Hunt Institute for Botanical Documentation
5th Floor, Hunt Library
Carnegie Mellon University
4909 Frew Street
Pittsburgh, PA 15213-3890
Contact: Archives
Telephone: 412-268-2434
Email: huntinst@andrew.cmu.edu
Web site: www.huntbotanical.org

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The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

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SECCION EDITORIAL EL IMPARCIA

NOSOTROS ANTE LA VIDA

Reconstrucción de una casa colonial

Teníamos una vaga noticia de que en Antigua se estaba llevando a cabo una obra particular que constituiría para aquella ciudad un alto motivo de complacencia, y pudimos confirmarla en reciente escapatoria que hacia allá hiciéramos. Trátase de la reconstrucción de una magnífica y amplia morada colonial, situada en el esquinero de la quinta calle y primera avenida, a dos cuadras de las gloriosas ruinas de San Francisco, y es propiedad del doctor Wilson Popenoe, jefe del Servicio técnico de cooperación agrícola establecido en la república por la United Fruit Co. Hay que decir, ante todo, unas palabras acerca del propietario. El doctor Popenoe es ciudadano americano, que tiene un largo conocimiento de nuestros países, habiendo visitado por primera vez a Guatemala en 1916 y trabajando con aquella compañía desde hace unos siete años, perforados por viajes de alguna frecuencia a los Estados Unidos. Aquí atiende a las diversas estaciones experimentales de la Frutera, de las cuales hay dos en las inmediaciones de Antigua, una en la finca Capetillo, de los señores Rodríguez Benito, y otra en El Pintado, del señor Pedro G. Cofiño. A las labores del servicio técnico nos hemos referido en estas columnas repetidas veces.

El doctor Popenoe tuvo la feliz idea de adquirir una vieja e ilustre casa de la que no quedaban sino las recias paredes exteriores y algunos detalles más que daban la impresión de haber integrado una espléndida obra arquitectónica, y con esa entusiasta interés que muchos americanos saben poner en la restauración de reliquias del pasado, se dedicó a acopiar elementos congruentes y a iniciar la reconstrucción del soberbio edificio. Esta va a la fecha bastante adelantada y permite ya asegurar que será algo estupendo en Guatemala, por el cuidado paciente y devoto con que se realiza. Hay terminados ya algunos trozos de la casa, un bellísimo jardín recoleto, un palomar curioso, un patio primoroso, vasares y tornos evocativos; se colocan dos fuentes de piedra admirables en el primer patio, y avanza la construcción de los primeros corredores; hay el detalle de un ciprés maravillosamente bello que forma un adecuadísimo motivo de ornamentación en el centro del anchuroso patio en que la luz se solaza. Todos los materiales empleados o son antiguos, o han sido reproducidos con la mayor fidelidad, de modo que cuando esté concluída tan bella obra dará una cabal impresión del estilo y del ambiente de la Colonia.

¿Y cuál es el fin que persigue el señor Popenoe al darse a esta sugestiva tarea? ¿Un negocio? Ya dijimos que no. ¿Una vanidad? No le creemos vanidoso. Insistimos en preguntar, y se nos dice que no hace esa reconstrucción, como podría ser, para tener una residencia particular, una casa de vacaciones un tanto presuntuosa. Nada de eso. El doctor Popenoe quiere demostrar a Guatemala, con cuya vida se ha compenetrado íntimamente, su devoción. Y así, su casa de Antigua será un verdadero museo, pues además de la restauración metódica e inteligente de que hemos hablado, todo el mobiliario, los objetos que contenga y los cuadros y decoraciones que la complementen, hablarán de un pretérito que así revivirá mágicamente en el ambiente propio. La idea, como se ve, no puede ser más laudable y su desenvolvimiento, por lo hecho, ya es de lo más afortunado.

Estimamos merecedora de un profundo homenaje de simpatía esta empresa del doctor Popenoe, que así dota a Antigua, sin propósitos lucrativos de ninguna especie, por puro gusto personal y placer artístico, de un centro de atracción, de una agradable e instructiva curiosidad, de un título de orgullo. Algo más tendrá esta obra: una influencia saludable —que debiera aprovecharse— para salvar el ambiente de Antigua, para evitar que continúen cometiéndose desafueros y vendiéndose para fuera, a precios irrisorios, las reliquias del pasado que aún quedan allí. La modernización de Antigua, la introducción de comodidades que la época impone, forman un problema que debiera ser resuelto no por la inspiración personal de quienes con buena intención pero casi siempre sin acierto procuran hacerlo en sus viviendas, sino por una entendida comisión, a fin de que se conservara lo más posible, la belleza histórica de esta ciudad que ya debiera haber sido declarada monumento nacional. Todavía quedan por salvar muchos restos valiosos de la que fuera metrópoli de Centro América y con un poco de buena voluntad y otro de sentimiento artístico, fácilmente hermanables, y aun sin exagerados desembolsos, pudiera lograrse tal fin digno de todos los entusiasmos. El excelente ejemplo que ofrece el doctor Popenoe es de una elocuencia superior. Nosotros le brindamos complacidos nuestro mejor elogio.

Many years ago when Mark Twain was visiting California, he was being shown about the Hale place in Santa Barbara, famous for its collection of exotic plants. Old Morse, the head gardener - who told me the story later - was doing the honors. "Here, sir, is the famous mango tree of India. Though its native home is in the steaming forests of the Himalayan foothills, it thrives in this wonderful climate and soil of California" - and he pointed with pitiful pride to a stunted tree, ten feet high, its scorched leaves plainly showing the effect of a too-dry and too-cold environment.

"And here" - as they moved on - "is the Royal Palm of Cuba. Though indigenous to the tropical West Indies, it too finds a congenial home in California" - an assertion not altogether borne out by the appearance of the plant.

This continued for some time. Morse, ~~with obvious pride~~, displayed specimen after specimen from the torrid zone, some more robust than others, but all showing visible evidence of being too far from home. Finally they turned back toward the house. "You have seen, sir", said the old man as he took leave of the distinguished guest, "plants from all four quarters of the globe; and you have seen that all of them can be grown in this fertile soil, this remarkable climate of southern California."

Mark Twain spat viciously upon the ground. "Yes,yes," he replied; "they all grow here, but most of them hate like Hell to do it!"

I tell this story for a purpose. If old Morse had been right, I would never have left California, and there would have been no excuse for this book. But as Mark Twain pointed out, old Morse was not right. Tropical plants in general do not thrive in California; and having been born with a love of plant life which has amounted almost to a passion, nothing short of the tropics

themselves would satisfy me; for it is there, and there only, that the most exuberant forms of plant life are to be found.

When you add to this love for plants a nomadic instinct which has been strong in the Popenoe family for six generations, you have the background of the story I shall attempt to tell - the story of a search for useful plants in the far corners of the world. It is not a story of exploration in the common usage of that word, for most of the plants in which agriculture is interested are not to be found in the wilds, but are the companions of man. The work of the agricultural explorer takes him, therefore, to regions where man has been cultivating plants for many generations, but where there has been relatively little contact with our own agriculture.

The tale begins in Pasadena High School, where I had two remarkable teachers, Martha Winslow and Olga Tarbell (a younger sister of Ida M. Tarbell), from whom I obtained excellent marks in the natural sciences, due perhaps, as some of my schoolmates intimated, to the large bunches of Spencer sweet peas and choice Irises with which I periodically adorned their desks. These two understanding pedagogues went far beyond the requirements of the curriculum to coach me in their respective subjects; but looking back over the years, I think it was not so much the knowledge they imparted, as the manner in which they shared my youthful enthusiasm which pushed me forward along the trail I was then beginning to stake out for myself.

It was at just about this same time that I began to read of the great plant hunters. I thrilled at the tale of Lieutenant Bligh and his voyage in the Bounty, to bring the breadfruit tree from Tahiti to the British possessions in the West Indies: I pored over the story of Hasskarl, Markham and Spruce, who combed the Andes for superior varieties of the quinine-yielding Cinchona trees, and finally succeeded in establishing this precious drug plant in the Far East, where not only has it saved countless human lives, but has formed the basis of a highly profitable agricultural industry; and I followed the trails

of Ernest H. Wilson and Frank N. Meyer, who were at that very moment exploring the remote parts of China, whence they were sending to the United States many ornamental shrubs and trees, and not a few economic plants which have in the past quarter of a century found congenial homes in our country.

All this inspired me, and I began to feel that plant hunting was just about the most romantic occupation imaginable. Not only did a chap get to travel in out-of-the-way corners of the world, but he stood a good chance of bringing home some new fruit, or food plant, which would add materially to his country's wealth and happiness. After all, the march of empire had gone hand in hand with the transplantation of crop plants from one part of the world to another. What would have been the history of the Malayan archipelago without rubber trees from the Amazon valley? How would Cuba have prospered without sugar cane from the Old World? What would Brazil, and Colombia, and Guatemala, and Salvador have done without the coffee plant? True enough, they would have got along somehow, but there would have been a very different story to tell.

And so I continued to make friends with plants. Behind our home in Altadena there was a small frame building familiarly referred to as "the shack", in which we boys slept; and in front of the shack was a small plot of ground which I took over for gardening purposes. In our neighborhood were the homes of numerous people from the East, people of means, who had come West to retire. Nearly all of them went in for gardening. I soon discovered that I could make pin money by supplying them with rose bushes, which were easily grown from cuttings in my little plot of ground. After school hours I would dig a dozen Maman Cochets, or Papa Gontiers, or Ulrich Brunners, and deliver them in a wheelbarrow to one of these people, collecting a dollar and a half in hard cash - just about the easiest money, it seemed to me, that any one could hope to earn.

But all this time the tropical urge was growing stronger and stronger. I sent to Florida, and bought a young mango tree, a frangipani, and a few other

tropical plants. And I sat up late, reading free catalogs and seed lists from nurseries and botanic gardens in the tropics. And then, in spite of the fact that the little mango tree from Florida was gradually fading away, and the frangipani had only put out two new leaves since its arrival, I boldly stuck up a sign at the end of my plot, "WEST INDIA GARDENS", wondering what the family would say.

My father had moved us west from Kansas in 1904. He too had heard the call of the tropics some years previously, and it had cost him not only his fortune, but for the time being, his health. He gained steadily after our arrival at Altadena, and by 1907 was able to work again. He was as fond of plants as I. The "West India Gardens" sign set him thinking. Why not organize a nursery company, for the propagation and sale of tropical and subtropical plants? The avocado was just then beginning to attract attention in California, as were several other tropical fruits. David Fairchild's office in the U. S. Department of Agriculture was active in bringing into the country interesting plants from a all parts of the world, and in southern California there was no dearth of enthusiastic amateurs.

So the West India Gardens, under that name, became a nursery business, and in the succeeding years did its part in advancing the cause of subtropical horticulture in California. The citrus fruits were already receiving adequate attention; we were out for new and rare things, such as the feijoa, the cherimoya, the white sapote, and above all the avocado. California was just commencing to grow this last-named fruit: there were a few seedling trees scattered here and there from Santa Barbara southward, and nurserymen were beginning to propagate them by grafting and to offer them for commercial cultivation.

Some of these avocados were good varieties - or so they seemed to their sponsors. I scoured the countryside, looking for the best ones, and arranging with their owners to give us propagating rights.

Then came the day when we decided the local seedlings were not good enough for us. The countries to the south of us - Mexico especially - had been growing avocados for centuries where we had been growing them for years; and they had thousands of seedlings where we had one. Grafted avocados had not been known before the year 1900, and there was tremendous variation among the seedlings. No two trees produced fruit exactly alike: many were practically worthless, and only the rare exception was really first-class. The job now was to find the best existing seedlings, whether in California or elsewhere, and propagate them by grafting, so that whole orchards of trees producing fruit of uniform quality would be possible.

At great effort, we raised sufficient cash to send Carl Schmidt to Mexico. Carl had lived there previously, and knew his way about. We had a general idea of the best avocado centers, from having corresponded with Mexican horticulturists, and from having talked with John Murrieta, C. P. Taft and a few of the other old-timers in southern California, who had for years been importing avocados from Mexico and experimenting with seedlings.

Carl sent us specimen fruits and budwood of some forty different sorts. We had young seedlings ready in our nurseries, and as fast as the budwood arrived, I slapped in the buds. We soon had a fine stock of "novelties" and were booking orders for trees at $4.00 each. Theodore Barber joined the outfit, we obtained additional land, and everything looked rosy.

Among the varieties received from Mexico was one which proved, during its early days in the nursery, to be such a strong grower that father named it "Fuerte",- Spanish for strong, robust. In the spring of 1938, twenty-seven years after it was introduced, I attended a celebration organized by the avocado growers of California at the foot of the parent tree of this variety in the town of Atlixco, near Puebla, Mexico. Fifty avocado growers had come from California to set up a commemorative plaque, and to bestow gold medals on Alejandro Le Blanc, the owner of the tree, and Carl Schmidt, who sent the budwood to California. And I was told on this occasion that there are now more than one

million trees of this variety growing in California. Fuerte can almost be said, in fact, to form the basis of the present avocado industry in that State, an industry whose value runs into the millions.

In keeping with the fate of all pioneers, the West India Gardens lost money on this introduction. The cost of Carl Schmidt's explorations was much greater than our profits from the sale of Fuerte trees, and when the West India Gardens finally folded up about 1914 the books showed a net loss of several thousand dollars. But this was forgotten in the satisfaction felt by all of us in having brought Fuerte, Puebla and a few other avocados into cultivation.

In 1910 I went to Pomona College for a year, to work under Charles Fuller Baker (brother of Ray Stannard Baker), to whom I was attracted because he had spent several years in tropical America and was tremendously enthusiastic about tropical plants and their future in California. He had brought together a little group of students to whom he communicated his enthusiasm and his love of hard work. He was one of those rare teachers who care little for textbooks, but who inspire their students to a point where they work with almost holy zeal. He had founded a quarterly magazine called "The Pomona College Journal of Economic Botany", which, though destined to be short-lived, did much to advance the cause of subtropical horticulture. Charles Fuller Baker is gone - he died as Dean of the College of Agriculture in the Philippines - and those of us who were privileged to work under him are scattered today from the Far East to Central America. But we do not forget.

Just at this time (1911) the cultivation of date palms was beginning to receive attention in the hot, dry interior valleys of southern California and Arizona. The U. S. Department of Agriculture had introduced several choice varieties from North Africa and Arabia; while Swingle, Kearney, Fairchild and others had made a profound study of date culture, perhaps one of the most highly specialised subjects within the entire scope of horticultural science. Everything seemed to indicate that dates would be grown successfully on a commercial scale in what we liked to term the "American Sahara".

So father began to think of date palms. They could not be propagated quickly. You had to wait seven or eight years for a young palm to produce suckers or "offshoots" which could be removed from the mother palm and transplanted, and there were as yet only a very limited number of mature palms in the United States. The good varieties would not "come true" from seed; you had to resort to vegetative propagation, which in this case meant offshoots. There was the further complication that date palms are unisexual, that is, some of them are males and others females, and you had to plant both sexes.

There seemed to be an opportunity for someone to bring in a large commercial shipment of offshoots from the date producing countries of the Old World. The Department of Agriculture was willing to cooperate by placing an advance order for certain varieties which it had not yet been able to obtain; while ~~a number of~~ agriculturists in the Coachella and Imperial valleys signed up for several thousand palms. My brother Paul had already spent several months in Algeria, as part of a wanderjahr which he chose to take instead of finishing his senior year at Stanford. He knew French, and he was building up a knowledge of Arabic. Father decided that the two of us would carry out this mission.

Looking back - and in the light of what subsequently transpired - I smile at the innocence of two boys, 23 and 20 years of age, setting out on that journey. Had we know what we knew twelve months later, we probably would have stayed at home.

But we did not know; in fact, as Paul and I walked down Calaveras street that afternoon in July 1912, bound for Baghdad, I think our mental outlook was very much that of two boy scouts headed for their first jamboree. Though, as I have mentioned, Paul had already spent a year abroad. He knew Europe, and he knew North Africa, but neither of us knew the Orient. We got a pretty good dose of it during the next few months.

We sailed from San Francisco, and landed first in Hawaii, which gave me that taste of tropical horticulture for which I had been hungering. Then Japan, which nearly carried me off my feet with its horticultural beauty. Then the

Straits, and on to Calcutta.

Northern India gave me an opportunity to familiarise myself with mangos in the world's greatest mango-growing region; but it gave us some hard jolts, also, for it was here that Paul contracted the typhoid fever which nearly cost him his life a few weeks later at Basra, in the Persian Gulf; and it was here that I contracted the malaria and dysentery which laid me up for several weeks in the little British hospital at Maskat on the Arabian coast.

