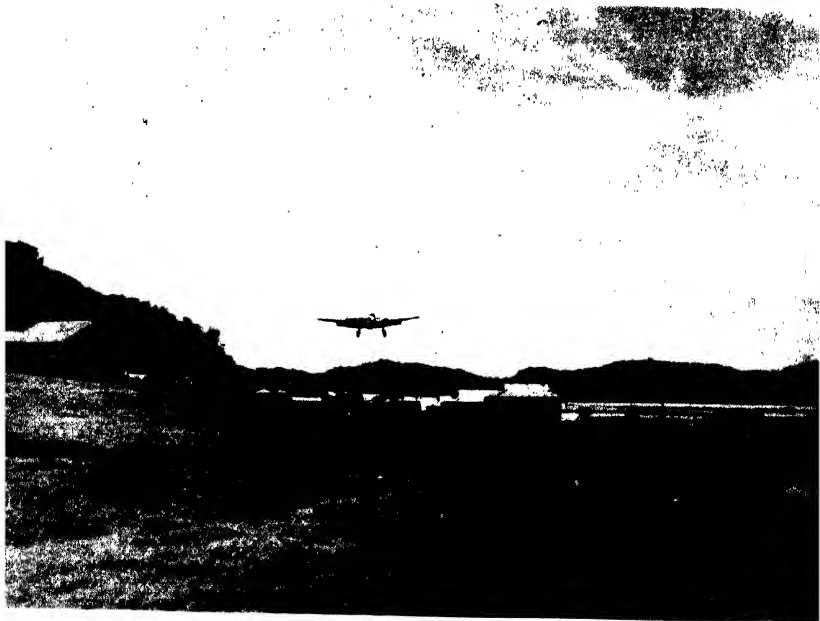
Location engineers, finding what is apparently their last locale of work, survey sites, and lead draglines, welders, riveters, track-layers, and line crews into the drippy wilderness. New bridges span swamps and rivers. Ballast trains and first banana trains move gingerly on newly laid rails which may someday carry products by millions of tons. The new Ferrocarril del Sur of Costa Rica goes forward to completion.

"Monkey jungles" undergo rapid and laborious transformation to highly mechanized and enormously productive farms. To see a great contemporary frontier of railroading one does well to look to the immediate south, particularly at south-coast Costa Rica, where the newest of railroad systems and the two newest seaports of a hemisphere quietly incubate into reality.

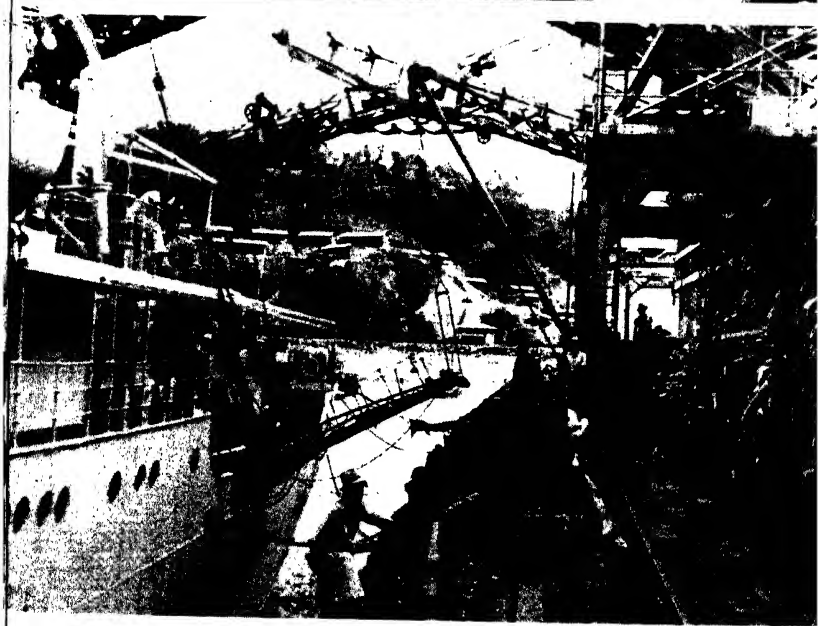
The largest of Middle American railway systems is the "International" of Guatemala and Salvador—Ferrocarriles Internacionales de Centro America. This particular railway has been formed by



(Top) RAILROADS PENETRATE THE JUNGLE.
(Bottom) AND CROSS VAST MOUNTAIN RANGES.



(Top) EVERYONE FLIES IN CENTRAL AMERICA.
(Bottom) EVEN SMALL SETTLEMENTS HAVE GOOD AIRPORTS.



(Top) THE BANANA PORT OF QUEPOS, COSTA RICA.
(Bottom) BANANAS ARE THE OUTBOUND CARGO OF A GREAT FLEET.



CAREFULLY LOWERED INTO THE HOLD

the amalgamation and extension of four separate systems for a total distance of about nine hundred miles.

In Guatemala the main line goes from the town of Ajutla on the Mexican frontier via Guatemala City, in the central highlands, to Puerto Barrios on the Atlantic with branch lines to Guatemala's Pacific ports of Champerico and San José. In El Salvador the main line extends from Cutuco on the Bay of Fonseca via San Salvador and Metapán to Zacapa, a foothill town on the main line between Puerto Barrios and Guatemala City.

According to government records, most of the International's traffic is made up of agricultural products—a yearly average of about three-quarters of a million bags of coffee shipped from Guatemala ports and the largest tonnage of bananas hauled by any railroad system in Middle America or in the world. Rail services and coordinated rail and truck services now reach into most developed farming areas of upper Middle America. In addition, the International operates two ports—Barrios on the Atlantic coast of Guatemala and Cutuco on the Bay of Fonseca, on Salvador's Pacific coast. Ferrocarriles Internacional is probably the most widely known railroad in the American tropics. It carries the greatest number of tourists from gringoland and its services have become absolutely indispensable to town and country, plantations and farms of upper Central America.

In general, bananas have been proved the foremost motivator of tropical railroads past, present, and most probably, future. The industry of bananas remains an industry of transportation. And the same generality holds in the instances of sugar, coffee, cocoa, and rubber. In Middle America as a whole railroads built primarily for transport of bananas, sugar, and coffee comprise about four-fifths of the total mileage now in operation.

The great story of tropical railroading goes forward with infinite variety and incessant "color." Cuban railroads, Jamaican railroads, Guatemalan railroads, Honduran, Costa Rican, Panamanian and

Continental South American railroads, each becomes a study in more or less co-ordinated individualism.

The tropical fancy still adores train rides. But the age of streamlines has not made impressive entry into the warmer Americas. Sizes and types of locomotive and rolling stock are highly variable—from contemporary to the comparatively ancient. Track widths are also varied—narrow-gauge, medium-gauge, and standard. In earlier days of tropical railroading, efforts were made to endow each national railway with a gauge different from that of the neighboring republics, so that all temptations to moving rolling stock across national boundaries would automatically be removed. But newer lines, as exemplified by the Southern Railway of Costa Rica, now in the building, are broad-gauge with gradework, roadbed and bridge construction well in keeping with main-line standards of railway in the United States. In general construction costs and maintenance costs of tropical railroads are pre-eminently high, as are the ratios of bridges, tunnels, and cuts; and the hazards of flood and hurricane losses.

Schedules are slow—at least in terms of United States railroading. Station stops are frequent and very deliberate. Passenger travel is a daytime institution, since there are no dining cars and few sleeping cars. "Lunch stops" are still in vogue. Scores of passenger cars are still equipped with old-fashioned kerosene lamps. Native peddlers, mostly women and girls, still wait at station platforms, to call their wares, exhibit head baskets filled with oranges, green coconuts, chicos, brightly colored fruits, sweet fresh melons, rich pastries, tortillas, pink candies, and a hundred other native food items to be sold through car windows which are habitually wide open.

Traveler appetites stay huge. A train ride in the tropics remains a migratory fiesta of munching or gulping from ponderous lunch baskets; also spontaneous small-change patronage of peddlers. One is usually hungry in the tropics and aboard train or ship one usually eats most of the time. The tropical train ride remains one of

the most picturesque and endlessly varied institutions known to man.