While I was getting my forty grains of quinine daily via the hypodermic needle, Paul, accompanied by Homer Brett, American Consul at Maskat, made a journey inland to Wadi Samail, home of the Fardh date, one of the world's great commercial varieties. The party returned hastily, after having reached its objective: twice they had been fired on by Arabs. Since they had been under escort - the Sultan of Oman having sent camel-troopers with the American Consul - the matter was not to be treated lightly. A detachment was promptly dispatched by the Sultan to punish the offenders, and a petty war was started which lasted intermittently for more than a year.

At Basra our real work began. After Paul's recovery from typhoid (he probably would not have recovered at all, had he not been taken in by the Cantines, American missionaries of the Dutch Reformed Church) we bought several thousand young date palms along the banks of the Shatt-el-Arab, and began preparing them for shipment. While the work continued, we went up to Baghdad on a river steamer and bought several thousand palms in that region.

I could devote many pages to our experiences in Mesopotamia,- my ride down to Babylon on camel-back, our impressions of Baghdad, the City of the Caliphs, and our days upon the canals of Basra,- but this book is mainly concerned with tropical America and I shall hold myself in check.

We suffered from the cold. Though burning hot in the summer months, the Persian Gulf country is bleak and disagreeable in the winter. After having been shot at once more, we experienced something akin to a sense of relief when our nine thousand palms were safely stowed on board the Mokta, a tramp steamer from Swansea, and headed down the Persian Gulf. In the Red Sea we lost quite a few of

them: they were on deck, and were washed overboard in a storm. After forty-nine days of the poorest eating I have ever experienced, we landed at Oran, Algeria, and went down to Biskra in the Sahara, where Paul made arrangements for the purchase of several thousand offshoots and left me to carry on the work of packing them, while he went to London to arrange transshipment of our Arabian palms, which finally landed at Galveston and went overland in seventeen freight cars to California.

Algeria, for comfort, was a marked contrast to Arabia; and it was picturesque enough, though one did not have the feeling of being far from European civilization, as one did in Baghdad. My stay was enjoyable though short. Our funds also were short, by this time, and when Paul telegraphed from London, asking me to meet him in Algiers, I had to dispatch Muhammad ben Ali across the desert some thirty miles to borrow twenty francs from his brother Abderraham (our agent) so that I could buy a railway ticket.

I left Paul to complete the job, and sailed for New York. I was anxious to get back to the States for two reasons: first, we had been gone nearly a year, which was a long time for a youngster getting his first taste of foreign travel (and what a baptism of fire it had been!); and second, I had been in correspondence with David Fairchild of the United States Department of Agriculture, who had offered to appoint me as an Agricultural Explorer the moment I reached Washington.

The second day out of Algiers, I stooped down to pick up something on the deck, and heard a rip which sent cold shivers down my spine. My last pair of trousers was no longer in condition to meet the requirements of the voyage. I made the best of things with a safety pin, and the moment I got ashore in New York, hurried uptown and spent my last cent on a new suit, in which I made my appearance the following day in Washington.

The fascination of plant hunting was upon me, stronger than ever; though sometimes at night I dreamt of those days in Basra when Paul lay between life and death, and even now I can hear the shrill cries of the sentinels on the forts at Maskat, as they signalled each other during those long nights that I tossed with

fever on my bed in the little hospital. Eighteen hundred dollars a year looked like a fortune to me; I gave up all thought of finishing my college work and embarked upon a series of voyages which were to take me to many remote and interesting corners of tropical America.

And all this makes up the story which is to follow.

RECOLLECTIONS OF AN AGRICULTURAL EXPLORER

I. By Way of Introduction

Early days in Kansas - Move to California -- Among the Pasadena Gardeners - Origin of the "West India Gardens" - To Arabia for date palms - An Agricultural Explorer in the United States Department of Agriculture.

II. Brazil, the Home of the Navel Orange

Off on the Vandyck with the Roosevelt party - Down the Islands - Rio de Janeiro and the Botanic Garden - Back to Bahia for serious work - The story of the navel orange - The pineapple, the dende palm, the jaboticaba, the pitanga - Through Minas Geraes and down the Sao Francisco - the Imbu - We return to Washington.

III. The Mango Project

To Miami and the Brickell Avenue garden - something about mangos - southern Florida in 1914-15 - Cuba - Puerto Rico.

IV. I Begin the Hunt for Avocados

To Guatemala in the summer of 1916 - The story of the avocado - Rambles through the highlands in search of avocados - Life among the Indians - I fall in love with Antigua - the wild Dahlias - the Alta Verapaz country - wild blackberries and raspberries - José Cabnal and his family troubles - The Guatemalan finquero and his life - something about coffee - Back to Washington, just before the earthquake.

V. Southern Mexico

The gardens and garden lore of the Aztecs - the corn, bean and squash complex - chocolate and vanilla - incidents of travel.

VI. Back to Central America

Again I go through the Guatemalan avocado country - A glimpse at Salvador, then on to Costa Rica - the pejibaye palm - Panama and the Canal.

VII. Round About Bogotá

At last I see the Andes - Life in the Colombian capital - interesting food plants - the giant blackberry - Up to the plateau over the old Spanish trail - across the Quindio to the Cauca valley - The home of "Maria" - down the coast on a tramp steamer.

VIII. In the Highlands of Ecuador

Up the G & Q to Quito - Imbabura and its Indians - The yaravi - Ambato and the capulin cherry - southward to Loja, and the native home of the cherimoya - Guayaquil and cacao.

IX. A Glimpse of Peru and Chile

Lima - Up to Cuzco, one of the most picturesque of the old colonial cities - The Inca civilization and what it did for agriculture - the story of the potato - other plants domesticated by the Peruvians - On to Chile, the California of the South - the story of the strawberry - back to the United States.

X. Washington Interlude

I settle down at the Department of Agriculture - Something about Foreign Plant Introduction and the personalities involved - The old scientific group at the Department - the Cosmos Club - the call of the Tropics proves too strong.

XI. We move to Honduras

The development of Lancetilla Experiment Station at Tela - a few of the interesting plants we grew - something about Honduras - Dorothy goes in for archeology - Guatemala revisited, and the old house purchased - we transfer our headquarters to Guatemala City, and commence the restoration - back again to Honduras.

XII. A Banana Man at Large

Something about bananas - I move about the Caribbean - French Guiana and the penal colony at Cayenne - I am loaned to the Carnegie Institution to help hunt for wild corn - The story of Indian corn or maize - I spend much time in Jamaica - something about that island and its people - The restoration of the old house in Guatemala completed and my roots fixed there.

CHAPTER I

As a youngster in California, I was familiar with an orange tree which grew in front of the Mission Inn at Riverside. A tablet attached to the stout iron fence which surrounded it informed the visitor that this was the original navel orange from Bahia, Brazil, and that it had been transplanted to this location by President Theodore Roosevelt in 1908.

Many times had I gazed upon this tree and marvelled at the possibilities of plant-hunting. Thirty to forty thousand carloads of navel oranges were rolling out of California annually, bound for the markets of the eastern United States. This enormous horticultural industry, worth millions of dollars to our citizens, had actually had its origin in the tree I saw before me!

What was the story behind this remarkable orange and its introduction into the United States? Had the variety originated at Bahia? How had it become seedless? These and many other questions piqued my curiosity.

Little did I suspect, in those days, that I would embark for Brazil in the autumn of 1913 to investigate the history of this tree and to see if that country had other oranges which might be valuable to us in the United States. It was my first trip abroad for the Department of Agriculture. Being still very much of a youngster, I did not go alone: I was junior member of a party of three, the other two being A. D. Shamel and P. H. Dorsett. Shamel had made quite a name for himself in California by demonstrating that the navel orange, previously looked upon as a single, uniform variety, in reality consisted of numerous strains which had originated as mutations or "bud sports" and which were of diverse horticultural value. P. H. Dorsett was a veteran plantsman of the Department, who had been associated with Beverly T. Galloway in the development of the Bureau of Plant Industry back in the eighteen-nineties. Though nearly three times my age, he could accomplish more in a day than I could in a week, as later

became painfully evident when we travelled together through the plains of central Brazil. His black derby, which he insisted on wearing into the wilds, was always yards ahead of me on the trail.

By chance we took the steamer that carried ex-President Roosevelt and his party to the River of Doubt. Gifford Pinchot, with whom our chief, David Fairchild, was well acquainted, had spoken to Colonel Roosevelt about us; and the Colonel, with his memories of the parent navel orange tree at Riverside, was interested in our project from the start. The men who accompanied him - his son Kermit, Father Zahm (who returned to the States when the party reached Rio de Janeiro), Anthony Fiala, Leo S. Miller, and that grand old veteran of tropical American exploration, George K. Cherrie - made up a group which was a constant delight and inspiration. I never met any of them again except Cherrie, whom I came across some years later in the plaza of Guayaquil, Ecuador.

At the risk of digression, I must tell of this later meeting with Cherrie. He had just come up from southern Ecuador, where the accidental discharge of a shotgun while he was hunting birds for the American Museum of Natural History had blown away part of one arm. I have forgotten how many miles he had walked before reaching a place where he could get medical assistance; but at the time of our meeting he had recovered sufficiently to be his old self. We talked of affairs Back Home - he had been out of touch with the world for months. We talked of Ecuador; and finally I got him to chatting about his journey through Brazil with the Colonel.

It was one of those balmy tropical evenings, and the military band was playing on the other side of the plaza, playing airs shot through with that plaintive note which you hear only in the Andine countries. I sat spellbound while Cherrie told the story of the River of Doubt, a story which up to that time had not appeared fully in print, but which Cherrie himself has now given us in his autobiography "Dark Trails". His affection and admiration for Roosevelt knew no bounds; and I can still feel the depth of his emotion as he

told me of that night in the jungle when the Colonel, so ill that they feared he might not live till morning, called Cherrie and Kermit to his side.

For days they had battled their way through the rapids of the River of Doubt. Their Brazilian companion, Colonel Rondon, had just announced that the time had come when they would have to abandon their canoes, and fight their way through the forest on foot. Colonel Roosevelt had suffered an injury to his leg which made it practically impossible for him to walk.

"Boys", he said - and Cherrie's voice shook as he repeated the words to me - "Boys, some of us are not going to get out of here alive. Cherrie, I want you and Kermit to go on. I will stop here."

Cherrie paused, while I sat, almost breathless, and watching the endless stream of people circling the plaza in the moonlight. From childhood I had been an ardent admirer of Theodore Roosevelt, whom I considered the greatest American of his time; and here I was, hearing at first hand the finest tribute to him which any man could tell.

"Kermit and I begged him to give us just one more day. We told him we could never go back to the States and tell the world that we had left him behind, to die a lonely death in the Brazilian wilderness. We promised him we would find some way out - though we had no plan, or any real hope of doing so. Our situation was desperate."

"But we did find a way out, as all the world knows, and brought the Colonel home with us."

And at the moment I do not know whether I was more deeply touched by the story, or by Cherrie's devotion to his chief. But to return to our travels:

It is hard for me to realize that a quarter of a century has passed since we sailed out of New York harbor on the Vandyck, bound for Brazil. But I recall clearly my excitement at the prospect of seeing the West Indies, even though we could not hope to get more than a glimpse of them on this voyage. For years I had devoured travel books which treated of this part of the world - and I know

of few other regions which have been described so abundantly, and so beautifully. Perhaps this is because they have played so important a part in the destiny of empires; perhaps it is because they themselves inspired it. Certain it is that works such as Henry Nelson Coleridge's "Six Months in the West Indies" (published anonymously in 1825); Charles Kingsley's "At Last: A Christmas in the West Indies"; and Sir Frederick Treves' "The Cradle of the Deep" awoke in me a desire to see this region, so keen that it amounted almost to a passion.

And so, when I awoke on a morning in early October 1913, and looked through the porthole of my stateroom to see the perfect cone of Statia outlined against a tropic sky, it was to find a dream come true. All day we cruised along the islands, as close inshore as the Captain dared to venture. The following day we called at Barbados, where glimpses of an indigo sea through clumps of royal palms which crowned the hilltops left an impression which has never been forgotten. The natural beauty of the West Indies, plus their romantic past, gives them an interest which is scarcely appreciated in our country - an attractiveness which I shall attempt to present more convincingly later in this tale.

Brazil was our destination, and Bahia our first port of call. Shamel, Dorsett and I hastened ashore and made our way out to the suburbs to catch our first glimpse of the navel orange upon its native heath. Colonel Roosevelt's party was officially received by gentlemen in morning dress, and shown about the place with that elaborate courtesy for which our Latin cousins are famous. But that evening, after we had left port, Shamel and I noticed our fellow-passenger Da Silva - a wealthy business man of Rio de Janeiro - pacing the deck nervously with a telegraph-blank in one hand. Finally he approached Shamel and took him by the arm.

"Look at this message I am sending to my friend the mayor of Rio de Janeiro. We will not be insulted again like this. What a surprise it will be to Colonel Roosevelt when he finds there is no one on the dock to meet him at Rio!"

Da Silva held the message before us, and we read with astonishment a long statement to the effect that the Roosevelt party thought Bahia filthy, unfit for human habitation: and that it was certainly not in order for the city of Rio de

Janeiro to go out of its way to extend them any hospitality.

Shamel thought fast. We did not know what had happened. But it would obviously be disastrous to have such a message reach the mayor of Rio immediately in advance of the Colonel's arrival.

Leaving me to keep Da Silva occupied for the moment, Shamel rushed off to find the Colonel. In a minute the two appeared, and I withdrew. Shamel told me later that everything had been straightened out: the objectionable atatements had been made by a very minor member of the Roosevelt party; the Colonel had assured Senhor Da Silva that his own impressions of Bahia were entirely different; and Da Silva had torn up the radiogram.

The incident taught me a lesson which I have never forgotten.

I shall not attempt a description of Rio de Janeiro. It would take an abler pen than mine to do justice to a city which by common consent is rated among the most beautiful in the world. Looking back on it across the years, and making mental comparisons with Cities I have since visited in Latin America, it seems to me it is much more European in character than many others. If I were to return there, I know I should miss the tiny shops filled with the products of native craftsmanship - such things as one sees in Mexico and Guatemala City and Quito. Beautiful Rio certainly is, and modern, and what delicious fruit sherbets one can get in the cafés along the Avenida Rio Branco! Being interested in tropical fruits - and being fond of sherbets - this feature appealed to me greatly. Habana in the old days could approach it, yet I do not think even the Anón del Prado could offer such a wealth of different kinds as any one of a dozen cafés we patronised in Rio. Many of the tropical fruits must be eaten in the form of sherbets or ice-creams to be really enjoyed, anyway. They are too sweet, or too fibrous, to be good when eaten out of hand.

Shamel and Dorsett had delegated the learning of Portuguese to me. I was to do the talking for the party. I had spent a few weeks on it before we left Washington, and was beginning to get along when we reached Rio, but the system had one disadvantage: we three had to stick together like brothers, day and night.

Dorsett, however, occasionally showed his independence by cutting loose and doing a little shopping on his own account. He would walk into a store, smiling broadly, look around until he saw what he wanted, wrap it up and put it in his pocket, hand the nearest salesman a greenback calculated to be adequate, and accept without question any change which was returned. Simple, but not recommendable to travellers in Latin America generally.

Edwin Morgan, our Ambassador at Rio, received us cordially and offered to accompany us when we went to pay our respects to the Minister of Agriculture. All three of us had been provided at Washington with magnificent and very impressive documents, recommending us to the good offices of foreign agricultural officials and Friends of the United States of America wherever encountered; but Shamel was the only one of the three who had clothes for the occasion. Donning his cutaway and silk hat, and taking the silver-headed walking stick purchased in Rio, because, he said, it added greatly to his personality, he led the party to our Embassy, whence Mr. Morgan escorted us to the Ministerio de Agricultura. Dorsett and I kept well in the rear.

It was my first experience in calling upon high dignitaries in Latin America, and I was greatly impressed. The Minister issued the necessary instructions to his subordinates, and we started back to Bahia, to settle down to serious work with the full cooperation of the Brazilian government - a cooperation which we were to learn, in the ensuing months, meant much more than lip-service. A special train was not too much for us, if we wished to make a trip into the back country; but it fairly broke Dorsett's heart when we were told that our position as distinguished North American scientists prohibited our appearing in public unless properly attired: we all had to wear collars, neckties and waistcoats whether we liked it or not. Since Dorsett insisted on accompanying his black derby with a woolen suit he had bought from the autumn offerings just before we left home, the tropical climate made quite a mess of him. Two years later he was still conducting correspondence with the Comptroller General at Washington, as to whether

or not the government was going to pay for having that suit cleaned in Bahia, his argument being that I had my white duck suits washed at government expense, therefore he should be able to have his woolen suit dry-cleaned. If I recall correctly, the Comptroller was somewhat stubborn about the matter, and Dorsett finally closed the case with a parting shot to the effect that if the U. S. government did not think it was just as important for him to be clean as it was for Wilson Popenoe, he gave up.