Even so, it is no more picturesque or varied than the invincible and ever-surviving tropical railroad man. One still meets locomotive engineers, "mosquito" brakemen, handlers and construction crews, and railroad location men as of old—sunburnt sons of open destinies, hard schedules and open mud, one of the most eminent red-necked citizenries who ever came forth from the All-American scene. For the most part, Father Time has laid low the old-school location and construction men of the tropics. But the processional of train handlers moves on—the swarthy, railroading gentry of Mexico and points south, the railroading, loud-speaking sons of Minnesota, Dakota and Montana who having followed gringo spurs and lines since the nineties into frontiers now dead, have more recently followed southward to frontiers which in a rather absolute sense can never die. No monuments yet stand to the tropics style of railroad man. Most assuredly he deserves monuments, medals, and more. For he has provided a premier service and indispensable resource for these lovable gateway lands to the south. He has fought, sweated, planned, and cursed a way to creation of railways which are comparatively safe in terms of life and property and almost unbelievably efficient in terms of prime moving and mile tonnage.

The story of ship and rail transportation involves, almost inevitably, the story of message communication, which is also a continuing saga of pioneering against tremendous odds.

Among other first entries the American tropics are first home of commercial radiotelegraph. And that, too, is a story worth noting.

As a matter of natural history as well as commercial evolution, wireless communication in the American tropics arose as an essential need of the banana industry. The American tropics were actually one of commercial radiotelegraph's first homes in this hemisphere. Within one year after Marconi's development of "wireless" the flashed word was traveling in American banana lands. The first commercial radiotelegraph station in all Latin America was raised in

1903 at Bocas del Toro, Panama, by the United Fruit Company, which also built the second and complementary station during the same year at Puerto Limón, Costa Rica, sixty miles distant.

In those days Panama and Costa Rica were the premier banana lands of Central America. In earlier eras the banana industry had been plagued by poor communication. Until 1903 it had been impossible for domestic offices or sales departments of banana companies to communicate rapidly with tropical divisions or with independent farmers who had bananas to sell. Results were costly and otherwise upsetting. Banana ships called at tropical ports without any sure knowledge that cargoes would be forthcoming. Tropical farmers would harvest fruit without any certainty that a ship would call within a reasonable time. So a potentially great industry floundered under enormous burdens of waste, delay, and confusion. Cable communication, because of the remoteness of banana areas, was of little help in the quandary.

For example, in order to communicate with Puerto Limón, Costa Rica, from the United States, one could dispatch a cable to the west coast of Central America as far as San Juan del Sur, Nicaragua, where the message was delivered to the Nicaraguan government, carried by primitive land wires to the Costa Rican government telegraph for transmission to Limón. Thus days melted into weeks and message texts were weirdly altered, sometimes completely lost.

Thus the word "wireless," later to be changed to "radio," came into the vocabulary of the American tropics fifteen years or more before many North Americans had ever heard the term. Late in 1903 the first stations took to the air for the debuts of commercial wireless telegraphy and radio began to take over the American banana front. In 1906 the United Fruit Company built two more stations, one at Bluefields and another at Rama, Nicaragua. In 1907 the company added a terminal station at New Orleans.

So a complete radiotelegraph system went into action—many years before radio became the household word it is today.

But the early types of wireless equipment were not powerful enough to bridge long distances. It became necessary to install a midway relay station on Swan Island in the Caribbean and a second relay station on the western tip of Cuba. The latter station, at Cape San Antonio, was destroyed by a hurricane during 1915. But the need for relay stations was steadily abating. By 1912 a station had been put in operation at Santa Marta, Colombia, and as early as 1908 the United Fruit Company had begun to equip all its banana ships with radio.

By 1913 radio communication for Middle America was beyond the stage of a banana addenda. During that year a commercial radiotelegraph company was formed with the direct and forthright name of Tropical Radio Telegraph Company. Still a decade before the word "radio" came into common use in the United States this system for personal and business messages continued to expand—with stations at Tela and Puerto Castilla, Honduras, completed in 1914; a shore station near Boston to facilitate tropical ship communication (opened in 1920); then a station near Miami, which is also the connecting point for the British Colonial Radio Station at Nassau.

In 1922, Tropical Radio built two more shore stations along the Alabama coast, and the following year began a new expansion of Central American facilities; a station for Tegucigalpa, the remote mountain capital of Honduras; for Puerto Barrios, Guatemala, and in 1933, at the suggestion of the Guatemalan government, another powerful station at Guatemala City. Meanwhile Tropical Radio through its affiliate, the *Cía Radiografica Internacional de Costa Rica*, had placed another station at San José, capital of Costa Rica; and, in its own name, additional stations at Managua, the capital, and at Bluefields and Cape Gracias in Nicaragua; another at Preston, Cuba, and still another at the comparatively new banana port and producing center of Puerto Armuelles in south-coast Panama. La Lima, a banana town in the fertile flood plains of eastern Honduras, Puerto Cortés, Honduras, and El Gallo, Nicaragua (the latter two stations previously owned by the Cuyamel Fruit Company), were added to the list of station sites.

By 1930 Tropical Radio had opened still another station at Panama City, with branch offices with a service of teletype printers across the isthmus. The next step was the negotiation of message traffic exchange contracts with stations of the Salvadoran and Mexican governments; with R.C.A. of New York, Habana, and San Juan, Puerto Rico; and with Marconi at Bogotá for a radio telegraph linkage which now includes all Central America, Cuba, the Bahamas, and Colombia—"tied in" with every part of the allegedly civilized world.

Beginning in 1933, the Tropical Radio Telegraph Company made entry into the radiotelephone field providing the republics of Guatemala, Nicaragua, Costa Rica, Honduras, and Panama with their first telephone connections with the United States, South America, and Europe. Today all Central American and Panamanian stations of the Tropical Radio system are equipped for radiotelephone service.

Other communication services are securely established in Middle America, in particular All-America Cables which brought the first cable into the tropics half a century ago—to the west coast of Central America. This service, too, has been modernized and extended until it is also an outstanding communication resource of the American tropics.

William E. Beakes, president of Tropical Radio, was awarded the 1940 Marconi Wireless Pioneer Medal for distinguished service to radio pioneering. Mr. Beakes saw service in the Philippines back in 1902 with the United States Army Signal Corps. He was receiving operator for some of the first "wireless" dispatches ever sent across the Atlantic. At Macrihanish, Scotland, in 1906 he received the first wirelessly news of the great San Francisco earthquake and fire.

I am aware that the preceding paragraphs may be somewhat top-heavy in matters of dates, names, and specific details. But communication happens to be a detailed and ever-specific subject. Furthermore, the fact is pre-eminent that radiotelegraph and -telephone communication is enormously important both to commerce and to domestic political life of Middle America. Without it the banana industry could never have survived. The same may be true of other

great tropical resources of today. Without radio, transportation by rail and ship would have been ruinously impeded, and our gateway into Latin America would have remained variously blockaded by great jungles, mountains, deserts, swamps, and other natural factors of isolation. Governments would have been weakened and impeded. Local merchandising and buying power would have been much weaker. And the United States would have remained proportionately remote to the American tropics. Europe would have been figuratively closer and in event of war or other crises the United States would have had no quick and accurate way of saying its say.

What is more, tropical radio has enormously facilitated—it has virtually made possible the birth and growth of tropical aviation—this direct transference from muleback and oxcart to wings and propellers, which now flowers into what is probably the most astonishing chapter in all the astonishing saga of tropical transportation.

The story of Middle American aviation tends to become the almost incredible story of a barnstorming pilot named Lowell Yerex and his ventures into a miniature world of swamps, jungles, and high mountains; a land surface sparse of railroads and largely lacking in roads.

In turn the story of Lowell Yerex, aeronautical barnstormer and ex-war ace from New Zealand, has grown into the story of TACA—*Transportes Aereos Centro Americanos*—which has recently grown into the largest air transportation industry south of Rio Grande and into the world's largest air freighting system.

TACA is a bright remaining star in the waning planetarium of self-made success stories, and Lowell Yerex happens to be the major part of TACA.

He was born in Wellington forty-five years ago. He went to school in Indiana, taught school in North Dakota, served as pilot for the Royal Flying Corps during the first World War, returned to the United States after the war and became successively a barnstormer in California, an automobile salesman in New Mexico, then proprietor of a jenny airline service to Mexico.