It was also at this time that we acquired our titles. Argollo Ferrão, a delightful Brazilian gentleman appointed by the government to assist us in carrying out our mission, introduced us invariably as "Doctors Shamel, Dorsett and Popenoe", which finally called forth a protest from Dorsett, whose innate modesty was offended. "My dear fellow", said Argollo Ferrao, "distinguished foreign scientists must have titles. I have chosen to call you Doctor, thinking it appropriate to one of your calling. By local custom you can, of course, be addressed as Colonel if you prefer."

Bahia stands out in my memory as an attractive and agreeable place. Just at the time of our visit it was undergoing a certain amount of modernizing, which of course shocked my conservative sensibilities. Though I have never been in Portugal, I thought it considerably more Portuguese in character than Rio de Janeiro - which latter city, after all, would be expected to be rather cosmopolitan in character. We established ourselves very comfortably in a pensão kept by an estimable English lady, and daily made trips into the orange groves of Cabulla, one of the suburbs of the city.

Here we found what we had come to seek. We found that the navel orange of Bahia breaks up into numerous strains, just as it does in California; and we completed in fairly satisfactory manner our knowledge of the origin and history of this fruit.

Among the many plants brought to Brazil by the Portuguese in colonial times, was an orange known as Selecta. This is a fine large orange, said to have reached Brazil from the Azores or one of the other islands off the coast of West Africa. It is still cultivated in Brazil, particularly in the vicinity of Rio de Janeiro, where the fruit id

where the fruit is commonly seen in the market.

Selecta is an orange containing numerous seeds. To a greater degree than other varieties, it has the habit of throwing "bud sports": that is, occasional fruits with more or less well-defined navels will be found among the normal fruits. In cases where these navels are strongly developed there is a tendency for seeds to be few in number and, occasionally, for them to be missing entirely.

Sometime in the very early part of the nineteenth century, tradition says, a Portuguese gardener whose name has been lost, noticed the occurrence of these "bud sports" on the Selecta orange, and taking one of the twigs which produced navel oranges free from seeds, he grafted it onto a young sour orange tree. When the grafted plant bore fruit, it yielded nothing but seedless navel oranges. The obvious superiority of this variety resulted in its further propagation, and it was not long until there were small groves around Bahia, where the variety began to be called "laranja de umbigo", or navel orange.

Shortly after the middle of the nineteenth century - when this variety was still relatively new, but had nevertheless come to be well-known at Bahia and highly esteemed by all who were familiar with it - the Rev. F. I. C. Schneider, an American missionary who was living at Bahia, conceived the idea of sending trees ~~of this variety~~ to his native land, where no seedless oranges were grown at that time.

Arrangements were made with William Saunders, who was in charge of the gardens and grounds of the young Department of Agriculture at Washington, to receive grafted plants of the navel orange from Bahia. A shipment was made, but resulted in failure. A second lot of plants was forwarded - this in 1870 - most of which survived. In the greenhouses at Washington they were multiplied by Mr. Saunders, who sent young trees to California and Florida. The variety was never commercially successful in Florida; but in California, two trees sent to Mrs. Eliza Tibbetts of Riverside began to attract attention as soon as they came into bearing, and it was not many years before nurserymen took up the "Washington Navel Orange", as it was called, and put it on the market.

The growth of the navel orange industry of California, from its inception in the eighteen-seventies to the present day, has been an outstanding example of what can be achieved when horticultural science is linked with cooperative effort. From every point of view it has been a remarkable job; but when we are considering its importance today, we should not forget what we owe to the unknown Portuguese gardener in Bahia, who first realized the value of this fruit and propagated it; to the Rev. Schneider, who wanted his countrymen back in the States to enjoy seedless oranges just as he was doing in Bahia; to William Saunders, who nursed and multiplied the first sickly plants which came from Brazil, then a long way from the United States in point of time; and to Mrs. Tibbetts, who planted and cultivated the trees which demonstrated the possibilities of the navel orange in California.

Day after day we studied individual orange trees in the groves of Cabulla, taking detailed notes on slight differences in growth; and in size, shape and other fruit characteristics. It was just this sort of work which had enabled Shamel and his associates to weed out many undesirable traits exhibited by navel oranges in California. We found the groves of Bahia more extensive than we had expected. I believe they contained some 75,000 trees in all, which is a good many when you recall that the fruit produced was practically all consumed locally.

Christmas 1913 found us still on the job, and invited to dine with the Argollo Ferrão family. That dinner has remained in my memory, not alone as one of the most elaborate and delicious I have ever eaten, but as the occasion on which I first made the acquaintance of that justly renowned bahiano dish, vatapá.

The Brazilians write poems and compose songs about vatapá, but not even in this fashion can its virtues be sufficiently extolled. It is a dish the exact counterpart of which I have met nowhere in my travels, though it belongs in the same general category as East Indian curry and various of the delectable Mexican concoctions which are flavored with chile. I believe it is of African origin or inspiration. The essential ingredient, the sine qua non of vatapá is the oil

obtained from the fruits of the dendé or African oil palm (Elaeis guineensis), a plant doubtless brought over to Brazil from Africa along with the slaves, but for some strange reason not established in other parts of the American tropics.

Though there is a bahiano verse which commences

O vatapá, comida rara
E assim, yaya, que se prepara--

(Vatapá, that dish so rare
Madam, as follows you prepare--)

I am unable to set forth the recipe for making it; but it would be of no avail, anyway, since the genuine bahiano palm oil is not obtainable at the Piggly Wiggly or the A & P. Suffice it to say that vatapá, when prepared as done by the senhora de Argollo Ferrão, is a dish of well-cooked rice over which is poured a saffron-colored sauce made from palm oil and various spices, while here and there within its appetizing depths lurk luscious shrimps, bits of coconut and other delicacies. When we returned to Washington, Dorsett and I went to the trouble of taking five gallons of palm oil with us, so we would not have to give up ~~eating~~ vatapá-eating too suddenly - so we could taper off, as it were, in the same manner as the Costa Ricans, who always take along small bags of black beans when they leave their native country.

Our days in Bahia were interesting and pleasant - after we had recovered from the effects of too much Christmas dinner. A regrettable coolness developed between Shamel, Dorsett and myself, however, when we began to make social calls on the local aristocracy, because I was the only one of the three who could converse with the young ladies, and took what they considered unfair advantage of the circumstance.

Considering that we were only ten degrees from the Equator, the climate was not at all bad; and certainly the people could not have been more gracious and hospitable anywhere. Gradually we localised the best cafés, particularly those which served sorbete de abacaxí, or pineapple sherbet. If there is any fruit for which Bahia deserves to be famous, it is, after the navel orange of course, the local variety of pineapple. Though here again, as is so often the case, the quality

is as much due to local peculiarities of climate as it is to the variety. I have eaten Bahia pineapples grown in Central America, and they were not a patch on the genuine Bahia product. And what quantities of them are offered in the great market of Bahia! These and the piles of cashew-apples (Anacardium occidentale, cajú in Portuguese) yield a fragrance which can be detected half a block away.

Finally, our survey of the navel orange industry completed, our program called for Dorsett and myself to carry out an agricultural exploration of interior Brazil, while Shamel was to return to California. We journeyed back to Rio and made preparations for a trip through Minas Geraes to the head of navigation on the Rio São Francisco, whence we proposed to work downstream by river steamer to Joazeiro, where we could take the train out to Bahia. We hoped we might find, in this little-known back country, crop plants which would be of value in the southern United States.

Looking back on this voyage, there is no doubt in my mind that it was one of the most sterile pieces of agricultural exploration in which I have ever taken part. As a cattle, corn and coffee-growing region, southern Minas Geraes was interesting. Especially did we enjoy our stay with Benjamin Hunnicutt and his co-workers at the agricultural college which had been developed by North Americans at Lavras. But we saw little which we could profitably send home.

We collected seeds of several fruit-bearing plants belonging to the Myrtaceae, a family in which the Brazilian flora is rich. These were not new to horticulture, but they had received little attention in other countries and we felt it worth while to assist in their dissemination.

Best of this group, perhaps, is the jaboticaba. Much like a large Scuppernong grape in character, this fruit is produced by a handsome, round-topped tree which is wild and cultivated from Minas Geraes southward. Its most interesting feature is the manner in which it produces its fruits: they are borne not only upon the smaller branches, but on the trunk from the ground upward. It is a curious sight to see one of these trees in full fruit.

Jaboticabas are popular among the Brazilians. There are a number of varieties -

perhaps, even, several distinct species of the genus Myrciaria. All of them are of slow growth. Several jaboticaba trees which we later cultivated at Lancetilla Experiment Station in Honduras were ten years old before they commenced to bear.

Next in my estimation comes the Brazilian cherry or grumichama, botanically known as Eugenia dombeyi. Though of slow growth, like the jaboticaba, it forms in time an extremely handsome shrub or small tree, with dark-green, glossy leaves some three inches in length. A remarkable thing about this plant is the short time which elapses between the appearance of the flowers and the production of ripe fruit. A fine grumichama stands just outside the office I occupied at Lancetilla Experiment Station. Annually I would find, upon coming to work some morning, that it had burst into blossom overnight. The white flowers, not unlike those of a northern cherry, covered the tree completely. A few weeks later we would be picking and eating the fruits, which are very much like the large black cherries of California except for the presence of a prominent green calyx.

For some years grumichamas have been grown in Hawaii, I am told. Plants reared from our seeds did well at Miami, Florida, withstanding several degrees of frost without serious injury. In years to come, I believe the grumichama will be well known in tropical and subtropical gardens.

This already is true of its congener the pitanga (Eugenia uniflora), cultivated in southern Florida under the name Surinam cherry. This is a fruit-bearing shrub of genuine merit. In Bahia it is extensively used as a hedge plant, a use to which it is admirably adapted. When not submitted to the shears, it makes a pretty shrub ten or twelve feet high, with small ovate glossy leaves which are gathered by bahiano housewives and scattered over the floor. When bruised by trampling under foot, they give off a spicy odor which is thought efficacious in driving away flies. It is pleasant in any case. The fruits suggest, in appearance, tiny ribbed tomatos: they are about an inch in diameter, juicy and of strongly aromatic flavor. For eating out of hand they are not bad, but their real function is to serve as the basis of a particularly fine sherbet or water-ice. This is popular in Brazilian cafés, and would be so elsewhere. It is of beautiful deep salmon color, and spicy flovor unlike

that of any other fruit with which I am familiar.

Pitangas also make excellent jams and jellies. I say this hesitatingly, for the world is full of fruits which make good jams and jellies. But pitanga jelly is so superior as to stand comparison with guava jelly - the best, at least the best known, jellied product of the tropics.

Our sketchy trip through the southern Minas Geraes at an end, we took the train to Pirapora, a sorry village at the head of navigation on the Rio São Francisco. Here, we felt, the real work would begin; for we were to enter a huge and little-known region, cut off from the outside world except for tedious and infrequent traffic along the river.

The tiny paddle-wheeled steamer which plied between Pirapora and Joazeiro was not due to leave for some days, but a launch was going downstream to Januaria, where we could wait for the steamer to pick us up. Splendid, we thought, for it would give us time to do some exploring around Januaria. We took passage on the launch, slung our hammocks aft, and headed downstream.

We left Pirapora behind us in the dusk, and I was soon asleep. Toward midnight I awakened, and missing Dorsett, went forward to see what had become of him. He was at the wheel, peering intently into the dark for floating logs, and trying his best to keep the launch from running onto the bank. "Say", he shouted, as he saw me approaching, "run and get that pilot. I came up here half an hour ago, and he jabbered something at me which I did not understand, so I just said 'sim' (yes) and he turned the wheel over to me and disappeared. I realize now he must have asked me whether or not I was a pilot, and knew the river."

Januaria proved to be a ramshackle village on the river bank, with practically nothing to interest an agricultural explorer. We put up at a tiny inn, where we had ample opportunity to familiarise ourselves with native fare before the steamer came along. Jerked beef, rice, beans, and feijoada (mandioca meal) - that's what it was, morning, noon and night.

The steamer finally came, and we pursued our journey downstream, stopping at every village and hamlet along the way. Rarely have I seen a region so desolate, so devoid of interest. We got nothing whatever of value, and had to find our only

consolation in the fact that the trip had consumed little time and had not been an expensive one. Dorsett had taken literally hundreds of photographs; we had copious notes on the agriculture of the region - or lack thereof - and had eliminated the Rio Sao Francisco from the itinerary of future agricultural explorers.

Perhaps our disappointment at finding so little of agricultural interest has made me emotional. We did not, of course, exhaust the possibilities of the region. And it was only a year ago that I talked with a pineapple expert from Hawaii who was going to South America in search of wild pineapples to use in breeding work. "Go", I told him, "to Minas Geraes. In our travels through that State we saw many wild pineapples, or what we took to be wild pineapples. There is little doubt in my own mind that somewhere between that region and Paraguay lies the native home of this fruit. There you will find, I believe, the wild forms from which our cultivated pineapples have been developed".

Bahia seemed like home, after our trip through the wilderness, and it was with regret that we made preparations for returning to Washington.

CHAPTER II

David Fairchild was enthusiastic about the possibilities of mango culture in southern Florida, and ~~in his capacity of~~ as chief agricultural explorer for the U. S. Department of Agriculture, had introduced seventy-five or eighty of the world's best sorts, which were on trial at the Plant Introduction Garden in Miami.

Most of these were showing a determined reluctance to bear good crops of fruit. It was downright irritating to have the trees yield, season after season, not more than a dozen mangos - and these the most beautiful, aromatic and luscious things imaginable! "The Chief", as I soon learned to call him - and do to this day- decided to send me to India for a year or two, in the hope that I could bring back some good mangos which would behave properly.

So, when a bulletin had been written covering the results of our Brazilian expedition, and I had been home to California to see my mother, I began to prepare for India. This time I was to go alone.

It was the summer of 1914, and I was to sail in October. Everyone knows what happened in August of that year.

"You'll have to postpone your trip until next season", said the Chief; "probably the war will be over by that time. Go down to Florida and see if you can find out what's really wrong with our mangos. And if you think it will help, go across to Cuba. That's a great mango country, and climatic conditions are very much like those of Florida."

In a few days I was in Miami, stepping out of a taxicab in front of the little laboratory on Brickell Avenue which Henry M. Flagler had donated. Immediately across the street was the six-acre Plant Introduction Garden, which I think did more real good to the country, if you figure it on a per-acre basis, than any other station our government has ever operated. When it was wrecked by the hurricane of

1926, it had been instrumental in putting the avocado and mango industries on their feet, and a host of ornamental plants had passed through its gates into the gardens and dooryards of Florida. When the time comes to write the history of subtropical horticulture in the United States, Edward Simmonds and the Miami Plant Introduction Garden will rank high.

Simmonds has always typified in my mind the true plantsman. He started life on a farm in England, then came to the States, where he worked for a time at odd jobs. He had received no horticultural education whatever, but the spark was there: his love of plants was genuine, and took him further on the road to horticultural success than any amount of education would have done. It was amusing to hear him tell of the way he got his start. He was working in Washington, when he heard that George W. Oliver, who was styled "Expert Propagator" in the Department of Agriculture, was looking for a greenhouse man.

Here was the opportunity for which Simmonds had been waiting. If he could only land that job, he would at last be able to live among plants; work with plants; in short, to realize the dreams of a lifetime. He presented himself at Mr. Oliver's office, hat in hand.

"Do you know anything about greenhouses?" asked that testy Scotsman.

Simmonds' heart sank. He saw his hopes crashing to earth. "Not a thing", he answered weakly.

"You're the very man I want", thundered Oliver, and from that moment until death ended his career as Superintendent of the Plant Introduction Garden at Miami, Edward Simmonds worked for the United States Department of Agriculture.

South Florida in 1914 was not the south Florida of today. I suppose there are very few regions in the world which have undergone so rapid a transition as that which took place at Miami in the nineteen-twenties. In speaking of it I can say, with the Apostle, "all of which I saw, and part of which I was"; for along with everyone else who came in contact with that extraordinary psychological phenomenon, the Florida boom, I was caught up in it as in the toils of a West Indian hurricane, whirled off my feet, and finally dropped, dazed but unhurt, at the point of

departure. But what a time we had! Even if the experience had cost me several thousand dollars - which fortunately it didn't, for I was among the lucky ones - I would have considered it a thoroughly good investment. Never in my life have I enjoyed such thrills, such delusions of grandeur, as I did when buying and selling Florida land - on paper - in the gay twenties.

But this is not the story of the Florida boom. I think that tale is sufficiently well known to Americans - perhaps too well known to some of them. Let us return to our muttons.

The mango has aptly been called "the apple of the tropics". In the lives of millions of people, both in Asia and in America, it occupies much the same position as does the apple in the life of a Virginia school-boy. The Jamaica negro, for example, trudges along the road munching a green mango - which if too green, will give him a belly-ache just as surely as a green apple does to the young Virginian. At dinner time he eats mangos, fresh or prepared in various ways; and last thing before going to bed at night, he sucks the honeyed juice of a mango as he sits in the doorway of his hut.

India is the aboriginal home of this excellent fruit. In that country it takes first rank among the cultivated products of the orchard, and writers ancient and modern have lavished praise upon it. The Turkoman poet Amir Khusrau, whose grass-covered tomb is still venerated at Delhi, wrote in the XIV century that it was "the pride of the garden, the choicest fruit of Hindustan"; while a more recent critic says of Indian mangos, "The Apples of the Hesperides are but Fables to them; for Taste the Nectarine, Peach and Apricot fall short" - incidentially giving us something of a description at the same time, for the mango probably resembles these last-named fruits more closely than it does any others of the temperate zone.

The common seedling mangos of the West Indies - as of the tropical world in general - are handsome but annoying fruits. They are as full of fiber as a dog is of fleas, and in my opinion the only way to eat them properly is --no, not to sit in a bath tub, as the British insist - but to put them through a sieve, throw the stone and fiber away, and make a delicious sherbet of the juice.

In contrast to these semi-wild seedlings, the fine grafted mangos of the East, products of centuries of selection and improvement at the hands of man, are as free from fiber as a peach, and of a spicy, aromatic flavor which "beggars description" as one of my California friends used to put it.

As I have mentioned, the behavior of these superb grafted mangos was highly unsatisfactory. In Florida it was positively tantalizing. Year after year the Mulgoba, one of the finest of all mangos and the first grafted variety to be cultivated in the United States, would fail to produce crops. It was no rare thing to have one of our mango-growing neighbors come into the Brickell Avenue garden, of a fine morning in August, and carefully unwrap a handsome Mulgoba, done up in cotton batting like an incubator baby; "Do you see that?" he would ask, bursting with pride, "there are seven more on the tree!"

Dr. Fairchild thought perhaps faulty pollination was the cause, so we first attacked the problem from this angle. I stole out of our little laboratory at daybreak and surreptitiously watched the insects which clustered around the mango flowers at sun-up, to sip the nectar which stood out in almost microscopic globules, incidentally picking up a few pollen grains upon the hairs of their hind legs (if he were that kind of a bug) and transferring it to the other flower. As far as I could see, the insects were on the job: there was nothing lacking from this angle.

The next thought was: perhaps the pollen of these highly-bred varieties was not potent. Even though it was transferred adequately from anther of one flower to pistil of another, perhaps it could not effect proper fertilization and consequent fruit-production.

So I studied the pollen grains under the microscope, and grew them artificially in tiny moist-chambers containing drops of sugar water. Though germination of the pollen of some of our fancy varieties did not seem to be so vigorous as that of the semi-wild seedlings, I could see no reason why it was not satisfactory.

Then came E. J. Kraus, a young man from the University of Chicago who was specializing in plant physiology. After looking over the field, he built up a hypothesis along different lines. He thought it a problem of nutrition. Being a tropical tree, the mango is in more or less active growth all the year round - if

conditions are favorable. Unless it gets a rest, there is no chance for it to build up nutrient reserves; and without an excess of carbohydrates, fruit buds are not formed. The tree just keeps on growing.

Something was required to check the growth of the tree. Kraus and I tried "ringing" - cutting away bands of bark from the larger limbs. This prevented, to a large degree, the upward flow of sap, (which passes through the cambium or layer just under the bark), and gave the leaves, which were elaborating carbohydrates through the action of chlorophyll, a chance to get ahead of the game. Fruit was the result.

But how to apply this principle on an orchard basis? We could not keep on cutting off rings of bark every year - though something of the same sort is common practice in the tropics, where people slash the tree annually with machetes, or drive nails into them, or pound the bark with clubs. (There is even a popular refrain to this effect: "A woman, a mule and a mango tree, the more you beat them, the better they be"). We got no further than elaborating the following program: (I) confine the commercial cultivation of fiberless mangos to the dryest climates, and avoid rich, moist soils, and (2) choose your varieties carefully, since some give more trouble than others.

Almost before I realized it, two seasons had come and gone. In my spare time I had prowled around south Florida widely, acquainting myself with the country and the people. William J. Krome was planting citrus, mangos and avocados at Homestead, forty miles south of Miami. He had been one of the principal engineers responsible for the construction of the sea-going railroad to Key West. That job finished, he had staked out a claim for himself in what was then practically a wilderness, and stayed on, to become one of the major factors in the development of south Florida horticulture. He was an inspiration to me, as was Professor Charles Torrey Simpson, who had developed a veritable botanic garden at his home on the water-front a few miles north of town.

From early January until the end of March, Miami was a gay place - though not, I suppose, in comparison with the Miami of today. There were many visitors from the north, and the little laboratory on Brickell Avenue was sometimes taxed

to capacity by migratory scientists. J. Arthur Harris of the Carnegie Institution of Washington spent several months with me, studying the sap concentrations of tropical plants. He was one of the most profound thinkers with whom I have ever come in contact, yet one of the most human.

Once a week I took a day off, and accompanied invariably by my two playmates Thyra and Yvonne Jeremiassen, went by bus across the rickety wooden bridge which then united the mainland with Miami Beach. Here there was a pavilion of sorts, a few houses - the most imposing among them being the Pancoast residence - and the Collins avocado grove of more than one hundred acres, reckoned to be the largest in the world at the time. Stately winter homes of wealthy northerners now stand where the avocados grew.

South Florida intrigued me greatly, but it was several years before I came to appreciate why this was the case. It is a bit of the West Indies, tacked onto the southern part of our continental United States,- the only really tropical playground within easy reach of the north by rail. Some of my California friends may take exception to this statement, but I am prepared to defend it. Granted that occasional frosts hit southern Florida, damaging the avocados and even the citrus groves. Granted that some extremely tropical plants, such as the mangosteen, have not been - and probably never will be - successfully grown in Florida. To me, the tropics mean cocoanut palms, and mango trees, and a host of gorgeous ornamental plants which, with adequate cultural attention, thrive from the latitude of Palm Beach southwards. And there is, furthermore, something in the air which literally smells of the tropics, something which my tropical soul has always missed in California.

But to live in this tropical Paradise, you have to share the fate of Adam in the original one: that is, you must work if you wish to find yourself surrounded by luxuriant vegetation. For south Florida rose out of the ocean, and her framework is lime and sand. True enough, there are patches here and there where organic matter has accumulated over the centuries, patches known as "hammocks" which possess more or less balanced soils, and for a time at least will support, unaided, a satisfactory plant growth. But as Dr. H. J. Webber used to say - after he moved

to California - most of the Florida soils are 95% sand, and the rest pure silica. To grow plants you have to fertilize these soils, and keep on fertilizing them. We had a wholesale and tragic example of this at the time of the boom. Citrus and avocado groves, which had been built up by years of fertilizing and cultural attention, were abandoned when the craze for subdividing hit Miami. Within a few months' time they had a lean and hungry look; within a year many of the trees were suffering badly; and few of them outlived the boom itself.

Eventually the day arrived when Dr. Fairchild thought the mango project would be furthered by a study of Cuban mangos. I was to get my first glimpse of Spanish America; and as I look back, I realize that it would have been difficult to get it under more favorable circumstances. Cuba is a splendid island. Knowing it as I now do, from more than half a dozen visits since the first one twenty years ago, I can understand why the Spaniards fought so hard to hold it.

Times were good: Cuba had not yet gone through the agony of the post-war collapse of sugar. Americans were popular. We had done a good deal for the Island, then pulled up stakes and turned it over to the Cubans. They were having a glorious time, running their country for themselves after generations of dissatisfaction, intermittent fighting, and need. I think I shared their pride in seeing the Cuban flag floating bravely over the Morro.

For as much as we may commit mistakes, as inadequate as we may be to solve the complex social problems of our modern civilization, it is always deeply satisfying to be Free. In the United States we take liberty for granted; we have had ours for sometime, and it has never been threatened. We have squabbled among ourselves, and quibbled over details of government; but all the time we have felt ourselves on solid ground, so far as concerned the major issues of Sovereignty and Individual Liberty.

It has not been so in all the Latin American countries, and if we are to understand their psychology we must appreciate this. We must take into account, in the first place, the emotional Latin character; and in the second, threats, uncertainties and doubts which have assailed their national lives time and again.

On reaching Habana I was not long in showing up at the agricultural experiment station just outside the city, where my beloved professor Charles Fuller Baker had worked, along with F. S. Earle, C. F. Austin, W. T. Horne, A. H. Van Hermann and other Americans, at the beginning of the century. Here I met a keen young botanist, Juan Tomás Roig, who delegated his assistant Gonzalo Fortún to accompany me during my travels in the island. The next few weeks were happy ones for me.

Fortún came of a fine Cuban family, and during my intimate association with him came to personify Cuba in my unprejudiced mind. I have always been glad of this. We talked largely of the island, and its future, particularly with relation to the United States. He summarised his views, and those of his fellow-Cubans, as follows: "We deeply appreciate all that the United States has done for us. We like you Americans. But we value our sovereignty above all else in the world, and we want nothing done to interfere with it, curtail it or restrict it."

Together we travelled from Pinar del Rio to Santiago de Cuba. We saw not only the mangos which we had set out to see, but we saw the lovely vegas of the limestone region west of Habana; the beautiful Yumuri valley near Matanzas, and the mountains of Oriente. Everywhere the stately royal palm graced the landscape; this and clumps of feathery bamboo combined to make it about the loveliest countryside I have ever seen. The years have not altered this impression.

The small farmer - perhaps the inhabitant of rural districts generally - is referred to in Cuba as a guajiro. Habana journalists, whose wit and satire have few equals, call him "Liborio". To me he is a genuinely attractive fellow. Fortún and I had occasion to know him well - though Fortún did not need the opportunity. He is possessed of all the simple virtues, while his vices - if they should be called such - seem limited to a passion for cock-fights and the smoking of an inordinate number of strong black cigars.

Having mentioned cigars, I must digress for a moment to talk about them, though I realise that I am treading upon dangerous ground, where the only law is de gustibus non disputandum est. Yet there are certain respects in which cigars can be compared, without setting up a standard of excellence based upon one's own taste.

Years ago, when I first went to Honduras, I thought the cigars of that country good, because they were mild. I did not know that the tobacco had been boiled, to take the tar out of it (so to speak); and when my friend Shamel came to visit us at Tela in 1926, I looked forward with pleasant anticipation to presenting him with a box of Republicanos.

I did so, and watched him closely as he lit the first one and took a few leisurely puffs. Unable to control my curiosity, I asked:

"Well, what do you think of it?"

"I've smoked worse", was the reply, "though I can't recall just where."

The cigars of Cuba, to my way of thinking, have more aroma than any other cigars produced in America. Granted that they are inclined to be strong, they are by common consent the standard of excellence by which other cigars are judged. Just what makes them different from others I do not know; but is a remarkable fact that no two regions can produce tobacco of precisely the same flavor and quality. Soils can be analysed; climatic factors studied, but when all is said and done, tobacco grown elsewhere, even if soil and climate appear to be exact counterparts of Vuelta Abajo, is not the same. We had this brought home to us in Honduras, a few years ago.

Samuel Zemurray, head of the United Fruit Company for which I have worked since 1925, was calling upon the President of Honduras. "General", he said, "What makes these Honduras cigars so rotten? Honduras tobacco used to have a great reputation. In Colonial times it was shipped abroad in quantity; it was appreciated clear down to Peru. I'm going to get you a Cuban who knows all about cigar tobaccos, and I'll pay his salary while he finds out what's the matter."

Zemurray passed the job along to Walter Turnbull, who passed it along to me; and I went to Cuba, to my friend of many years' standing, Gonzalo Fortún, then director of the experiment station where I had first met him as an assistant. "We want a tobacco man, who knows tobacco from the seed-bed to the finished cigar; and we want a good one," I told him.

Fortún finally selected José Diaz Cruz, who had been born under a tobacco plant, so to speak. We took him to Honduras, and sat him down in the center of the Copan

Tobacco region - a place where famous tobacco was produced in the old days. He built a curing shed of the most approved Cuban type; he planted the best Habana seed as well as local stock; he even went so far as to insist on having fiber from the royal palm in which to wrap his cured tobacco, for he said they always used this in Cuba and it added a certain delicate flavor to the finished product.

At the end of his first season, he wrote that he had lifted a good crop and would send us some cigars just as soon as the tobacco was properly cured, which would take four or five months. ~~At the end of that time~~ Eventually, they came.

We tried to smoke them, and thought there must be some mistake. There was no suggestion of the Habana aroma. They were green and raw. They fairly growled at you.

We wrote him that we thought maybe the curing shed wasn't working quite right yet; it was too new. We would wait for another season.

From time to time he sent us progress reports. Everything was going well; the new crop would be a record-breaker for quantity per acre. The weather had been propitious: the curing was proceeding nicely. And then came the cigars.

We passed them around among our brethren of the coast. With a single dissenting voice, they damned them in no uncertain terms. We sent a box to one of the big manufacturers in New Orleans. He wrote back that he thought we might find a market for this sort of tobacco in Germany.

All of which goes to show that good tobacco is more than good seed, good culture and good curing. Knowing this as I do, I still marvel at the differences which exist between the tobaccos of closely adjacent regions. Take the tobaccos of Cuba and Jamaica, for instance. These two islands are not far apart. It is hard to believe that climatic conditions are very dissimilar. Both have soils derived from soft limestone. But by the time I have taken the second puff, I believe I could tell you whether the cigar came from one or the other.

Jamaican tobaccos are good. They are popular especially with those smokers who demand a light cigar. They lack the "body" of Cuban tobaccos, and they fall short of having the aroma: nevertheless, a good Jamaican cigar has an aroma of its own, not well-marked, but pleasant.

Santo Domingo, in this same group of islands, produces cigars which in flavor approach the Cuban more closely than they do the Jamaican. We used to buy, in numerous Caribbean countries, a "Corona" from Santo Domingo which was considerably less expensive than a Cuban cigar, but a high-grade smoke. Brazil grows good cigar tobacco, in the vicinity of Bahia especially. It is aromatic, with a flavor quite distinct, I feel, from most other tobaccos. But the mainland of tropical America in general does not seem productive of high-class cigars. From Brazil clear up to Mexico I have never seen what I consider an excellent product. There are a few fair tobaccos, without really fine aroma, in Venezuela, and the same is true of Colombia. Central America does not produce anything even passable in quality. But the State of Veracruz in Mexico turns out good cigars, and they are cheap, if purchased on the spot.

Thus I am content to rest the case for tropical American tobaccos, with the proviso that even the best improve with a six months' voyage on the sea. At least this is the opinion of my friend Allison Armour, connoisseur of connoisseurs, who told me some years ago that it was his invariable practice so to treat them. If the cigars which one smoked on board his yacht Utowana were any criterion, there is something in the notion.

When Gonzalo Fortún and I returned to Habana, after our mango-hunting trip to the eastern end of the island, I was sufficiently de confianza to be taken into the bosom of his family. This gave me an intimate glimpse of Cuban home life which is not often vouchsafed the casual visitor - for Latins, basically hospitable to the extreme, are traditionally slow to take strangers into their homes. It is something which comes down to them from their Iberian forbears.

The house was one of those typical downtown Habana residences, the ground floor devoted to business purposes, while the family lived on the second floor, reached by a handsome marble staircase which led off the street. Like all tropical residences, the rooms were high-ceilinged, amply ventilated, and devoid of carpets. The sala or living room was furnished with cane-seated chairs, most of which were arranged around three sides of a hollow square against the wall. There was a marble topped center table, a gilt-framed mirror, a few pictures of European origin, and

the piano.

Ah! That piano! How wonderfully Gonzalo's younger sister could play it! Dashing Spanish airs of the bullfight type, like Alma Andaluz and Gallito; languorous danzones, and catchy popular songs which she sang to me, occasionally flashing glances over her shoulder which I could feel right down to my toes.

What we know today in the United States as Cuban music had not yet become popular in the North, nor was it, I think, quite so universally played in Cuba as it has been in more recent years. But the fundamentals were there. When we went to the theater, to witness one of the amusing Spanish zarzuelas - a sort of abbreviated musical comedy immensely popular in the old days but now completely exterminated by the movies - we always had a good taste of it.

I wonder why nothing of this sort has developed in the other Latin American countries? The same materials should be there - the negro, with his rhythm and feeling, plus the Latin, with his more refined and sophisticated technique. Yet there is, so far as I have observed, no other music in Latin America of just this same type. Perhaps it is due, at least in part, to the circumstance that here in Cuba the negro has found greater expression for his own distinctive traits than he has elsewhere. This is something which has always interested me; something which I may have misinterpreted, or overestimated, but nevertheless a conviction which has grown on me with the years. Nowhere else in the Americas does the negro seem to me so thoroughly contented, so utterly unconscious of being a negro, as in Cuba. There is no inferior complex, hence no tendency to over-compensate, which in many other regions is the unfortunate source of disagreeable incidents between whites and blacks. So far as America is concerned, I believe the Cuban negro is the happiest member of his race.