Then he returned to the not always happy trade of plane pilot-

ing. Two adventurous young men from New Jersey with an airplane and little else hired Yerex to fly their plane to Honduras. The trip was uneventful and once landed in the Honduran mountains the gay young gentlemen with the airplane found themselves besieged with requests to fly passengers and freight to out-of-the-way places: to mountain gold mines, to mahogany logging camps, and to remote villages where one can return only by mule or air. The bright young men collected their money and kept the pilot enormously busy. But they were so happily busy in devising ways for spending the money that they forgot plane repairs, also they forgot to pay the pilot.

These memory lapses straightway pulled Yerex back into the science of plane transport. He took over the aging plane in lieu of back salary and went into business on his own, managing and piloting a one-man air line throughout Honduras. It wasn't an easy undertaking, but it was enormously adventurous, a spectacular style of barnstorming which immediately proved to be of practical importance to the Republic of Honduras.

Along with carrying passengers to towns and places wholly inaccessible to roads, air freight became increasingly important. Yerex proceeded to introduce the institution of deferred-rate freighting—plane haulage at theretofore unheard-of low rates, but dependent on availability of carrying space within the plane. Shipments were stored in a warehouse at his landing field and carried as soon as he could find room in his plane.

In due course merchants of Tegucigalpa and other Honduran towns began to appreciate the savings in deferred plane freight in place of hiring caravans of mules to transport goods over remote jungle-and-mountain trails. That was in the early thirties when world depression served as goad to various new enterprises. Yerex began to lower rates, to buy reconditioned planes, and to hire pilots. Then he entered contracts to fly the mails of Honduras. In 1934 he bought the local air transport company of Nicaragua—*Lineas Aereos Nicaraguenses*—and therewith extended plane freight and passenger service to another Central American country. In 1935 he bought the *Compania Nacional de Aviación de Guatemala*, and a

year later extended this service from Puerto Barrios to Belize in British Honduras.

Two years later the same TACA system absorbed two local aviation companies of Costa Rica—*Empresa Nacionales Transportes Aereos* and *Transportes Aereos Costaricansa*. Routes and fields grew as TACA grew until now the Yerex flying firm (TACA Division of American Export Lines) operates about 55 planes in regular service to more than 100 landing fields throughout Central America, and carries the world's largest recorded volume of airplane freight. By 1938 TACA was definitely in the listing of Big Business of Central America. During that year its freight volume climbed to more than 14,500,000 pounds, passengers to about 23,000, mail to about 250,000 pounds and air express to more than 160,000 pounds.

By the end of 1938, TACA planes had carried approximately 18,000 tons of freight—which includes virtually everything imaginable from mining machinery, gold bricks, chicle blocks, and mahogany logs to green vegetables, butter, eggs, live pigs, and race horses to live lobsters and profane parrots and tubs of cold beer.

TACA has also become winged Mercury to the chewing gum industry. Of its two Guatemala bases, the Guatemala City port serves inland mountain country, particularly the high and wildly beautiful towns of La Tinta, Cobán, Huehuetenango, Retathuleu, and Quezaltenango, while the Puerto Barrios base is headquarters for Belize, British Honduras, and the great Petén district of northern Guatemala which is world home of chicle.

This land of Paso Caballos is almost completely covered with dense jungle and the center of the chicle industry between the outposts of Flores and Paso Caballo is molested by deep swamps where mules sink belly-deep into mire, where foot travelers must sleep on high-swung hammocks painstakingly wrapped with mosquito bars. By foot or mule train the journey takes a hard and dangerous week. By plane it takes approximately twenty minutes.

The Petén district, heart of the chicle lands, covers about 15,000 square miles and its total population is not more than 8,000. Like the Copán district in Honduras, it was once a center of Mayan civilization, with great and beautiful cities and temples and shrines.

But it is now a trackless wilderness, with only a few sparse clearings along the river's course. To these clearings chicleros bring the bricks or blocks of congealed sap which become chewing gum for Chicago and numerous other northern points.

Until the recent coming of airplane freight, chicle promotion was a feat for the bravest and hardiest. It required travel through densest jungle from Belize, British Honduras, three to ten days by muleback and, when sparse trails became impassable, continuing afoot or in dugout canoes. When the government of Guatemala closed its British Honduras frontier to chicle smuggling, the miry "chewing gum trail" was shifted to Puerto Barrios and thence up-country through Guatemalan wilderness.

That journey required weeks or months and returning chicle chasers were of necessity those hardier survivors who escaped malaria, sandfly fever, dysentery, and other disease hazards of the unconquered jungle. The chicle portage called for a pack train of twenty stout mules and five weeks of travel time to transport two tons of block chicle from inland delivery "spot" to seacoast. Today one freight plane can carry two tons of chicle in one trip. The haul from Paso Caballo to Puerto Barrios requires about one and a half hours of flying time.

Virtually all commercial chicle is now flown out of the Petén jungles. During the harvest season, which usually lasts from November to June, TACA planes make an average of three trips a day, hauling out a daily stint of about six tons—for a season's total of between one and a half and two million pounds.

Chicle is only one of Central America's "air freight specials." Chicle must pay its fare. But there is a strict TACA ruling that men, when sick or hurt, must be flown out of the jungle without charge. Furthermore, as chicle is flown out of the jungles, camp supplies, merchandise, medicines, and other essential goods must be flown back into the jungle.

During the past five years the industry of chicle has become an industry of air freight. To a considerable extent the same is true of

Central American mining operations, most of which are beyond reach of railways or navigable rivers. To appreciate this reality one does well to visit the remote Nicaraguan operations of the Bonanza Mining Company, to which TACA planes fly about 3,000 tons of machinery per year and from which TACA planes fly the entire output of bullion and gold ore concentrates. For the following completely truthful episode of gold-mine freighting in Nicaragua I am indebted to Eyre Branch:

A mining man showed up at a TACA airport just as a freighter was about to take off for a near-by mining camp. The mine engineer asked the pilot if he might go along. The plane pilot said yes, and so the mining man climbed over and between a multitude of wooden cases and sat down on a box next the pilot's seat.

The trip was stormy. The plane bucked and pitched like a boat on rough seas, but presently settled through the clouds and headed into a narrow pocket of a valley. The passenger covered his eyes and held his breath expecting any instant to be smashed against the side of a mountain. The pilot banked sharply and lowered for a perfect landing—in a private landing field which from the air appeared to be about the size of a football gridiron. The passenger wiped cold sweat from his forehead and delivered a private prayer of thanksgiving. Then the pilot spoke in matter-of-fact exposition: "Well, there's another three thousand pounds of dynamite down for this dump. Move off that case, will you, so I can get it off the ship!" Whereupon the mine man fainted.

These same rather incredible TACA Lines instituted airplane dusting for banana plantations, using Flamingo monoplanes as "dust" carriers. The dusters are equipped with an additional underwing, which increases speed of "lift" and provides outlet for the copper sulphate powder, which is ejected simultaneously from both sides of the plane's stowage with a transverse revolving fan shaft. Inside the plane's body is placed a giant hopper which can be filled through a special hatchway built into the top of the wings. The dusting material moves downward to the distribution shaft from which point it is carried out to the lower wings. The operating

mechanism of the duster is placed in the pilot's cabin, from which the pilot can control the motor which operates the revolving fan shaft and so adjust the flow of powder. A gauge shows the weight of powder being ejected. In case of emergency the entire hopper can be emptied within a few minutes.

Working technique of banana dusting is highly spectacular. The best dusting hours are near dawn when foliage is still wet with dew. The duster plane must fly low and fast and circle sharply. Marker drums, frequently oil barrels raised on tall poles, show the corners and turning points. Fast-thrown clouds of white and poisonous "dust" settle on rank green foliage and planes roar forward in first feeble sunlight to sprinkle thousands of acres with fungus-killing powders. During the past year or two, use of plane dusting for bananas is being abandoned in lieu of more economical and more certain safeguards by liquid sprays. But within less than two years, plane dusting of bananas set an all-time volume record for use of aviation in agriculture and incidentally redemonstrated this amazing versatility of today's role of tropical aviation.

At the TACA airport near Tegucigalpa, the mountain capital of Honduras, I have seen a two-ton tractor climb by its own power into the hatch of a trimotor freighter plane. After the tractor is bound into place, the plane lifts and an hour later the tractor is being backed out of the plane's hold and put to work at clearing a jungle, a hundred miles more or less from the place of loading.