Pre-war Habana was Habana at its best. The cafés were gay but restrained; the theater popular; the people contented and prosperous. After the war, twenty-cent sugar poured wealth into this city like water, and the result was the building up of false standards, a certain amount of corruption, and the arrival of all sorts of undesirables, who preyed like buzzards upon Cubans and upon visiting Americans alike.

These were the days of the vaca gorda - the fat cow, as the Cubans called it*-

and of course they could not last. The carefree Habaneros found everything crashing about their ears toward the end of the nineteen-twenties. Passing through the city in those sad days, en route from the States to Central America, one noted the change as soon as he stepped off the wharf. I recall entering one of my favorite cafés, down near the water front, and asking for my usual sandwich, a halved roll stuffed with ham, cheese and a sliced pickle.

José, the waiter, looked surprised. "We haven't any cheese ", he stated bluntly.

"Then leave out the cheese", I told him. "Give me a ham sandwich."

"We haven't any ham", he replied almost tearfully, casting his eyes toward the shelves behind the bar where formerly had reposed innumerable bottles of the finest liquors, and which today were bare.

In those days the streets were rarely cleaned: great holes appeared here and there in the pavement. Political discord kept the government on pins and needles: and I can imagine those erstwhile happy salas of Habana's élite being devoted exclusively to serious discussions in guarded undertones. Two of my friends spent six months in the model prison on the Isle of Pines, perhaps for not having guarded their undertones sufficiently.

Those were the Dark Days. Fortunately they did not last long. Once more Habana is happy, though the zarzuela is gone, money is not as plentiful as it was during the halcyon days of the vaca gorda, and the old life is in a sense disappearing. La Zaragozana still serves meals which can not be surpassed anywhere in the Americas, and you can still get champola de guanábana and piña fria sin colar in all the cafés. And coffee - the best café con leche to be had anywhere.

When my tropical colleagues think of taking a vacation, they usually think of New York. I would much prefer to take mine in Habana.

CHAPTER III

Horticulturally speaking, the avocado was my first love. In the preface to this tale, I have referred to the introduction of the Fuerte variety from Mexico, and the important role which it assumed - and holds to this day - in the avocado industry of California. When Carl Schmidt left for Mexico, on the journey which led to the discovery of Fuerte, I wanted terribly to go with him; but somebody had to stay at home and propagate his finds. At that time I was one of the few in California who knew how to bud-graft avocados - not because it was a difficult job, but because commercial propagation of this fruit was not yet receiving attention at the hands of the big nursery companies.

It was my hope, when I joined the U. S. Department of Agriculture, that I would be sent to tropical America to look for avocados. Both in California and Florida there was a keen demand for new sorts which might extend the season in which avocados could be placed on the market, or might prove better adapted to commercial needs than the ones then available to our orchardists.

But the mango project took precedence, and kept me busy until the summer of 1916. By that time we felt that we knew enough about ~~the problem~~ mango so that a trip to India was scarcely necessary. And the war was still on, which made such a trip impracticable anyway.

I began to promote the idea of a trip to Guatemala. After Mexico, this was known to be the greatest avocado country in the world. We already possessed a great deal of information about Mexican avocados, but we knew relatively little about the Guatemalan ones. A few trees in California and Florida, grown from Guatemalan seed, had shown great promise. Perhaps by spending sufficient time in the field to examine a large proportion of the seedlings which must exist in Guatemalan dooryards and gardens, we could bring to light varieties which would prove valuable additions to the list of those commercially grown in the United States.

Little did I realise, when I was presenting at Washington my arguments for an avocado exploration of Guatemala, that I was starting out on a project which would occupy the next ten years of my life, and take me through tropical America from Mexico to Chile.

I talked with O. F. Cook and G. N. Collins, two older members of the Department who had been in Guatemala and knew a great deal about the agriculture of that republic. I read John Lloyd Stevens' classic "Incidents of Travel" - still the best work on Guatemala, though written nearly a century ago; William T.Brigham's "Guatemala: The Land of the Quetzal"; and the Maudslays' monumental "Glimpse of Guatemala" - these and a few lesser works which I drew from the Library of Congress.

And then in mid-September I boarded the Sixaola of the Great White Fleet and set out for my goal.

Later I shall tell of Guatemala as I know it today. The twenty three years which have passed since I first landed in Puerto Barrios have wrought some notable changes. Progress, in Latin America, comes by leaps and bounds. Either you have none at all, or you have lots of it. Difficult terrain, scanty population - and, frequently, internecine strife - held back many of the Latin American republics after their liberation from Spain at the beginning of the XIX century. Mainly in our own day, they have one by one broken away from the old order of things. The advent of the automobile has done a great deal: it has stimulated the construction of good roads, which previously were conspicuous for their absence, and which are one of the first essentials in the development of any region. Even more recently, air transportation has come upon the scene. It is impossible for one living in the United States to realise what the latter has meant. In our country we were never faced with the difficulties of road construction and maintenance which have existed in many parts of Latin America. Not only is it a tremendous job to hew roadways out of the mountainsides, but it is a still more difficult task to keep them open. Tropical rains are something we do not know in the north.

Perhaps I can give an idea of the change which has taken place by citing a few concrete examples. The trip from Guatemala City to Quetzaltenango, which took me four days on horseback in 1917, is now done easily in one day by automobile, or in an hour by air.

The journey up the Magdalena River to Bogotá in Colombia, which occupied eleven days of my time in 1919, is now done by air in two hours and forty-five minutes. These are the reasons why I never bother to use airplane travel when I am in the United States. After effecting such savings of time as those just mentioned, I am not interested in cutting two hours from my journey between New York and Boston.

Some years ago, when the eminent feminist Bertha Lutz visited Washington, she asked me why our railways always entered our cities by the back door. It gave the stranger, she said, a very bad first impression, to come into a great city such as Washington through the slums.

The same question has often occurred to me when visiting Latin American countries, though not with regard to the railroads so much as the steamship lines. Time and again I have tried in vain to convince cruise passengers who had called at Puerto Barrios, that Guatemala is an attractive, interesting country. One gets no better idea of Guatemala by calling at Barrios than Miss Lutz would have had of New York if she had disembarked at Hoboken and gone no farther.

But I am wandering from my story. When I ~~disembarked~~ landed at Barrios in 1916 it left no impression on me: the customs officials were courteous, and I was all in a dither to get up in those mountains I could see in the dim distance, and look for avocados. The place didn't seem very attractive - and doesn't today - but people in tropical countries which have cool highlands don't usually choose to live on the torrid coast. A night in the comfortable quarters of the United Fruit Company - I had come with letters of introduction from Minor C. Keith - and we were off, due to reach Guatemala City by nightfall. The narrow-gauge railroad plunged almost immediately into tropical forest, the kind made familiar to the older generation by Rand McNally school readers. Monkeys and alligators were missing, but the gigantic ceiba trees, the immense cohune or manaca palms (Attalea cohune) and the tangle of lianas were intensely satisfying. The train jogged along at twenty to twenty-five miles an hour, a bit slow for Guatemaltecos returning from Europe, anxious to be re-united with their families, but just about right for those of us who were viewing the tropical jungle for the first time.

After an hour or so we came into the region of banana plantations, skirting the Motagua river which meandered lazily toward the sea. Gringos in high boots, riding breeches and shirts open at the neck, were conspicuous around the stations. They were the banana men.

Quiriguá was passed. I strained my eyes in vain for a glimpse of the Maya ruins, but saw only the splendid hospital which crowns the hilltop. Here years later, I was to experience my miraculous cure - but I am getting ahead of myself.

Another hour and the bananas were left behind. The country opened out, and the tropical forest was superseded by a growth of scrub, which in turn gave way to the thorn-bush and cacti reminiscent of our own Southwest. The sun beat down mercilessly; coats came off, and the Guatemaltecan ladies fanned themselves energetically, exchanging remarks about solazos and the calorcito.

Toward one o'clock we stopped at Zacapa for lunch, then two hours more across the parched and dusty plain, and we left the river to commence the long climb to the capital. Pine trees appeared, and tropical oaks, scrubby and not impressive, but oaks nevertheless. Even upon the steepest hillsides - and there were some which were certainly forty-five degrees - corn fields were to be seen, while along the rushing mountain streams cane and bananas occupied the vegas or alluvial flats.

It was nearing dusk when the groaning of the brakes and the increased speed of the train gave notice that we had passed the divide and were descending onto the plain of Guatemala City. How many times since then have I thrilled to these same signals, eager for the first glimpse of the distant cones of Agua and Fuego outlined against the sunset!

Next morning I awoke after a refreshing sleep in the cool air of the highlands, to find at my door an Indian woman urging me to buy a clump of the handsomest orchids imaginable - Odontoglossum grande - for the equivalent of fifteen cents. For the moment I did not care whether I found any avocados or not: Guatemala was eminently satisfactory.

I went out and strolled about the streets, too utterly thrilled to take in many details. I did not notice the roughness of the cobblestones, or the fact that they were missing altogether in many places. The Indians in their colorful costumes,

mingling with people of Spanish blood in modern dress, created a kaleidoscopic scene which to me was altogether novel.

Don Pedro Bruni, agent of the United Fruit Company, explained that his family had gone to Europe, and would I care to make my headquarters at his home? I established myself in comfort, and began to look about.

It was the season of heavy rains, and the moment one got away from the center of the city everything was deep in mud. The diligencias (stage coaches) which went daily to Antigua, 26 miles away, did not always reach their destination. I was determined to go to Antigua: it was high at the top of my list. Don Pedro offered to get me a good riding animal.

During the next sixteen months I rode three thousand miles on horseback - but not on animals like this one. He was completely sui generis, and I have always wished I had learned more of his history. He was brought to the door early in the morning by an attractive lad. No, I wouldn't need spurs or a whip. And the animal was gentle: I could take his word for that.

Mounting, I jogged out through the Guarda Viejo - except where mud holes slowed our gait. And then we took the turn which leads across the plain to Mixco and up over the divide separating the ~~valley~~ plain of Guatemala City from the vale of Panchoy, where stands the ancient and ruined capital of the Kingdom.

We had gone only a few hundred yards when we came abreast of the first grog-shop - Cantina La Bioletera, the sign announced. My horse stopped abruptly, put his nose against a hitching post, and refused to budge.

I beat him, I cajoled him, I got down and turned him around three or four times one way, then the other, finally leaving him with his head toward Antigua and a smart slap of a stick at the other end.

Nothing happened. Fifteen minutes of this, and I was tired out. Suddenly a thought came to me. I stepped firmly into the cantina, asked for a Gallo (native beer), drank it, and came out. I mounted, and my horse unhesitatingly moved off down the road.

"That must be the place", I thought to myself, "where a former master of his lived". Just then we approached another cantina - "Las Brisas del Pacifico". Though I tried my best to hold him in the middle of the road, it was in vain. He stopped dead short at the door, and to save myself trouble I got down and had another beer. Again we were off without an argument.

I began to wonder: "How many cantinas are there on this road, anyway? After all, there is a limit to a man's capacity". Soon "Las Aves Nocturnas" hove into view, and the performance was repeated. "This," I said, "must be my last. I must devise some ruse to fool this beast".

So when in turn we came to "Remedios Caseros", "La Bella Mixqueña" and "Los Trasnochadores", I simply tied the horse to the nearest post; walked into the cantina, clinked a couple of empty glasses together loudly, stood a moment, and came out again. It worked.

Eight hours it took us to reach Antigua, and eight hours back again next day; for as every visitor to Guatemala knows, the road to Antigua is liberally sprinkled with grog shops, and my horse did not pass up a single one. With any ordinary animal - even the sorriest jade - one should make the trip in five hours flat.

But I had seen Antigua, and knew that it was yet too early for a study of its avocados. The trees which were so abundant in dooryards and coffee plantations were hanging full of fruit not yet half grown. I decided on a trip to the Verapaz, which I knew would take some time.

There were two ways of reaching the Verapaz; one was to go overland from Guatemala City, a ride of three and a half hours on horseback; the other was to go down to Barrios on the train, across to Livingston on the launch, up the Rio Dulce and across Lake Izabal on another launch; then by train from Panzos to Pancajché, whence it was only a short distance to Cobán. My recent experience with hired horses made me choose the latter route.

Mrs. William Owen, an American lady who had lived nearly all her life in Guatemala, and whose memory is still venerated in that country, gave me letters to Kensett Champney and R. W. Hempstead, American coffee planters in the Verapaz. Off I went to Barrios. The town of Livingston, with its Black Caribs (whom I shall

describe further on, since their story is a curious one) held me for a day; then the following morning, long before daybreak, those of us who were headed for the Verapaz made our way by lantern light down the hillside through the mud to the landing-place. We crawled on board the launch and chug-chugged up the river.

Dawn found us in the Golfete. The famous gorge of the Dulce, one of the sights of Guatemala, was far behind. Though I did not see it that time, I have done so on many subsequent occasions. It is very much worth while, though not, to my way of thinking, scenically so marvelous as several other parts of Guatemala.

That night found us at Panzos, a tiny hamlet on the banks of the Rio Polochic. It was raining. Old man Guthrie, manager of the Verapaz railroad, took me by lantern light through the mud to his house, half a mile from the river bank. We sat down together and ate a tin of cold corned beef by way of supper.

Guthrie had the distinction of operating one of the most unique railroads in America. It was twenty-eight miles long, and seemingly, it started nowhere and ended nowhere. But it served to bridge a gap in the difficult transportation of coffee - for which the Alta Verapaz is famous - between Cobán and the sea.

Freight being its major business, and the only thing which could make the railway pay if it ever paid at all, Guthrie did not worry much about the passenger service. The weekly train started when he got ready, and came back when he got around to it. Passengers sometimes complained of Guthrie's lack of punctuality.

On one particular occasion, when he sat longer than usual exchanging pleasantries with Oscar, the station agent at Pancajché, several passengers who found the mosquitos more than usually annoying, became so irritated that they told Guthrie in no uncertain terms it was time to go. They told him not once, but several times. "Caramba", burst out the old man finally, in his frightful railroad Spanish, "you can call me a pig; you can call me a dirty bum; you can call me anything you wish; but this train doesn't move until I say "vamonos"!

After a night's sleep in Panzos, I started out alone for Champney's finca (coffee plantation) "Sepacuité", riding a sturdy mule which he had sent down in response to a telegram I had dispatched several days previously. It was a beautiful ride, my first real taste of the Central American forest. All day the trail wound

upward, crossing tiny but crystal clear streams at every turn. Here and there orchids were to be seen in the trees, especially the handsome Lycaste skinneri, whose albino form, the "monja blanca" or white nun, has become the national flower of Guatemala.

For miles there was no sign of human habitation. Groups of Kekchi Indians passed from time to time, and I was struck by their cleanliness and their attractive faces. The women wore white huipiles (blouses) worked with geometric patterns and conventionalised animals in green, blue, red and yellow. Their skirts were all of the same white checked indigo blue, and puckered around the waist. Months later, I asked a Kekchi woman, half in jest, "Why do you always wear the same sort of clothes? Why don't you ever get a skirt of another color, or a huipil with different patterns on it?" "Señor", she replied earnestly, "it would not do. People would talk about you".

It was after dark when I pulled up in front of the Champney residence. Several times had I lost my way, and when I tried to inquire of passing Kekchis, had found to my surprise that they could speak no Spanish. I had to wait until a mule-train came down the trail, when I could accost the arrieros (mule drivers) who invariably knew some Spanish as well as the Indian tongue.

Kensett Champney received me cordially. He was a handsome man in his early seventies, with flowing white beard and the speech of a Back Bay Bostonian - which is exactly what he was. He had come to Guatemala as a youth, and carved out a little empire of his own here in the wilderness. Annually he shipped eight thousand bags of coffee down to the coast, coffee which cost him five or six cents a pound to produce, and which he sold for ten, fifteen, or even twenty cents. He could not spend his money, but I do not think that worried him. Making money was not his purpose. He was happy among his Indians, who looked upon him as a father. He loved the wilds. The civilization he had left behind meant nothing to him.

Yet it did mean something, in a way. His home was the most remarkable mixture of the best of our own civilization, plus the best of the Indian, which I have ever seen.

Half an hour after I had reached Sepacuité he invited me in to dinner. I had arrived late, and the family had eaten. He sat me down on an empty cracker box in the kitchen, while his Kekchi wife served me hot tortillas and black bean soup. Beef and guisquiles followed, accompanied by a bottle of the finest French wine money could buy.

Dinner finished, he led me upstairs, by the light of a hurricane lantern which he set upon a Louis XIV chair. The floors were covered with the choicest rugs, and he had two Victrolas, the most expensive models made. Still by the light of the lantern, he played me operatic airs for half an hour; then we both retired.