Present-day history of Middle American aviation is rapidly expanding. The story of TACA is one of its more luminous and fastest-growing chapters; for TACA continues to absorb local airways and to link alien jungles with roads of the sky. Unfortunately I do not have space to outline the respective stories of all other airways of the American tropics; the surprising and gallant births of local air lines (like Scadta Lines of Colombia) which actually predated the now giant-sized airways system of the United States. But for the sake of aeronautical balance it might be well to include a two-minute summary of the equally astonishing Pan American Airways—"America's Merchant Marine of the Air."

It has now been a little more than twelve years since the first Pan American one-plane passenger route reached beyond Cuba to open an airway to the Bahamas. Pan American Airways was then five years old. Now at the age of seventeen, this Merchant Marine of the Air flies above nineteen territories and twenty-one republics of the Western Hemisphere, operates fast-spreading aerial routes of the British Isles and Europe, reaches an additional 8,000 miles to touch trading cities of Australia and New Zealand in four days of flying (today Australasia is our fourth most important market); establishes a two-day express flight to Rio de Janeiro, draws the most distant capitals of South America within three days of each other, and establishes a flying time between the United States and the Argentine of about forty hours. (It has been ten years since the first United States-Argentine air mail reached Buenos Aires. Transit time ten years ago was nine days, as compared with steamship time of eighteen days.)

But this chronicle of air clippers actually began in the Caribbean and the lands of Middle America, which have become a world laboratory for the technique of long-range aerial navigation. Improved engines, direct high-altitude flights, and steadily improving port and landing-field facilities continue to reduce the air time between the Americas and to supplement weekly or bimonthly marine shipping services between far-separated American ports. At present, or at least as this book goes to press, Pan American Airways maintains sixteen flying schedules each week between North and South America. These include three "express" flights to Buenos Aires via Rio de Janeiro; one direct flight to Rio, three express flights to Buenos Aires by way of Lima on the Pacific, three non-stop Caribbean schedules to the Panama Canal Zone; two trans-Caribbean schedules to Colombia via Jamaica, two more to Venezuela via Haiti, five schedules to San Juan, Puerto Rico, and five more by way of Mexico and Central America to the Canal Zone.

The tally of Pan American flights is now well above 75,000,000 miles. But the 600 open miles of the Caribbean remain the "Ocean Laboratory" route for all the 63,000 miles of flightways; for the 141

air liners which now make up the international fleet of Pan American Airways.

It is not easy to exaggerate the place of aviation in the life, survival, and progress of Middle America. It is the most spectacular, the fastest growing, the most versatile transport energy that has yet entered the tropical scene. But its great importance is supplementary rather than competitive to tropical railroad and steamship. For the most part, Middle American crops are weighty crops, farms and forests are the convincing life of Middle America today and most probably of tomorrow. But transportation and communication are equally essential and transportation is inevitably dependent on still speedier communication, on telephony, radiotelegraphy, and more recently—on aviation.

The incessant war of people against jungle goes on. Swamps, canyons, roadless mountains, and roadless wilderness continue to stand as barriers to tropical El Dorados which men have long sought. Unchallenged remoteness spells poverty, plus danger and death from ever-lurking tropical disease. For the American tropics transportation has become synonymous with human survival.

Part Three

THE FUTURE

CENTRAL AMERICA CONSIDERS THE FUTURE

THE BULK of United States imports from all countries is included under about forty-eight entries. All except one or two of these are available for purchase and import from countries of Latin America; more than half of them from the republics of the Caribbean and Central America.

But we are actually buying less than 20 per cent of these necessary imports from Latin America. Instead, and for numerous reasons many of which are flimsy and unconvincing, we have been buying a majority tonnage of those potential Latin-American imports from other continents and another hemisphere.

In terms of real, mundane Pan-American problems, we are making a comparatively simple issue enormously complex by endeavoring to rationalize a "business expedient" which has now ceased to be expedient business. This illusion of complexity is further expanded by the intricate language and the bizarre flutterings of inter-American politics.

Therefore, it is unfortunate but not at all surprising that a reasonably well-informed citizen of the United States rather dazedly consents to the hypothesis that Pan-American problems are too complicated and too internally involved for a mere private citizen to begin to understand.

This hypothesis is sheerest tommyrot. The essential Latin-American problem of today, yesterday, and almost certainly of tomorrow is the direct, tangible problem of selling its harvests from fields, mines, and forests. The United States bank, till, warehouse,

factory floor, and most of all the United States market basket, hold the essential solution.

Stretching from the Rio Grande south to Tierra del Fuego is the largest and richest in resources of all frontiers. Agriculture is the brawn and blood of this immense frontier—and the word “agriculture” now includes production of industrial materials, fabrics, and housing as well as foods. As before noted, the agrarian economies of these Americas del Sur are broadly comparable to that of our own western and southern frontiers of a century ago. Bounteous earth raises bounteous harvests. But these harvests must be reaped and sold. Credit resources are weak. The present finca proprietor has inherited enormous responsibilities for “carrying” multitudes of habituated laborers.

Thus, in real-life fact, cultural relations with Latin America and particularly with Middle America are preponderantly economic. Ten thousand touring symphonies, ten million traveling art exhibits, and ten billion after-dinner speeches in Poughkeepsie cannot alter this truth, fill the empty bellies of Latin America or cure the diseased or tropics-broken bodies incident to empty bellies. (And I don't mean to disparage touring symphonies or traveling art exhibits.)

Solvent markets for eminent resources are indispensable for these Americas. After the second or third drink, even a resident Nazi agent is likely to tell you as much. After the fourth or fifth drink he may even confide that the best of the Goebbels propaganda is a damned sorry excuse for workable, hard-biting export markets.

Today the United States has vast and unrivalled facilities for providing and expanding markets for Pan-American materials. It is undeniable that great Latin-American exports such as corn, beef, cotton, wool, and cereal grains must compete more or less directly with our domestic production of these crops. But it is equally undeniable that dozens of other great crops, timber, and mineral resources common or indigenous to Latin America in no way clash with our own products for the forthright and natural reason that they cannot be grown or reaped within our own domestic boundaries.

The widespread array of noncompetitive products is today the brightest hope and future of inter-American trade. In this connection and disregarding all press blurbs and diplomatic blah-blahs we are tending to evade and flunk this superlative opportunity for building inter-American trade strength because some of our manufacturers persist in importing these noncompetitive goods not from Latin America, but from British Malaya, Java, and the lesser East Indies, from Sumatra, the Gold Coast, Indo-China, Portuguese East Africa, and a hundred other far-flung and alien corners of creation. There are reasons for this—some of them legitimate. But before attempting to sort out the inevitable alibis, let us look at the records, or at least some of the records.

We might again notice cocoa, which is probably the oldest American-grown crop in commerce. Unquestionably cocoa is native either to Central America or to the Amazon Basin. By operation of her imperial cartel (which later proved a principal cause for colonial revolt throughout Latin America) Spain undertook a world monopoly on cocoa exports. In due time Spain's monopoly was broken. Chocolate "works" began to appear throughout England, Prussia, Italy, and France.

Development of demand led to the repetitious story of extended supply with the result that Latin America today must work frenziedly and seek more gracious United States co-operation in order to remain in the cocoa race at all, even though Latin America is the original home of the crop, even though Latin-American cocoa suffers a minimum of natural enemies, such as blights, wilts, and fungi, and maintains what are unquestionably the highest quality standards known to the trade.

Today this cocoa is ordinarily the greatest crop export of Venezuela and Ecuador, the third greatest of Costa Rica, the second of El Salvador and the Dominican Republic, the third crop of Brazil, and a crop of notable commercial and domestic importance to Panama, Colombia, Mexico, Guatemala, Honduras, Nicaragua, Haiti, Cuba, and other southern neighbors.

Today the United States is by all odds the largest importer and consumer of chocolate. During 1937 our imports of cocoa beans

amounted to about 619,000,000 with a value of about \$54,000,000. In 1929 it was 508,000,000 with a crude value of around \$50,000,000.¹

But Latin America is not receiving a reasonable share of this colossal demand. During the year preceding the outbreak of the present World War, Africa exported about twice as much cocoa as all the Americas combined—some 425,000 metric tons per year against 210,000 metric tons. During 1938 Gold Coast exports of cocoa reached about half a billion pounds—harvested from more than a million acres of cocoa orchard, principally small farms in care of dusky and much-married chiefs and subchiefs, who sit on their tokuses in the shade and watch their multitudinous wives make the crop; they are then able to sell it at highly erratic and arbitrary “contracts,” since the cocoa is grown without penalty of cash wages or monogamy, institutions which Middle America persistently favors.

Therefore, cocoa-producing areas of the other hemisphere have been extended far—to the Ivory Coast, Nigeria, the Cameroons, São Tomé, and eastward to Ceylon, Java, and other of the Oriental tropics, regions where labor is dirt cheap and dirt plentiful, and where living standards are next to nonexistent.

Thus we have actually imported only about 65 per cent of the Latin-American cocoa exports, and for every pound of American-grown cocoa our candy trade has been accustomed to “ring in” somewhere between two and eight pounds of Old World cocoa. As a rule the resulting savings have meant absolutely nothing to the United States consumer, yet in the natural course of competitive business Eastern Hemisphere supplies of cocoa have dominated world prices.

Today nobody can say how much longer this to-hell-with-America game can go on. Already the war has juggled the precarious equilibrium of cocoa in Africa and the Oriental tropics. European powers are withdrawing cocoa “preferentials.” One after another principal European markets are being destroyed or paralyzed. Unmistakably the Americas now swing into a new era of cocoa pro-

¹ U.S. Department of Commerce, 1940.

duction, in which the American tropics, birthplace of cocoa, may regain leadership in this great import.

Vastly more important than cocoa and as indigenously American is "natural," or latex, rubber. Today the United States consumes about 600,000 tons of natural rubber a year—more than half the world's total production. We have been buying roughly 96 per cent of this crude rubber from Britain and deceased Holland and France's Oriental tropics, halfway around the globe from the great Amazon Basin, botanical homeland to the Hevea tree, which is still the dominant source of all commercial rubber—even though Brazil founded and raised to greatness the now colossal rubber industry. Nevertheless, as this book has already pointed out, Singapore has replaced Pará as rubber capital of the world and Latin-American harvests of Hevea and other latex plants now fail to supply Latin-American demands.

But the essential story of rubber is, nevertheless, a saga of the American jungle. The real race of rubber began in the United States about 1890 with the invention and development of the pneumatic tire. The spectacular birth and growth of the automotive industry hoisted rubber demands beyond the easily available supply. In 1900 there was no such commodity as plantation-grown rubber. But by 1912 nearly a third of the export supply was being raised on plantations or farms outside the Western Hemisphere. By 1920, 89 per cent of the world's harvest of rubber, then 304,000 tons, was being grown on plantations of the other hemisphere and Brazil's recovery had fallen to 9 per cent of the world supply. The year 1926 found 2,250,000 acres of rubber plantation cultivated and bearing in Malaya, nearly 2,000,000 acres in the Netherlands East Indies, about 500,000 acres in Ceylon, and virtually none in South America.

With Europe shaken by another gigantic war, with the status and dependability of the Oriental tropics in grave doubt, with rubber rivaling the importance of steel in modern life, and with many of our greatest industries abjectly dependent on rubber supply, and finally with practical sources of latexes remaining in the tropics and

most of the world supply tied into a Dutch-British monopoly cartel which may be blasted hellward any day, the United States quite belatedly begins to consider American sources for natural rubber.

The dilemma of the American coconut more or less parallels that of American rubber. Coconut happens to be one of the greatest crops. From a standpoint of potential importance it is certainly one of the first five crops of this hemisphere.

In the Americas the range of the coconut, stretching from the far tip of Florida to southern Brazil, is by all odds the largest frontage of native coconut palm in the world.

In turn the United States, as already noted, leads the world in consumption and import of coconut products. At present our imports of copra, about a billion pounds yearly, are twice as much as we consumed twenty years ago and substantially our largest import of vegetable oil material. Average prices for coconut oil remain notably higher than those of cottonseed and other important vegetable oils. But as recently as 1939 we imported no more than 10 per cent of our copra supply from all countries of Latin America and the Caribbean. It is highly probable that no more than one-tenth of the coconut yields of Middle America and the Caribbean islands are harvested at all. Yet United States demands, if filled exclusively or principally from Western Hemisphere sources, would probably justify the planting or reclaiming of not less than 4,000,000 acres of Latin-American coconut plantation, which could easily yield full-time or part-time jobs to a half million of our American neighbors without hoisting the costs of our toilet soaps, shampoos, and cosmetics by one penny.

We know beyond reasonable question that efficient operation of plantation coconut is possible throughout hundreds of thousands of square miles of coastal tropical America. Yet, according to estimates of the Pan American Union, the total commercial harvest of coconuts is perhaps eight billion per year of which at least 80 per cent are regularly harvested and exported from the Oriental tropics. Undeniably, inordinately cheap labor of the Orient, plus considerable plain and fancy chicanery, tricky tariff legislation, and a great deal

of just damned cussedness on the part of United States manufacturers have merged to perpetuate this fantastic negligence of American coconut sources.

Today the story becomes all the more alarming because of Germany's place in the copra trade. At the time Europe boiled over into this current war, Germany led the Old World in the import and manufacture of copra, with France second, Holland third, Britain fourth, and Denmark fifth. Now, with virtual domination of the European coconut trade it does not seem at all unreasonable to predict that Nazi trade experts would welcome the chance to launch a commercial blitzkrieg to command the lead in this great American crop.

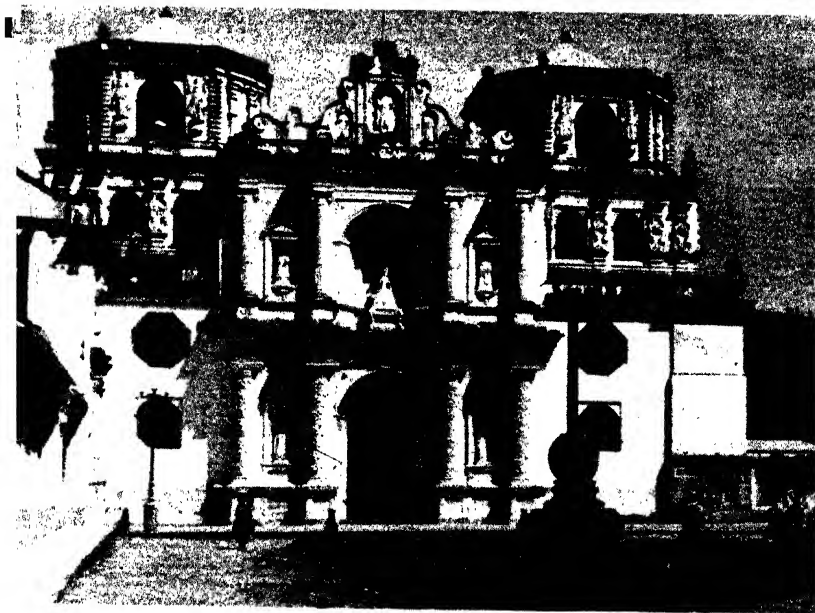
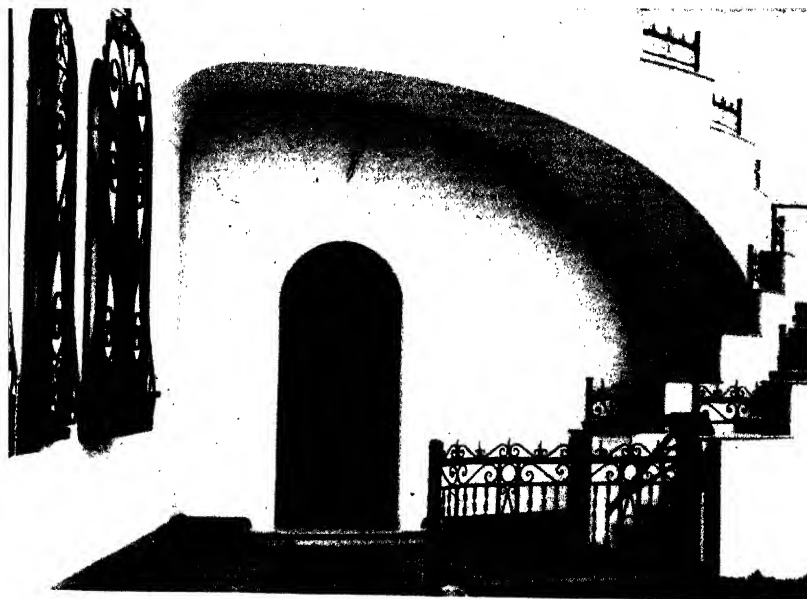
The fields of fats and oils is traditionally one of fierce competition. It is evident, for example, that cottonseed oil from Brazil must clash with our domestic supply. But Latin America has many sources of vegetable oils not destined for such head-on collisions. Besides coconut oils there are various other palm oils—taken from the “bean” of the royal palm, the cohune (an oily palm nut which grows in at least nine Latin-American countries and is particularly well adapted to manufacture of butter substitutes, scented soaps, soft leathers, etc.), sesame or teel, a cultivated crop in many parts of Mexico, Cuba, and Central America, *Argemone mexicana*, or prickly poppy, another oil-bearing native of Mexico, and Oriental oil crops such as tong tree and soybean. As we have already seen, peanut oil and other peanut products remain on our list of staple imports. Strangely enough, the peanut, now a crop of world-wide importance, is also native to Middle America. Though a highly praised domestic crop, particularly of our southeastern states, the United States still does not produce more than 60 or 65 per cent of the peanuts required for home consumption. Accordingly, United States manufacturers continue to import various peanut products from China, Japan, India, and Africa. Though Latin America is the homeland of this great food legume and though the subtropical soils of the Caribbean area are nearest ideal to its commercial production, we import practically no peanuts from Middle America.