At first it all seemed utterly incongruous to me - this man who had cut himself off from the world in which he was brought up, but who nevertheless clung to the trappings of our own civilization while living almost like an Indian. And then, as the days went by, and I learned to know Kensett Champney better, my ideas changed completely. Here was a man who was big enough to realise that these Maya Indians had a civilization of their own, something different from ours, even better in some respects if not so good in others. He was taking the best of theirs, clinging at the same time to certain elements of his own background which gave him satisfaction.

Ten days at Sepacuité were gone before I knew it. I had seen many avocados, and drawn heavily upon the wealth of information regarding plants which Kensett Champney had gathered from his friends the Indians. It was time to move on.

So I telegraphed Bob Hempstead, manager of a finca called Chejél, which I was told could be reached in a couple of hours from the end of the railroad. Taking Guthrie's weekly train, I got down at Pancajché and was met by an Indian whom Hempstead had dispatched to show me the trail. And there was a fine mule for me to ride.

It was late in the afternoon, and we were expected to arrive before dark; but I loitered unconscionably along the way, what with gathering specimens for my plant press, and stopping to enjoy the moonlight which played over the Polochic valley far below. When we finally reached Chejél the house was dark; but my knock

on the door brought Bob in his nightshirt, with as warm a welcome as I have ever received.

Throughout the remainder of my stay in Guatemala, Chejél was my headquarters in the Alta Verapaz, and the Hempsteads my closest friends. Bob was an American, of an old Mobile family, but had lived in Guatemala since early youth. His wife Lulu was born in Cobán of German parents. Their home was the ideal place to see the coffee planter's life at its best.

In fact I like to think of Bob as the "gentleman planter". Certainly he was no snob; he was a true democrat in the best sense of the word, and no one in all the Verapaz was more sincerely loved than he. But when we rode forth on two of his fine mules - and he had the best in the country - we went in style, with an Indian boy bringing up the rear. It did not take me long to fall in love with the life. Yes, if I could go back and begin all over again, I would choose to be a coffee planter in the Guatemalan highlands.

And how well he knew his Indians! All their lovable traits and all their little weaknesses. In hands of men like Bob the feudal system was ideal. There were no abuses; everyone got justice; and all were happy. Many an evening, as we sat on the veranda at Chejél, I have listened with interest to the tales which his peons brought him: Here was one who had a pain in his ~~neck~~ back. Out came Bob with a bottle of Sloan's liniment. Here was another, who was having trouble with his wife. Bob straightened things out, and the pair went home rejoicing. Domingo Caal had lost a pig, and thought that Jesús Choc of Purulhá had taken it. Bob telegraphed the comandante to look into the matter.

Unjust and unsound as some may think the feudal system, I still maintain that it is the Simon Legrees - not the Bob Hempsteads - who have given it a black eye. In the hands of men like Bob, I feel sure the Indian prefers it to other ways of life. But it is going, as slavery has gone before it: and just as there were many slaves who found themselves utterly at sea when removed from the protecting wings of their masters, so there will be many Indians unable to cope with things when the patrón is taken from them. Will education fit them to face and solve their own problems, and will they, ultimately, be happier? I do not know.

The mountains of the Verapaz are lovely, very lovely. Densely forested in parts, elsewhere cleared for coffee plantations or the small farms of the Indians, they are the tropics at its best. Everywhere there is water, crystal clear, in tiny rivulets which go tumbling down the mountainsides to join the Polochic. And everywhere there are the Indians, attractive in appearance, clean and friendly. When they leave their huts to go to market, they place a cornstalk across the doorway, to show that no one is at home. No Indian will cross the threshold until that cornstalk is removed by the head of the house. Locks are unknown and unnecessary.

Cobán, the capital of this remote and delightful region, is more purely Indian in character, I think, than any other town of the Republic. There is, of course, a sprinkling of ladinos (as people of mixed Indian and Spanish blood are termed in Guatemala); and a German colony more numerous than in any other town save Gautemala City. Back in the eighteen-seventies, Don Enrique Dieseldorff, Bob Hempstead's father-in-law, came here from Germany. He liked the country, and must have written home about it; for he was shortly followed by other Germans, some of whom went into business, while the majority took up land and planted coffee. Some brought their wives out with them, and built homes in the German fashion. They live simply but well, as I can testify from having enjoyed their hospitality on many occasions.

The Kekchi Indian has become so used to Germans that he thinks all foreigners must be of that race. I recall a conversation I once had with an old fellow in Tactic. "Patrón", he asked, "where do you come from?"

"North America", was my reply.

"What!" he exclaimed, "is there white blood in America?"

My reconnaissance of the Verapaz with Bob Hempstead convinced me that there would be much work to do in that region. But as at Antigua, it was not yet the season for avocados. I made plans for returning in a few months'time, and headed back for Guatemala City. At my urgent solicitation, Bob sold me a beautiful white pony, Starlight, on which I made the trip - as well as many subsequent ones. Doña Lulu packed the lunch basket, and Victor Chiquin, a faithful Indian servant, was sent along as guide.

It was my first long journey overland on horseback, and I liked it. Starlight

was a joy: even ~~in~~ this first trip we became attached to each other, and remained so until I sold him when I had to return to the States.

Back in the city, I realized that my job was to prepare myself for overland travel. My work would take me widely over the Republic. There were no automobile roads in those days - one could not get two miles out of the City in a car - and everything would be done on horseback. I must have a good "boy" to help in on the trail.

I went to William B. Allison, in charge of the Presbyterian mission. "Do you know where I can get a reliable boy, one who knows how to handle animals, and is used to the trail?" I asked him.

Mr. Allison reflected a moment. Finally he replied:

"Yes, I think I have just the one you want. José Cabnal, a Kekchi Indian, who has been working for us as a colporteur. You can take him: but don't you put shoes on him! No Indian can stand shoes: his morale goes all to pieces the moment he gets them on. Something seems to happen to his ego. I don't know what it is, but I do know you must not shoe a full-blooded Indian".

Thus José Cabnal came into my life, and what a character he was! Convert from the Catholic faith, his ideas regarding the differences between Catholic ~~this~~ and ~~the~~ Protestant tenets were strange and wonderful. Bob Hempstead, who had known him for years, later warned me to watch out for him: he was too clever. Efficient he most certainly was, and there was not a lazy bone in his body. But when he left me - and it was not until I was returning to the States - my faith in his integrity had been severely shaken. Years later I heard rumors that he was mixed up in various questionable affairs; and then I picked up the newspaper one morning and read that he had gone to prison for several years, along with other members of a notorious gang of thieves called the "Aguilas Negras" (Black Eagles).

Allison also sold me a little mule, just right for José, and a McClellan saddle. After having tried others, and many of them, I have always come back to the McClellan as the only saddle when you are up against back-country travel. It is not a soft saddle; in fact it is downright hard. But day in and day out, it tires you less than any other, and is easier onnthe horse. This was quite a consideration, for Starlight

always did his best, and it was up to me to cooperate.

Off we went across the highlands - Starlight and myself leading, José and the little mule bringing up the rear. There were months of this, always with a return to Guatemala City after two to four weeks in the field, to ship north the seeds and avocado budwood I had collected, to write up my notes, and to eat some good food.

It did not take us long to find out just what sort of an outfit we needed; and I doubt that anybody could have gone more completely prepared for the job, yet carried less weight. My Guatemalan rubber poncho was strapped in front of the pommel, while on the cantle were a huge pair of saddle bags surmounted by a light blanket and a cotton hammock. All this sounds bulky, but it was not in fact. In the saddle bags were my photographic outfit (a 5x7 camera, tripod, and extra film packs): what few clothes I could not do without: and delicacies such as canned butter, malted milk and chocolates.

With this outfit, and what we could pick up along the way, José and I were good for a month on the trail at any time. Occasionally, of course, the going was hard and we both felt the strain. It was on one such occasion that José, whose importance as a representative of the United States Department of Agriculture was growing on him, made one of his classic remarks. It was in December. We had broken camp long before dawn, as was our custom, and were winding our way up the mountainside when the first gray streaks appeared in the Eastern sky. Turning in the saddle, I remarked:

"José, at this season of the year the nights are long, aren't they?"

To which the philosopher replied ingenuously:

"Yes, and so are the days!"

Four times we rode to the Verapaz, and twice we covered the western highlands as far as Quetzaltenango. We spent weeks in the region of Antigua, headquartered at the Hotel Rojas, where I got fat on two seven-course meals per day at a total cost, with lodgings, of a dollar and a half. On the wall of my bedroom was an announcement: "The proprietor will collect all bills whenever he considers it convenient".

It was a joy, this life - as I look back on it, I know that my first exploration of Guatemala was the high-spot in my career as an agricultural explorer. Day after day we made camp by the side of the trail, usually under one of the "ranchos" or thatched shelters which were provided expressly for that purpose. Often we shared the rude hospitality of these spots with a group of Indians, or with a mule-train. While José unsaddled the animals and tethered them out to graze, I slung my hammock and prepared a simple meal. If we were in the neighborhood of an Indian village, José would forage for eggs, and tortillas and perchance a bottle of honey or some other delicacy.

Tired from the day's journey - we usually made a jornada (day's ride) of seven or eight hours - I tumbled into my hammock as soon as dark had settled down upon us, murmuring the words of the immortal Sancho Panza, "God bless the man who first invented sleep".

To one side would be the Indians, or the mule-drivers, clustered around a small camp fire, talking, talking, talking. And then I would be dimly conscious that they were rolling up in their blankets, extinguishing the last embers, and saying good night. A smothered giggle or two, as they recalled the jokes of the evening, and all was quiet.

José never seemed to sleep. At least I rerely caught him in the act. Every hour or two I would hear him striking a match, to look at the Ingersoll watch I had given him and see if it was time to get up. About three he would rise and go out to bring in the animals and feed them a few ears of corn -"so that they would be happy", he always explained.

By the light of a fat-pine splinter, we boiled a cup of coffee and perhaps a couple of eggs; this, and a toasted tortilla, and we were off.

We scoured the Indian villages, looking for avocado trees. When we found one in fruit which looked promising, our real job began. We had to interview the owner, and tell him that we wanted to come in and look more closely at his tree, and that it was for an honest purpose. I don't recall that we were ever refused admittance in the end, but sometimes it took lengthy explanations. Occasionally this introduction worked up into warm and lasting friendship. I particularly have in

mind Gregorio Godines Perez, a Cakchikel Indian of San Antonio Aguas Calientes.

After we had called on Gregorio a few times, he invited us to lunch. The food was good - fried eggs, rice, the inevitable black beans, and coffee. Gregorio was interested in us, and asked many questions about my country. How far away was it? What sort of people lived there? What kind of houses did we have?

I did my best to explain things in terms that he would understand. I told him that if he got on his mule, and started for the United States, he would not arrive in less than two months, even though he rode from sunrise to sunset every day. This was clear enough.

I told him we spoke a curious language, quite unlike Spanish; and José broke out his only words of English, "Yes sir, very good sir" to show Gregorio just what I meant.

By this time he was sitting forward in his chair, completely absorbed. I told him about out houses; and then in momentary vanity, I started to tell him about the skyscrapers of New York.

"Gregorio" I said, "besides the houses of which I have told you - the ordinary houses in which most of us live - we have many high buildings, even thirty and forty stories high"(I thought I would be modest). "These are just like ordinary buildings, just like some you see in Guatemala City, only they are bigger and higher."

"You say they are thirty or forty stories high - thirty or forty houses like mine, one on top of the other?" he asked. I suspicioned that he was a bit incredulous.

"Yes", I replied, "that's right."

"Then how do you get up to the top of the building? A ladder wouldn't reach that high."

I paused to consider how I could describe an elevator in terms which would be intelligible in the light of his limited experience. "Well", I finally began, "you walk in on the ground floor, and you enter a little room; and you turn a handle, just like this" --- and I made a motion---"and the little room starts upward, and carries you right to the top of the building".

Gregorio guffawed loudly. "I suspected all the time you were pulling my leg,

with those stories about that country of yours. Now I know it," he said.

All this time we were finding good avocados here and there, and making notes so that we could come back and examine them again. For there were thousands of trees, and we wanted only the best; it would not do to be hasty in choosing those destined for introduction into the United States.

Finally twenty-three were selected, and twigs suitable for grafting were cut and hurried to Guatemala City when they could be dispatched by mail to Washington. This was the hardest task of all. Time after time I got back a cablegram saying that my "budwood", as it is known to horticulturists, had arrived in bad condition, and could not be used. I could imagine the disappointment of Ed Groucher, who was waiting at the other end with several thousand young avocado seedlings on which to graft my introductions.

Something had to be done. As a precautionary measure - as my last resort to fall back upon in case everything else failed - I started a nursery of avocado seedlings at Quiriguá, and prepared to bud young trees and take them back with me to the States.

Finally news came through that my budwood was arriving in better condition. The season had changed: spring growth had appeared, and had hardened sufficiently so that the twigs would carry in sphagnum moss. I was tremendously relieved.

By late autumn 1917 the twenty-three varieties I had selected were safely established in Washington, and I was ready to go home. It was hard to think of leaving. I rode to Antigua for a last visit just a few days before I planned to sail. The Rojas girls were voluble in their expressions of regret, and fed me even better than they ever had before. Pedro Cofiño, a simpático young Guatemaltecan who had just returned home after having attended college at Louisiana State University, gave me a bag of the best coffee which his finca had produced, and urged me to come back. And even old Gregorio forgave me the lies he thought I had told him, and wished me well.

As I rode out of the valley on Starlight, and turned for a last glimpse of the towering volcanos which stand guard over it, I could not bear the thought that I would never see this place again.

Late November 1917 is recalled by residents of Guatemala City for the numerous and severe earthquakes which were felt. I was living in the Guarda Viejo, with H Herbert Austin and his wife, two Americans of about my own age who had been sent down by Babson of Wellesley to report Central American items for his business news service. Day after day the house was shaken. There were even a few cracks in one of the walls when I left. But the real disaster came ten days after my departure. At nine o'clock of Christmas eve the city was shaken to its very foundations. Austin's home was razed to the ground. When I returned to Guatemala two years later I walked out to look at the place which had been so familiar to me. There was nothing left but a few charred walls.

José was disconsolate at my going. "Take me with you", he begged. I had to tell him I could not, but wishing to leave him some tangible memento of our days together, I offered to give him anything he wished.

He had come to know American ways, and a few American products. I was curious to see what his request would be.

José thought long and deeply. Finally he spoke: "Then, Don Frederico, if we must part, before you go, tell me how to make that Ivory soap!" Daily he had been lathering himself with it bountifully, good Kekchi that he was, and he did not want to give it up.

Laden with a final batch of budwood, I sailed for New York, and reached Washington just in time for Christmas. Shortly thereafter the California Avocado Association petitioned the government ~~that I be sent~~ to send me west to tell them the results of my hunt.

The meeting was in Riverside, and I can see still my mother's pride as her son mounted the platform to give account of his journey. I had been eighteen months in the saddle, and was as lean as a ramrod and brown as a berry. Though nearly six feet tall, I only weighed a hundred and twenty pounds. I finished my talk, and paused. A wizened old man rose to his feet at the rear of the hall. "Mister Speaker", he drawled, "could I ask just one question?"

"Certainly, sir", I replied, "I shall do my best to answer it".

"You said you went all over Guatemala, hunting for the best avocados, and you sampled all the good ones to make sure they were up to our standards. How many of them avocados do you think you et down there?"

Naturally my records weren't very definite on this point. I had to hazard a rough guess.

"I didn't keep any count, but I suppose I must have eaten a thousand or more".

The old man surveyed me up and down. "My God", he said, as he sat down,"they claim that fruit's fattening."

original on thick white paper — one copy on thin pink

Chapter IV

I was sent to Mexico in January 1918. We were in the war and ships were at a premium. Everything which had any hope of floating had been dragged out of the boneyard and was on the seas.

The SS "Breakwater" was running on a banana schedule between New Orleans and Mexican ports. ~~Three months more, and she had paid her long overdue tribute to Time.~~ Finding nothing else offering at the moment, I booked on her for Vera Cruz. Never have I experienced a rougher passage. I lay in my bunk sucking lemons, nibbling on soda biscuits, and counting the hours.

The day before we reached Tampico, the door of my tiny stateroom was thrown open violently and in rushed a seaman. "Man overboard", he shouted, "give me a knife so I can cut loose this life preserver!"

Sick as I was, I jumped out of my berth. ~~Here was something which called for heroic measures.~~ Handing the seaman an expensive ~~beautiful~~ tool knife which I had purchased on the Rue Babazoun in Algiers, I rushed on deck and stood by while he worked feverishly at the strands which bound a lifebouy to the rail. Fifty yards away, struggling in the sea, a man was ~~bellowing~~ shouting for help.