Castor oil, taken from the burred seed of the stately castor plant, is another little-realized export of subtropical and tropical Latin America. Throughout Central America, northern South America, and various Caribbean islands this plant grows both wild and under cultivation. But most of the world supply of castor products, and perhaps 65 or 70 per cent of our own supply, comes from India, South China, and other parts of the Far East, where British, Dutch, and Japanese colonial enterprises again take commercial leadership away from the Americas with the same repetitious strategies of cheap labor and larger and better consolidated plantation units. Yet from a standpoint of botanical habitat, favorable soils, and climate, Middle America ought to be a ranking source of castor products.

In the case of vegetable waxes the supply from Middle and South America together is comparatively adequate even today. We are buying waxes from Latin America because they are indispensable to various industries and we cannot buy them anywhere else. Unfortunately this is not the case with the more imposing tanning materials—a quarter-million-tons-a-year necessity for United States leather and shoe industries. Today, as for the past ten years, our leather industries are seeking more dependable sources of vegetable tannin, at least half of which must be imported.

It is common knowledge that countries of South America hold the largest known reserves of tannin materials. At present the largest of these entries is Quebrecho, which supplies between a fourth and a third of our total consumption of leather-curing materials. But there are two other important tannin sources in United States import. The lesser of these is the divi-divi, a small seed-bearing tree which grows along the Caribbean front from Mexico to Venezuela. The third, and in some respects the most essential, is mangrove, a dominant jungle tree of Middle America.

But here again, as an earlier chapter points out, is an unreasonable lapse in inter-American trade. The mangrove grows also in Africa, India, and the Oriental tropics, and even during this proclaimed era of "Inter-Americanism" United States manufacturers continue to import virtually all of our supply of mangrove tannin



(Top) THE NEW IN ARCHITECTURE: SAN JOSÉ AIRPORT.
(Bottom) THE OLD IN ARCHITECTURE: A BUILDING IN ANTIGUA.



(Top) GUATEMALA CITY RADIO STATION.
(Bottom) SPANISH RUINS AT ANTIGUA.

from Portuguese East Africa when a world's multiple plenty waits next door in the Americas! At five cents per pound, our consumption of mangrove extract would enable tens of thousands of American neighbors to live the comparatively abundant life.

Mention has already been made of another highly important family of Middle American crops which must be imported and which United States commercial practice has largely forsaken in favor of the Oriental tropics. These are the "hard fibers," such as sisal, abaca, and henequen. Henequen, in particular, is indigenous to tropical American drylands, particularly to Yucatán, and most of the others can be or have been raised successfully within the American tropics.

In all, these hard fibers are a quarter-billion-pounds-per-year import. At present world prices costs of these respective hard fibers are nearly identical. Yucatán and neighboring Mexican states of Chiapas, Sinaloa, and Tamaulipas continue to supply most of the henequen in United States trade, though profitable growing areas are now being extended to Cuba, El Salvador, Guatemala, and northern South America. The inter-American significance of henequen is definitely heightened by the fact that it is one of the few marketable crops that flourish in tropical drylands. And Hollywood to the contrary, a substantial part of all tropical America is actually dry country. Yet as foremost importers of hard fibers we continue to buy most of our sisal from the tropical Far East and Java, and most of our abaca from the Philippines, though both can be grown in the Americas, only a few hundred miles from our shores. Here again United States industry can choose between a Latin-American crop which has long proved its ability to employ tens of thousands of our southern neighbors and bring millions of dollars into their purses, or repeat the wearisome ambiguity of hopping halfway around the globe into alien territories to acquire a product easily growable within the Americas.

Restoration of quinine would add at least \$15,000,000 yearly to the Middle American or South American income. I should very much like to write more of neglected Middle American crops and products which we must, in any case, import. Though the instances

here mentioned are comparatively typical of the immense field, I know that other entries should be made—Latin American hides and leather; alpaca and mohair; coca, the leaf tea base for medicinal cocaine; yerba maté, that traditional tea of South Americans and a great noncompetitive crop of Uruguay, Paraguay, and the Argentine; cochineal, indigo, and other “natural” dyes; citronella and other volatile oils of the American tropics; the distinctive cigar tobaccos of Cuba; lesser-known fruits of Central America; tin, copper, asphalt, and nitrates; nutmeg, allspice, cork, vanilla, ginger, many drugs, and scores of other products which we must buy abroad and which can be, or are being, produced within the Americas.

Today, as never before, we *can* buy South American goods and Middle American goods. We *must* buy them if these Americas are to develop, or indeed to survive. It is becoming an issue of hanging together or hanging separately. Actually our Latin-American imports are pathetically small; materially less than our Latin-American exports. For example, in 1938 the value of our exports to South America was \$299,711,000 as against \$1,325,964,000 to Europe; \$739,987,000 to North America and \$610,146,000 to Asia and Oceania. Still more revealing, our total imports from South America for that same year were \$262,615,000; from Europe, \$567,118,000; from North America, \$490,427,000; from Asia and Oceania, \$585,701,000 (“Oceania” includes the islands of the Central Pacific collectively).

Today our per capita imports from all Latin America are probably not more than \$3 a year; from Middle America, about \$1.40. Should we fill one-half our proved import needs of American crops from American sources, both figures could probably be trebled within one year. The challenge is squarely before us. If we have the gumption to play ball with our American brothers, it will cost us virtually nothing, it will add billions to Pan-American trade, and it will build American solidarity in fact.

Unquestionably there are reasons for our repeated failure to meet our proved and continuing needs from American sources. These

reasons vary considerably. Some are comparatively valid, more are not entirely acceptable, but few, if any, are completely insurmountable. The main alibi, applicable to every article mentioned here, is that of wages. We all know that Africa and the Oriental tropics generally have huge native populations largely devoid of living standards, human animals who are eager to work for a few pennies a day in a dazed and rather futile determination to avoid starvation. We also know that a majority of Latin-American governments are now struggling manfully to enact and enforce minimum-wage legislation similar to our own. In several instances their struggles in this direction preceded our own.

Their task is relatively gigantic. Major populations remain extremely poor, at least when appraised by North American standards. Then, too, the jungle waits to claim and tropical disease waits to destroy.

But to speak generally, Middle American leadership today claims that efficiency in production can rise only with wage levels. It looks to potential United States markets, better reciprocity, improved credits, more capable husbandry, plus natural advantages of soil and climate to atone to some extent for this obvious wage discrepancy between the hemispheres. It is gambling heavily on the reality of improving health, and the superb if little appreciated working and learning qualities of native and citizen labor.

But the most brilliant and capable of Middle American leadership (and today some of the most capable government organizations in the world are to be found in Central America) cannot yet alter the fact that the polygamous Gold Coast chieftain with eleven unpaid wives, few if any taxes, and a cushion of contract purchase can still deliver low-grade cocoa cheaper than an independent, monogamous, law-abiding finca proprietor of Costa Rica can deliver a high grade of cocoa.

I contend that in this year 1941 the United States public, legislators, and industrialists alike are entirely capable of appreciating this truth and of making proper allowances. For it is sagacious business to strain more than one point to incubate and nurture trade when this trade in turn creates and nurtures buying power, develops

the greatest potential United States market in history, and builds an enduring framework of hemisphere solidarity. Port records prove that Latin America is actually buying our automobiles, shoes, machinery, tractors, farm implements, ready-made clothing, electrical goods, and a thousand other items, whereas the Gold Coast, Java, Borneo, French Indo-China, and British Malaya most probably are not.

Obviously no enlightened policy of Pan-American trade can be built on favoritism or on a foundation of temporary or "emergency" reciprocity. Self-evidently the building of Pan-American trade and actual commercial solidarity cannot be a mere temporary expedient. It is also our job to break away from our destructive precedents of incubating Latin-American industries and crops by emergency legislation, and then leaving them to rot and rust (as we did with the Cuban sugar industry). Crops, forests, and mines cannot be developed overnight. Certainly they must not be left to die overnight.

These are casual statements of the obvious. As an agriculturist I am deeply impressed by the agrarian skill that has enabled the British and Dutch tropics to transfer bodily, adapt to plantations, and gain world-wide supremacy in producing so many great crops which are indigenous to Middle America. Nobody can deny that the development of superior husbandry and more efficient plantation units has materially helped the Old World tropics to outdistance our own as regards great crops such as rubber, coconut, castor, quinine, and ginger, though this is not the case with cocoa, coffee, sugar cane, or tobacco.

But I contend that the really constructive and admirable phases of these attainments are not beyond the current reach of Latin-American land, talent, and if need be, of United States finance and enterprise. For in Central and South America today are to be seen some of the most efficient and enlightened plantations the world has ever known—super cattle ranches of the Argentine, superbly efficient coffee and cocoa fincas from Brazil north to Mexico (or at least they were so before the latest collapse of European markets for cof-

fee), magnificent henequen farms of Yucatán, and perhaps most impressive of all for mechanization and superlative routine, the banana farms of Honduras, Guatemala, Costa Rica, and Panama.

It is true that many of these banana plantations are operated by United States capital, such as the United Fruit Company and the Standard Fruit Company. But it is also true that independent banana farms, owned and managed by native citizens, are today second to none for efficiency, quality of harvest, or yields per acre. As a matter of botanic history, neither the banana nor the coffee tree is indigenous to this hemisphere. Bananas probably came from the valleys of India; coffee from the hinterlands of Africa. Yet today Latin America produces about five-sixths of the world's total coffee crop and virtually all bananas in commercial export.

As a student of Middle American crops I cannot name one invincible reason why the great American-made job which has already been done with bananas and coffee cannot be duplicated with American-grown rubber, coconut, tannins, hard fibers, waxes, castor, quinine, peanuts, cocoa, and many other of our indispensable imports. The fact that so many of these great products are indigenous to American earth and therefore as a rule more easily adapted to local farms, fields, and plantations than any foreign crop can be is of itself an enormously important American advantage.

Time, experimentation, hard work, stubborn investment, and loyal co-operation among the family of the Americas can create such attainments. Then "cultural relations" can rise magnificently from a secure footing of generous earth.

In a sense, we are already at war in Middle America—a war of business. In true analysis, perhaps the present gigantic brawl in Europe is the same. Perhaps the latter's planes, bombs, tanks, rifles, and shrapnel are merely bloody sets and trappings for clashes of rival economies. In any case our great struggle to the south is definitely commercial. From a patriotic standpoint, as from a legitimate commercial standpoint, this conflict to the south offers one of the greatest challenges in all history of American business. American democracy as well as American commerce is at stake.

That the road to market is the way to peace is a self-evident adage of today. Middle America already suffers hard pinches from the European war. Exports to Germany are almost completely halted; those to Britain are variously impeded; coffee, which is the great export of Middle America, is now almost wholly dependent upon congested United States markets. The real problems are not temporary. They are as old as the reality of a vast and productive agricultural frontier which begets them. Immediately and permanently, the industrialized countries of Europe and the United States itself, for that matter, are in need of varying amounts of these frontier surpluses. Middle America, like most of South America, has increasing amounts of food and raw materials to sell, and somehow or other, preferably in a forthright business way, they must sell and they must buy. Thus in terms of inter-American relations in general, good salesmanship, good investment, and good merchandising can accomplish more in six months than an entire circus parade of pinkos and abstruse proponents of "cultural relations" between the Americas can accomplish in sixteen thousand years.

Middle America and most of South America have entered an era of trade competition by nationality; totalitarian, particularly German, versus the United States. Now that the Nazi shipping arm is tied, it is deceptively easy to underestimate the real strength of German trade. But speaking as a prowler into points south, I am impressed by the fact that German trade in Middle America has several essential merits which North Americans might profitably and calmly appraise.

First of these is the acumen of "putting in." During the period between January, 1935, and September, 1939, Germany was buying about \$250,000,000 worth of Latin-American products per year in order to sell \$150,000,000 worth of German goods. This credit deficit of around \$100,000,000 per year has been a tremendous gamble to Germany. To date the United States has not been willing to pay a comparable price for the same business, though today and at last we are beginning to cover a reasonable percentage of Middle American sales with Middle American purchases.

To a considerable degree the German trade with Latin America has been peddling trade. Recent German investments in permanent developments are not impressive. However, there is the keenly important social truth that at least twelve million German citizens have emigrated to Central and South America since 1890 and that a majority of these people have made Latin America their permanent home. They have reinvested earnings on the ground. They have earned, or otherwise acquired, places in the civil and governmental life of the southern republics. With their own brawn and pocketbooks they have dug deeply into the productive industries: farming, shipping, and brokerage. They are not all Nazis. Perhaps only a small percentage are. But for obvious business reasons they have tended to fall into step with recent Nazi merchandising and barter schemes.

The truth also stands that recent German merchandising has serious faults. It is too much limited to consumers' goods. Its quality standards fell drastically during the past three or four years prior to the beginning of the newer and worse World War. Our American neighbors to the south were getting weary of German-made knives and tools that bend like cardboard, or German roofing metal that leaks like sieves, of leather goods which were no longer leather, of fabrics conjured out of the contents of ash cans and destined shortly to return there. The Middle American at large was never so eager to buy goods which last, serve, and give value for the price as he is today. He was never so eager to learn of dependable trademarks and dependable trade names.

Recent German merchandising has likewise tended seriously to overload markets for particular types of goods, virtually smothering merchant customers with such items as cameras and camera supplies, cheap typewriters, cheap household hardware, and other high-profit novelties. Nevertheless, Nazi merchandising has shown and continues to show a great skill in word-of-mouth salesmanship. It has made by far the best study of peculiar seasonal and climatic needs for merchandise. During too many bygone seasons we North Americans have been inclined merely to clear our shelves of shop-worn, dull, or otherwise unsalable goods and toss them southward.

German business people have studied the country and the clients far better, on the whole, than we have. They have become specifically acquainted with local and seasonal needs. They have learned what kinds of fabrics are best suited to tropical wear, and the many needs peculiar to building and fitting out tropical homes. They have studied Middle American tastes in dress, choice of colors, and appetite for novelties. They have learned when and where new machetes are needed, when and where work gloves, knee braces, and shoulder pads are required.

They have given a tremendous amount of study to cheap production of simple manual tools required for harvest of foremost crops, such as coffee, bananas, cocoa, palm nuts. They have given similar and profitable study to types of crates, boxes, bags, and packs essential to primitive transportation of local goods. They know the Middle American home as it actually is, not as it appears in Hollywood fantasy. They have gauged their technique of salesmanship on certain fundamental social truths of the countries concerned—such as the existence of a landed aristocracy and a census preponderance of poor workers whose relative buying power, though expanding, is still comparatively meager.

All these accomplishments are sagacious business. But in every instance United States business can meet the Teutonic competition and best it—if and when we spit on our hands and get down to the job.

German salesmanship to Latin America has consistently exploited common faults of United States selling techniques. The Nazi competition clearly understands that the Spanish-American merchant is temperamentally opposed to the technique of "high-pressure" selling; that while he is usually blessed with some measure of the ancient Castilian genius of merchandising, he does not like to be hurried or goaded and that his sensibilities are distinctly ruffled by the "Hi-Mac" hurry-and-buy-a-carload exhortation which has tended to characterize the approach of the gringo salesman.