Suddenly the cords ~~gave way~~ were cut. With a mighty heave, the seaman threw my knife toward the drowning man - and handed me the life preserver.

Meanwhile, a boat was being lowered. As it swung clear of the davits the chief officer and three members of the crew jumped in. A rotten rope snapped, ~~one~~ the forward end of the boat ~~went lunging~~ lunged downward - and we had five men to save instead of one.

A second boat was lowered, this time with more success. The Chief Engineer brought back his shipmates, including the cause of all this mess - a Mexican who had dramatically determined to commit suicide but who changed his mind the minute he hit the water. ~~The Chief lost no time in pointing out that it is always necessary for the deck department to fall back on the engine room when it gets into a jam. This is a traditional right of engineers, still disputed however by those on the bridge. Perhaps the truth is best set forth in the old tale, well known throughout the service.~~

~~The Captain and the Chief engage in one of their customary arguments as to the ability of the two branches. The Chief, as usual, is convinced he could navigate the ship better than the skipper, while the latter knows he could get more speed out of the engines that the Chief has been able to develop. Finally the two agree to swap jobs for the day and put the matter to the test. An hour later the Captain rushes to the bridge from the engine room shouting "Heave to, Chief, I've just blown out a boiler head". "That's all right", replies the Chief, "I've just put her on the rocks".~~

Two large men and the boy was indeed

Vera Cruz in those days was not a particularly attractive place. It had been torn by revolution; business was almost at a standstill; and the air was charged with disquieting uncertainty. The hotels were far from good, but I soon discovered the New York Restaurant, run by the ubiquitous ~~Chinamen~~ Cantonese -known always in Mexico as Charley, instead of John - and was able to make out ~~very~~ nicely. Particularly so after I discovered the meaning of the word "jatqueic" which appeared toward the end of the menu. This was a phonetic Spanish rendering of <u>hot</u> cake<u>s</u>, in the making of which ~~Chinamen~~ Chinese cooks excel.

Before going further I want to make an explanation. There have already been several references in this tale to the subject of food. There will be more in the pages which are to follow. Some of my readers may say, "There he goes again. The fellow simply can't get his mind off his stomach." I deny the justice of any such charge. In the first place, my business as agricultural explorer was chiefly the hunting of new things for people to eat. In the second place, there are many excellent dishes in Latin America, prepared from foods with which we are familiar, but prepared in ways of which we are ignorant. And finally, the entire subject of food assumes great importance in the mind of ~~every~~ any traveller in out-of-the-way corners of the tropics. Perhaps it does so elsewhere; perhaps it should do so. ~~Personally I have long been convinced that this is the case.~~ But I would never have dared confess to such a belief, had I not read somewhere in the writings of Hugh Walpole the following sentence:

"The duty of a traveller then, is threefold - to see beauty in Nature, to discover food that is comfortable to the belly, and to discover men of like mind to himself."

From Vera Cruz I headed for Atlixco, a small town in the State of Puebla which is to avocado growers what Mecca is to the devout Muhammadan. Travel on all but the trunk lines was not too comfortable in those days. Every once in a while someone lifted a rail; the engine went in the ditch; the boys back in the underbrush ~~fired into~~ peppered with their 30-30s the cars until there was no response; and then they relieved the passengers of everything except their underwear and let them walk back to town. It wasn't a pleasant prospect but the travelling public was accustomed to it and took it philosophically. And in all fairness I must say that it never happened to

me in ten months of ~~back-country~~ Mexican travel. But the possibility made one ~~very~~ careful to don his best suit of underwear before venturing forth.

In the dawn of a cold winter's morning I climbed aboard the little train in Puebla which was to take me to my goal. We were pretty thick in the second class coach, but it was an interesting crowd, as it invariably is in second class coaches in Latin America. Next to me was a lad of eighteen or twenty years, who ~~smelled strongly~~ reeked of ~~vulgar~~ liquor and who dozed intermittently during the first half hour. As the sun brightened he did too, and as he noticed the plant press and the camera I was carrying his interest grew keen. Finally I confided that I was a botanico from the United States, here to study Mexican economic plants. The importance of the occasion dawned upon him and he rose unsteadily to his feet.

"Señor", he said, as he placed one hand upon my shoulder to keep the lurching of the train from throwing him to the floor, "señor, I am Jesús Gonzalez. You see me in dirty garments, a little worse, if I may say it, for the - what shall I say? for the indiscretions of last night. But señor, under this tattered shirt there beats a magnanimous heart!"

~~And he went on to prove it by offering me a drink of aguardiente from a bottle which protruded from one of his rear pockets.~~

Jesús and I ~~We~~ were well on the way to becoming compadres when the train whistled for Atlixco and I had to push through the crowd to the door. I got out to find myself in a picturesque town at the foot of a barren conical hill, with the snowy summit of Popocatepetl towering in the background. I made my way to the small hotel, had lunch, and ventured forth to see something of the place.

Upon the plain, six thousand feet above the sea and almost encircling the hill of San Miguel, were the irrigated laboreg or gardens in which were cultivated besides vegetables and miscellaneous food crops, great numbers of avocado and other fruit trees. There were more kinds of avocados, and more good avocados, than I had ever before seen gathered together in one place. It was altogether logical, I thought, that Atlixco should have furnished the best varieties which we were cultivating in California. Undoubtedly it is the most interesting center of avocado growing in the tropics.

~~Here it seems appropriate to tell the story of the avocado.~~ This fruit tree, which the little town of Atlixco more than any other one spot has put upon the horticultural map of the United States, is indigenous from Mexico southward as far, perhaps, as the republic of Colombia. There are several geographical forms, some with small thin-skinned fruits which we call the Mexican race, some with larger, thicker-skinned fruits which we call the West Indian (though they are not actually native to the islands), and some with thick hard "shells" which we call the Guatemalan, since they seem to have come from Guatemala originally.

Before the arrival of the Spaniards, avocados were cultivated in the orchards of the Mexicans, who called the fruit in the Aztec or Nahuatl language ahuacatl. Southward through Central America it was known under other indigenous names -yasú among the Zapotecs in the Isthmus of Tehuantepec, on among the Mayas of Yucatán and the Maya tribes of Guatemala. In Colombia the name was cura, while the Incas of Peru, who carried the tree into the warm valleys of the Andes from Ecuador shortly before the Conquest, called it palta after the province where they had obtained

it. ~~While it seems not to have been known eastward of the Andine region in early times, it was known and esteemed as a valuable food throughout the mainland from northern Mexico to southern Peru.~~

In the year 1514, Pedro Arias Davila sailed from Spain to explore the northern coast of South America. Accompanying him was Gonzalo Fernandez de Oviedo, later to achieve fame as one of the first historians of the Indies, and Martin Fernandez de Enciso, an eminent geographer. The latter published, in 1519, a book called the "Suma de Geografia" ~~[illegible]~~ in which is to be found the first written reference to the avocado (or so I believe), though strangely enough no name was given to the fruit. Enciso, who saw it on the seacoast near the present town of Santa Marta, simply said that it looked "like an orange, and when it is ready for eating it turns yellowish; that which it contains is like butter and is of marvellous flavor, so good and pleasing to the palate that it is a marvellous thing."

As the years passed and the Conquest was completed, the Spaniards became familiar with this fruit in many regions; but they knew it best in Mexico, which probably accounts for the fact that the name ~~by~~ which we ~~know it~~ use today is a corruption of the Mexican <u>ahuacatl</u>. The manner in which this word has become <u>avocado</u> seems sufficiently interesting to be worth telling.

The Spaniards ~~took~~ carried the tree and its Mexican name, which they ~~[illegible]~~ adopted as <u>ahuacate</u> or <u>aguacate</u>, to the West Indies. When the British ~~took~~ wrested Jamaica from ~~the Spaniards~~ Spain in 1655, they found the tree cultivated in that island.

When ~~the British came~~ Englishmen - and perhaps others - come across an unfamiliar fruit ~~in the New World~~, they ~~had~~ have a habit of likening it to something they ~~had~~ know at home. It ~~was~~ is a plum, or an apple, or a pear - often with the

addition of a qualifying word, sometimes descriptive, ~~but so they thought~~ as hog plum, beach plum, and golden apple, ~~occasionally~~ less commonly a corruption of ~~the~~ an indigenous name. Aguacate was too much for the ~~them~~ busy English colonists, and obviously the thing looked like a pear. Avogato pear, albecato pear, and finally avocado pear developed; then it was not a far cry to alligator pear, though the fruit has ~~in reality~~ nothing to do with alligators or with pears.

As the years go by and production increases in California and Florida, more and more North Americans are becoming acquainted with ~~the fruit~~ a avocado. I believe it may interest some of them to know how it is commonly used in those countries where it has been grown since time immemorial.

The Guatemalan Indians, who are among the greatest consumers of avocados in the world, merely break the fruit in halves (or cut it with a knife) and sprinkle a little salt over it. The soft pulp - for the Indians rarely eat the avocado until the flesh has lost its firmness - is then scooped out of the skin with the fingers or with a bit of tortilla, ~~(corn cake)~~.

Among Guatemalans and other tropical Americans of European extraction ~~blood~~ the pulp is commonly added to meat soups at the time of serving, much as croutons are used in the north. In Mexico they make an excellent dish called guacamole. This is composed of ~~thoroughly~~ mashed avocado pulp, vinegar, salt, pepper, onion, and a little garlic (I can hear some of my friends snort at this, ~~and repeat contemptuously derisively the old saying~~ saying "there is no such thing as a little garlic!").

The ~~fruit cannot be~~ avocado is never cooked. An oil is extracted from it which may at some future time - when the industry has reached in the point in the United States where by-products have become a factor -

be used in the same way as olive oil. Experiments indicate that it has possibilities. In tropical America this oil is used as a pomade. It has a great reputation for stimulating the growth of the hair. often I have seen Indians in Guatemala break an avocado in halves, and rub the pulp over their heads. This may be efficacious but I doubt that it will become popular in the United States; it is a bit messy.

Caged song birds, if fed on avocado pulp, will sing more beautifully than ever before, while laying hens will almost double their production. These and other qualities, like the renowned aphrodisiacal virtues of the fruit, have not yet stood the test of scientific investigation.

Though, unwittingly, I once upon a time was - or so it was thought - almost on the point of establishing the facts in this last-named respect. Since there is no modesty in science, I may be allowed to recount the incident.

Doña Matilda took in paying guests. I was making a thorough survey of avocado varieties in Antigua, Guatemala. It was the height of the avocado season and good fruit was so abundant that the price dropped to eight cents a hundred. Twelve was the standard figure; and in the off season one might even have to pay a cent apiece for large, fine specimens.

I had never been told that the avocado is a powerful aphrodisiac - though it is common smoking-room gossip in Latin America. I wasn't frequenting smoking rooms much in those days. But I was interested in the avocado to the

point of fanaticism, and wanted to know all there was to be known about it. In writing up sales literature for our nursery in California I had praised its food value; now, it seemed to me, was the psychological moment to give it the acid test.

So I told Doña Matilda I had resolved to determine just how far the avocado could be considered a complete ration. Could a man eat nothing but avocados, and maintain his strength day after day? I would find out.

Doña Matilda demurred. "They arent good for you", she said. I thought she was afraid I was going to ask for a rebate on the meals I would otherwise have eaten at her table, and assured her I would continue to pay the usual weekly rate. "It isnt that", she explained, "I am thinking of your health".

With science on my side, I thought I knew more about avocados than did Doña Matilda with her superstitions. I was not moved.

Next morning I commenced the experiment. I weighed out eight ounces of avocado pulp, ate it, and went about my business. Toward ten o'clock I began to feel hollow and took another dose. By early afternoon I began to wonder if it would seriously upset the experiment if I ate a few soda crackers. After all, I could figure out the calories they contained and discount the results.

But with my thoughts on Walter Reed and Noguchi I stuck it out. I awoke in the morning and was feebly spooning my breakfast out of an avocado shell when there was a firm knock on the door. I opened it, and there stood Doña Matilda.

"I am sorry to disturb you", she said; "in fact I am overwhelmed with embarassment, but I have come to ask you to move out."

This was a distinct shock. "What have I done?" I asked in astonishment.

"Nothing, as yet," she replied. "I know you are a respectable young gentleman. I am sorry, very sorry".

"Then why should you throw me out like this? Have I not paid my bills regularly? I have never come in late at night and kicked up a row, like your boarder Luis Talavera. I refuse to go unless you give me some adequate reason."

Doña Matilda hesitated a moment. Then, as delicately as possible, she placed the situation before me:

"I have told you that avocados are not good for you - that is, if eaten to excess. You know that I have two innocent daughters in this house. It is not prudent; it is not safe. Either you will stop living on avocados, or you will leave my house this minute!"

The experiment was terminated.

And so, returning to my story, was the visit to Atlixco, after I had obtained much information regarding the trees which had given rise to our leading avocado varieties in California. I went by train to Mexico City, a place which interested me more because of its magnificent remains of Spanish colonial glory than its present-day political and social problems.

During the past quarter of a century, Mexico has been studied and described by many able writers, some of them Mexican, some of them from our own country and from Europe. Those who want facts can not do better than read such works as Ernest Gruening's "Mexico and its Heritage"; those who want feeling will find it in Charles Macomb Flandrau's "Viva Mexico", a book likely, in my opinion, to become a classic. To me there was great fascination in the Aztec language: I thrilled over the lingual gymnastics involved in pronouncing

glibly such words as Atzcapotzalco, Nezahualcoyotl, and ~~Popocatepetl~~ Papaloapam. And I found endless satisfaction in admiring the magnificent churches built by the Spaniards during the XVII and ~~early~~ XVIII centuries,- literally dozens of them, unequalled as a whole in the New World, though there are a limited number of fine examples in Ecuador and Peru. But most of all was I ~~interested in~~ charmed by the horticultural history of the Aztec nation.

Usually we think of a warlike race as having little time and perhaps less instinct for the cultivation of flowers. But here was a people which, in the two or three centuries preceding the Conquest, developed a military prowess which has rarely been equalled, and at the same time built stately gardens, and filled their picture-writings so full of symbols of flowers, fruits, and trees that we cannot doubt their passionate devotion to the soil and its products.

Much of our present knowledge of this subject we owe to the researches of the ~~late~~ erudite Zelia Nuttall, to whom my friend and mentor in the Department of Agriculture, William E. Safford, had given me a letter of introduction. I called upon Mrs Nuttall at her home in Coyoacán, just outside Mexico City. The house still stands, as it has done through the centuries, for it was originally built by Pedro de Alvarado, ~~the was~~ chief lieutenant of Cortes during the Conquest and subsequently ~~the~~ responsible for bringing Guatemala under the Spanish yoke. ~~Doubtless it has been reconstructed and expanded since the early days - though it must be admitted that some of the structures built by the Conquerors were on a grand scale.~~

Sitting in the spacious sala of this noble residence, surrounded by furniture and paintings of the early Colonial period, Mrs Nuttall described to me the ingenious and original system of plant nomenclature developed by the ancients, and told me of some of

the Aztec gardens - those which inspired the chronicler Acosta to write that the "Indians are great lovers of flowers and in New Spain more than in any other part of the world." Their elaborate botanical nomenclature can almost be said to have been the precursor of the Linnean system in use today, for plants resembling each other in major characteristics often had a common generic name, with the addition of a prefix or suffix to indicate the specific kind.

The artistic and cultural achievements of the early Mexicans - as of their descendants of mixed Spanish and Indian blood - must excite the admiration of anyone. How much is attributable to the inherent talents of the Aztec nation, how much to the Spaniards, it is of course difficult to say. During Colonial times there was money, much money, in Mexico, extracted from the mines. This made it possible for the arts to flourish more abundantly than they did in many other parts of the New World.

Yet I doubt that they could have flourished as they did - and as they are doing again today - without a deep love of beauty in the hearts of the native population. This has persisted through centuries of turmoil, and will remain. I refer not alone to painting, in which latter-day Mexican genius has expressed itself notably; I have in mind also Mexican music, which may be fundamentally European in character but which is the most romantic and stirring in Latin America. It may not be an outpouring of the Indian soul such as the yaraví of the Andes - of which I will speak later - but it is better suited to the emotional expression of a romantic people.

Popular Mexican airs, of which several catchy ones appear with each new year, are sung to the accompaniment of the guitar in thousands of thatched huts from the Rio Grande to Chile.

But nowhere are they sung with so much feeling, and nowhere is the guitar played so skillfully, with such dashing abandon, as in Mexico itself. It is worth a trip half way around the world just to hear a chorus of Tapatias sing such airs as "Adolorido", or two or three men with guitars put all their souls into "Cuatro Milpas", "La Borrachita", or "Jalisco Nunca Pierde".

It was hard for me to leave the Mexican highlands. To gaze upon those glorious churches; to dine at night in some humble restaurant, where the excellent and unique Mexican cuisine can be found at its best; and to drop in casually at some pulqueria where a wandering troubadour chanced to be playing the guitar and singing the sort of songs I have just mentioned - all this made up a life which was exceedingly pleasant. But the day came when I had to go back to the coast.