Furthermore, German salesmanship has shown the merits of infinite patience; a literal willingness to ride a mule a hundred miles

through the jungle in order to sell a case of needles, *and* to make a new customer. Those of us who have served considerable time in the American tropics and backwoods are well acquainted with the not unheroic figure of the German salesman who is a discerning *hombre* and frequently a brave one.

Discernment is a primary weapon in this commercial maneuvering to the south. Deliberate and not too *de luxe* study trips to Central and South America were never so emphatically advisable as they are today; the personal experience of seeing the land, feeling its climates, viewing its crops, talking man-to-man with its workers, its merchants, and its farm proprietors. Such experiences have made our competitors mighty, and such experiences are three-dimensional answers to a thousand questions of advertising and presentation of goods, as well as to manufacture and packaging of goods.

The latter entry remains a serious and needless drawback to United States selling in points south. The other day one of the ranking merchants of Central America addressed me with clenched fists: "Señor, never send me any manner of package or bale that is too heavy for the back of one pack mule or two men. Package goods by the hundredweight—not by the ton. Recall that most of our railroads are narrow-gauge, with cars and engines comparably small. Hundreds of times you big-crating Americans cause me to buy German goods merely because my pack mules can't load two tons nor my freight cars forty tons!"

In square miles, this Pan-American struggle for better commercial relations represents an enormous theater of operation with present and future possibilities no less than its geographical size. The day is past when we can afford to be exorbitantly conscious of American boundary lines. From a standpoint of name priority and derivation, Central America and South America were first to acquire the name "America." Their people are Americans, as convincingly as are we.

Mr. William Randolph Hearst and his publications originated and exploited the slogan "Buy American." Apparently Mr. William Randolph Hearst and his associates do not mean what they say.

Apparently Mr. William Randolph Hearst and his associates arbitrarily limit application of the term "American" to that minority of American soil which lies between the Rio Grande and the southern boundary of Canada.

It seems to me that from this date onward the winning caliber of United States selling to Middle America and to South America must be more than Yankee peddling. It cannot rest wholly on the vending of consumers' goods. We face an imperative challenge to sell capital goods as well—more machine tools, generators, tractors, draglines, motors, aviation goods, electrical supplies; more office, factory, shop, and foundry equipment. For it is capital goods that create mass buying power and multiply consequent sales of consumers' goods. More than any laws, more than the cagiest of political chess games, capital goods and the constructive services represented by capital goods spell that all-important commercial independence for our American neighbors to the south. If we continue a twopenny program of trying to sell to Latin Americans without buying from them; if our whole commercial attack must be one of temporary consumers' goods and knickknacks, then we are beaten at the start.

Read the principal Latin-American newspapers and you gather that many United States business firms are already in agreement with this treatise. Great transportation companies, such as Pan American Airways, TACA Airline, Grace Lines, and the Great White Fleet of the United Fruit Company are continually stressing capital services incident to rapid, scheduled transportation of passengers, mail, and freight. They picture the respective nations as contemporary parts of a contemporary world where communications are the one enduring royalty. They feature the value and pertinence of their respective services to the business expediency and general good health of a given nation or area. But fortunately the winning techniques of Pan-American business have not yet jelled into absolute molds. They need to remain versatile and limber-jointed, for they belong to a still young frontier of trade.

During recent years United States interpretation of Latin America at large has carried enormous quantities of eyewash. Our "intellectuals" have invaded Americas del Sur with preconceived notions of

what their intellectual brethren back home wish to hear about Latin America. They have accommodated such demands with fantastic and sometimes alarming results. Pan-American reporting is not easy. It is always difficult to evolve generalities which can apply uniformly to so much geography and so many countries.

But in any case these republics of Middle America comprise first frontiers to the south. They are all closely bound to the United States by geography and by general business developments. Most of this Middle America is of frontier temper. Central America in particular is distinctly a young man's realm. Among its many impressive trail blazers are young United States engineers—sunburnt, hard-fisted graduates of technical schools who go south, slip into high rubber boots, sling transits over their shoulders, and wade out into jungles which natives have shunned for centuries. These young Americans are builders—of roads, bridges, railroads, tunnels, irrigation and drainage systems, and buying power. They are flying airplanes into a land of bullock carts and burros; opening gold mines and chicle hauls hundreds of miles beyond roads, railroads, or seaports. They are pushing across Central America's high backbone of mountains, building new seaports on the fabulously rich Pacific coast; pushing new railroads through jungle mud to touch arms of the Pacific which have never before been touched by ship or rail.

The young men who now help open this *frontera del sur* are sons of the Americas—not of Long Island, Texas, Iowa, or Arkansas. As such, in practice as well as in creed, they overcome the long-haunting and always destructive gospel of the conquistadors, which was to take out without putting in. The new leadership of Middle America is learning to put in before it takes out.

At this point I am aware that this final chapter grows more and more mundane, specific, and perhaps "mercenary." This is the case because, speaking as one onlooker to another, it is my sincere belief that the life of Middle America today and tomorrow, if surveyed honestly, must rest on and take life from a secure groundwork of mundane economy. The time comes when money, or trade, can mean life to the individual or to the state. In Middle America

such a time has come. Today there is neither time nor space for abstruse ideology. There is no time or reason for partisan elaboration of political creeds, or for dilettante fiestas of words, isms or wasms.

"Cultural relations" remains a convenient, easy-spoken, mouth-filling phrase. Spoken and taken in the abstract it means nothing in particular—though it may denote a mildly amiable and mildly tolerant state of mind.

Unlike Greenwich Village or Boston at the turn of the century, Middle America is more than a state of mind. It is a world of mundane reality, an enormously challenging and forever factual realm of human needs—urgent demands for materials, for services, for public administration, and for solvent business.

"Cultural relations" is a good and easy phrase. To be more than that, cultural relations in terms of Middle America at large need the reinforcement of compatible business relationships. Though the lands and towns of Middle America are comparatively old in culture, in universities, music, painting, architecture, and literature, they are still young in physical resources.

Bits of the far-spread tropical arena are sorely overpopulated. Majority lands are as notably underpopulated. Rural citizens by the hundreds of thousands, even millions, are yet separated from the world outside by jungle, mountains, blockading river, by roadless wilderness, by poverty, by illiteracy, and by the diseases which are begotten of poverty.

And Middle America looks to an agrarian future. However capable and however well co-ordinated this agrarian life may become, Middle America must endure the almost innumerable hazards of modern agriculture—the floods and hurricanes, the blights, fungi, insects, and diverse hostile micro-organisms which now molest most or all the great crops of mankind, even in temperate climate where vegetation is blessed with intervals of sterile winters.

With a dominant industry heavily beset by hazards of many kinds, Middle America must also endure and survive the realities of a waning (though once powerful) landed aristocracy, a compara-

tive scarcity of strong banks, and a comparative paucity of credit resources, which tends to require planter and merchant alike to dispose of goods rapidly or collapse in failure.

Comparatively high foreclosure rates, and a frequent preponderance of mortgaged farms within some of the richest and best developed coffee, banana, and sugar areas of Middle America attest this real dilemma. Unpredictable mishaps such as storms, floods, fast-spreading plant diseases, and most noxious of all, the ignition of a vast European war, with total or major blockade of the region's foremost exports to European markets, make financial dependence on the United States ever heavier. In general Europe's statesmen and politicians appear to know this. Dictatorships of Germany, Italy, and Japan are eminently aware that it is easier to win Middle America, indeed all of Latin America, by economic warfare than by actual military warfare. They have offered and, if totalitarianism survives, they will almost certainly again offer barter trade to all Latin America, knowing well that from a Latin-American standpoint barter trade is vastly better than no trade at all. In the past, at least, and in terms of Middle America, Germans in particular have been proportionately better salesmen than we, and better customers. Their salesmen have better learned Latin-American standards of courtesy, gracious gestures, and gracious language. As an employer, however, the German temper remains that of a hard and exacting taskmaster. Our American neighbors to the immediate south are anything but forgetful of this reality. And they are keenly conscious of the disadvantages of barter as it impedes national and private credit.

Today Middle America looks to the United States with renewed eagerness to know and to understand. Also to trade and to progress by means of trade. Today even as navies and armies are counted in digits of millions, your buying power and your market basket, as filled with products not commonly or economically grown within domestic boundaries of the United States, remain the surest foundation for hemisphere solidarity. As Middle America looks to the future, Middle America looks inevitably toward the United States. Commercially speaking, we are their future and they may very well be ours.

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