I spent much time in the state of Vera Cruz. Labor troubles were chronic in all that region -and seem to have remained so, intermittently, for many years. This made life difficult at times, for it is not pleasant to work where there are antagonisms, and bitterness, and strife. These were the rule in the oil towns such as Tampico and Tuxpam; hence I was glad when I chanced upon the relative peace of Papantla, an attractive place in the heart of the Totonac country.

The Totonacs captured my fancy immediately. They are another virile race of Indians, like the Aztecs and Zapotecs, though perhaps more closely related to the Maya stocks. They are clean, and handsome, and they wear their native dress with a pride and a consciousness of racial integrity which are pleasant to behold. Horticulturally they interested me because they are [illegible] the

people who gave vanilla to the world; and they continue to cultivate it today just as they did before the Conquest.

The vanilla plant is a climbing orchid native to this region. How or when it was brought into cultivation nobody knows, but these Indians of Papantla were supplying the Aztec emperor Moctezuma with flavoring for his chocolate when Cortés came upon the scene. For many years after the Conquest vanilla cultivation remained limited to ~~this region~~ Vera Cruz; then the demand in Europe resulted in its transplantation to Reunion, Java, the Seychelles, Madagascar, and Tahiti. Synthetic vanilla threatened the industry ~~in recent times~~, but fortunately failed to do away with the demand for the natural product.

Puerto Rico has recently taken up vanilla culture with great possibilities of success.

I had never read a description of the vanilla plantations of Papantla and was completely unprepared for what I saw. I had left the town behind me, and had been riding through a rather unattractive country of low bush when I asked my Totonac guide, "When we do come to the vanilla plantations?"

Taking his cigar from his mouth, he waved his hand toward a patch of scrub which lay a hundred feet from the trail. "There is one" he said; "we have been passing through them for the last half hour."

I dismounted and tied my horse to a small tree. Making my way with the guide ~~to the place indicated~~ into the scrub, I found myself in what I would have taken to be second growth - a piece of land which had perhaps been in corn three or four years previously and had been abandoned.

Young saplings ~~two or three inches in diameter~~ of various sorts grew in profusion, casting insufficient shade to prevent entirely the growth of weeds and grass below. And upon the trunks of these young trees were the vanilla vines, inconspicuous, their fleshy stems clothed with only an occasional thick, oblong leaf. One almost had to search to find them.

Annually these vines produce long slender pods (the vanilla "beans" of commerce), which reminded me of the pods of the Catalpa trees familiar to me in my Middle-Western boyhood. When these pods are full-grown the Indians gather them in small bundles and take them to merchants in the towns. Here they are "sweated" and prepared for the market.

? Reason for trip

We were headed for Gutierrez Zamora, one of the principal emporiums of the vanilla industry, and as we entered the place I noted immediately the odor of vanilla. It was a curious and unique sensation - a whole town ~~xxxxxxxxxxxxxxxxxxxx~~ smelling like one of Huyler's candy shops in the States.

Communication with this region is difficult, which is perhaps one reason why so little was known about the vanilla industry in the outside world until relatively recent times. I had to wait several days for a small sailing vessel to take me to Vera Cruz, and then was caught in a storm which carried away the mast and nearly cost us all of our lives. It was one of the few narrow escapes I have had in my travels.

The Gulf of Mexico is not a good place for small vessels during the winter months, when "northers" are apt to spring up suddenly ~~and~~ without warning. We were sailing along in the middle of the night when a squall caught us. ~~and~~ From the excited voices around the tiller I realised that things were getting serious. I had been

sleeping on a pile of bananas - I have had to learn to sleep almost anywhere, and have made a ~~pretty~~ good job of it - when suddenly I heard a crash. Before I realised what had happened the boom went tearing by, just over my head, and in the darkness I looked up and could make out dimly that the mast had gone, and the sail was dragging in the water on our starboard side.

Two or three women huddled near me on the bananas began to pray earnestly. The men at the stern began to use the same sort of language, but it wasn't in prayer. Out came machetes, and frantic efforts were made to cut the sail loose before it swamped us, for the vessel was already standing on her beam ends. For a few brief moments it looked as though we were finished; and then sail, mast and boom floated away to the stern and we drifted aimlessly until we were picked up next day by a passing government launch and towed into port. Never did Charley's hot cakes look so good to me as they did that evening in Vera Cruz, after I had bathed myself, put on some clean clothes, and gotten the wobble out of my legs.

My work now took me into the State of Oaxaca, and southward to Soconusco, almost at the Guatemalan border. The town of Tehuantepec, residence of the Zapotec kings in pre-Cortesian days, is still the home of this splendid race of people. The women particularly are noted thorughout Mexico;-"las bellas Tehuanas" they are called. They are a comely lot, sometimes truly beautiful, and their dress is picturesque in the extreme.

The ride from the Isthmus down to Tapachula, modern metropolis of the ancient Aztec province of Soconusco, is long and tiresome, for there is little to see along the way. But Soconusco itself is one of the most fertile regions of the republic, a country of volcanic soils, now noted principally for its coffee, but in

former times the source of Moctezuma's chocolate.

About this subject there has grown up a wealth of legend and tradition. The chocolate tree is probably native from here southward through Central America, extending to northern South America, though it is the opinion of modern botanists that the form grown in the latter region is a distinct though closely related species of Theobroma. Northern Mexico is too cold and dry for chocolate, hence the Aztecs obtained their supplies from this favored corner of their empire. The tribute books of Moctezuma, still extant, show in pictographs the number of bales of chocolate beans which each town and village was required annually to send to the court at Tenochtitlan, as Mexico City was then called.

Today we are familiar with chocolate in the form of candies made with cane sugar, and drinks prepared with cow's milk. Sugar cane is an Old World grass unknown to the ancient Americans, and cows were brought to our hemisphere by the Spaniards. How then did Moctezuma take his chocolate? This question had always puzzled me.

I had read the answer in one of the writings of my friend Safford, but still was anxious to know more at first hand. In typically scientific verbiage, Safford had said:

"Chocolate (from the Nahuatl chocolatl) as prepared by the ancient Mexicans was a paste made by grinding the roasted seeds of cacahuatl (Theobroma cacao) upon a stone metate with the aid of a stone resembling a rolling pin. The paste was flavored with vanilla (tlilxochitl) and the aromatic petals of the ear flower, or xochinacaztli (Cymbopetalum penduliflorum) and was sweetened with the syrup of the maguey or metl."

All this information, of course, was derived from the accounts of the early Spanish chroniclers, who ~~really~~ did an excellent job of handing down to posterity ~~a number~~ information concerning the manners and customs of the peoples to whom they brought European culture and the blessings of Christianity. But I continued to wonder ~~still wondered~~ if chocolate was still used anywhere in Mexico after the fashion of the early days.

I did not find it in Soconusco, but did find it later in the northern part of Guatemala, where among the Kekchi Indians many pre-Columbian customs still prevail. I am convinced that the drink known in that region as batido is essentially the same which Moctezuma consumed to the tune of fifty cups a day - if we are to believe the accounts of the early historians.

Chocolate was, and still is, a luxury in these parts. So much value was placed upon it that the beans were used as currency among the Indians, a custom which I believe still exists in a few remote areas. The Kekchis ~~Indians~~ of northern Guatemala do not drink batido as a daily beverage; this place is held by the less expensive coffee, ralatively a modern introduction into this part of the world. Batido is a ceremonial drink, reserved for great occasions.

It was first served to me by my Indian friend Diego Muus at San Cristobal Verapaz. I found it so unlike our northern beverage that I think it worth describing.

Batido ~~drink~~ is prepared by roasting ~~the~~ cacao (chocolate) beans over a slow fire ~~xxx~~ until they are nicely browned. They are then ground upon the stone metate, just as they were in Moctezuma's day. While still in coarse fragments, one half the amount upon the stone is placed to one side; the remainder is then ground

to a fine powder, and added to the coarser portion. The whole is then placed in a guacal, or cup made from the fruit of the calabash tree (Crescentia cujete). A small quantity of tepid water is added, and the mixture is beaten with the hand (hence the name batido, beaten) until some of the fat separates from the cacao and stands out upon the surface in small white globules.

Before it is mixed with hot water and made ready for drinking, the paste is seasoned in some manner. The orthodox way is to add the crushed petals of the ear flower, precisely as stated by Safford, and this is still done in many Indian homes, though the ear flower, a plant held sacred ~~among~~ by the Aztecs, is today very rare indeed; in fact, I have only seen it in ~~northern Guatemala~~ other places. Vanilla is often used, and sometimes cinnamon or even black pepper,- both introduced plants unknown to the ancients, hence to be avoided by purists.

After drinking the hot liquid (which has only a faint taste of chocolate) the coarse fragments of cacao which remain at the bottom of the cup are tossed into the mouth and eaten. It should be mentioned that sweetening is rarely ~~used~~ employed; where done at all, ~~it is today~~ cane sugar is today the substance used ~~effected with cane sugar~~.

It would have been difficult, I think, for one taking this drink four hundred years ago to have suspected the extent to which chocolate would be consumed by our modern world, and the many forms in which it would be prepared. And it is almost equally difficult for one drinking a cup of batido today to realise that it was so highly esteemed by the ancients that its daily use was reserved for the nobility,-others being able to afford it ~~perhaps~~ on special occasions only.

Soconusco, we ~~may perhaps be~~ are probably justified in ~~stating~~ saying, gave chocolate to the world; and so far as my own explorations were concerned,

it gave us a fruit which I believed is destined eventually to become of ~~much~~ importance in many tropical countries. This is the papauce or ilama, botanically known as Annona diversifolia. In the gardens of Tapachula I found this tree cultivated abundantly: it is small, with handsome pale green leaves, and its fruit is the size of a large orange. This does not mean that it is like an orange in character, for it is not: it belongs to the custard-appled family. Its white flesh is of the consistency of firm ice cream, and of delicate flavor suggesting that of the pineapple and the strawberry. In nearly all respects it is strikingly suggestive of its congener the cherimoya, but its climatic requirements are different and therein lies its principal value. For the cherimoya, a native of the Andes, ~~of which I will speak later,~~ does not succeed in tropical countries at low elevations, while the papauce can be grown at sea level with complete success.

At Tapachula I had reached the Farthest South of the Pullman Car, for there is direct connection by rail from this point to the United States. Across the border in Guatemala tracks are of a different gauge. I pondered this thought as I walked down to the railway station in the early dawn to commence my long journey back to Washington. For the time had come to terminate my Mexican trip. It was ~~just~~ almost a year since I had sailed southward on the Breakwater.

There was no light on the station platform. The train was made up, but the engine was cold. I walked up and down in the chill morning air, waiting for the station agent to open his window so that I could purchase a ticket. A man with a Turkish bath towel wrapped around the lower part of his face, to prevent his breathing the chill night air - a thing of which most Latin Americans ~~are deathly~~ live in dread,

~~afraid~~ - approached and stopped a few feet away. "Buenos dias, amigo" I said.

He returned the salutation. And then without hesitation, "You are going to take the train?"

"Yes, I am going to San Geronimo" - the end of the run.

"I see. What's the fare to San Gerónimo?"

"Eighteen pesos, I believe".

"Cáspitas!" he exclaimed. That's robbery. "Why do you pay it?"

This did not seem like a ~~very sensible~~ reasonable question. I told him that I had to go to San Geronimo and assumed the only way to travel was to go provided with a ticket.

"Dont be a fool," he countered. "Do what other folks do."

"What is that?" I asked.

"Get on the train, and when the conductor comes along, give him nine pesos, and keep nine for yourself."

This didnt look quite regular to me, and I told him so. But he assured me that it was standard practice. We chatted a while about things in general; a crowd began to gather; and finally the engineer gave two short blasts on his whistle, which meant that we were at last to start.

"Well, so long", said my friend as he hurried off; "I'll see you on board the train. I'm the conductor".

J A M A I C A

We were entering Kingston harbor. Beside us on the promenade deck of the "Santa Marta" stood a tall, quiet Englishman, head of a company which had extensive holdings in Jamaica. All the way down from New York we had been watching him with interest, for he impressed us as typical of the best which Albion has produced. Honesty was stamped upon his face, while his perfect consideration for those about him, his well-modulated voice - these and many other traits combined to mark him as a gentleman of the old school.

"There", he said, as he pointed toward some half-ruined battlements on the near-by shore, "there is old Fort Charles. It was built toward the end of the seventeenth century, not long after Jamaica was occupied by the British. Behind that parapet is a long runway which is known as Nelson's quarter deck."

He paused a moment, and as he commenced to speak again I thought I detected just the slightest tremor in his voice. "You will see a plaque in there, a plain marble tablet with this inscription: 'Here dwelt Horatio Nelson. You who tread his footsteps remember his glory'."

Though I did not realise it then - for this was twenty years ago - I have since come to realise that he was thinking not only of the glory of Trafalgar. He was thinking of the grand old days when Henry Morgan and his buccaneers singed the King of Spain's beard; of the time when Admiral Benbow returned from his encounter with Monsieur DuCasse, to die of his wounds and a broken heart at Port Royal; and

Elaborate Penn conquest by and Venables

of that fine morning when Rodney sailed back into this harbor after the Battle of the Saints, bringing with him the vanquished Comte de Grasse and nine stately prizes, including the incomparable Ville de Paris. Those were the days when Empire was in the making.

It is difficult for us to realise what the West Indies have meant to the British. If the choice had been offered them, I believe they would voluntarily have relinquished their hold on the Thirteen Colonies, rather than give up the Sugar Islands. After all, those Yankees were a thorn in one's side, while money fairly poured out of the Antilles.

Remember this when you visit Jamaica. Remember that the West Indies, to an Englishman, are more than a handful of small islands beset with labor problems and economic difficulties. Remember this if you want to get the most out of your stay.

For many years now, my work has kept me ~~most of the time~~ principally in the Spanish-American republics. But annually I have visited Jamaica, sometimes to spend a week, sometimes to spend several months. And each time I have come, I have been struck by the contrast between Anglo-Saxon tropical America and Latin tropical America. The two are very, very different.

Physically, Jamaica is not unlike the eastern part of Cuba, or Santo Domingo, or Puerto Rico. But there the likeness ends. When you step ashore in Kingston, fresh from any one of the Latin republics, you are struck immediately by the architecture of the place. You miss the patio houses, outer walls flush with the sidewalk, to which you have been

accustomed. If you are an American the older buildings, particularly the churches, remind you more of ~~the~~ Colonial Virginia than they do of anything else - and they should, since they were built at the same time and by the same race.

Eppard
Vendors of water coconuts. Loading of bananas by hand.

You are pleasantly impressed by the orderliness of things, by the spick-and-span black policemen in pipe-clayed helmets and white jackets. The servants at your hotel are quiet and efficient. There are roads everywhere; you can hop into an automobile and be taken to any part of the island, without having to worry about the mud, or long waits while the chauffeur tries vainly to find out what has gone wrong. And wherever you go, you will find a clean little hotel.

boiled, poached and steamed fish. Drinks

Yes, <u>clean</u>. The food may not be interesting. There is rather too much of boiled fish and boiled beef, while as for the vegetables, there may only be three - as Irvin Cobb once put it - boiled potatoes, boiled cabbage, and a second helping of boiled potatoes. But it will be wholesome, and at night you will crawl in between two very clean sheets, and in the morning you will find your shoes standing outside your door, neatly polished.

It is all very comfortable. But it is not colorful. After I have been in Jamaica a few weeks, I begin to think "How pleasant it would be this morning to wake up hearing the military band playing as they march the soldiers out to drill. Playing rather badly, of course, and smearing a note here and there; but playing with a bravado which stirs one's blood. And how pleasant it would be to have an Indian boy bring in my morning coffee. Maybe he would spill part of it on the bedspread, but we would laugh over that together, and he would en-

-quire with genuine solicitude about my night's rest, and want to know if I was going to the cock fight this afternoon."

Yet it is a beautiful island, preferred by many to our more romantic, if at times less clean, Latin countries. There is room, I believe, for both points of view. To those who wish to see the tropics at their lovely best, who want to admire tropical nature and want to do so in comfort, I would most certainly say, Go to Jamaica or one of the other islands of the British West Indies. The smaller ones, I think, must be even more lovely. I wish I knew them better.

But if you thrill to the friendly greeting of the Indians as they go pattering past your door; if you are more interested in the food upon your table than in the place where it was prepared; if you find it emotionally more satisfying to worship God by firing skyrockets than by singing hymns - then some of the other places I have been trying to describe may suit you better.

Agriculturally Jamaica never ceases to surprise me. Here are nothing more than a few mountain-tops, sticking up out of the Caribbean, a total area of dry land not exceeding 4,500 square miles, most of which is hillsides. Yet the island supports more than a million people - two hundred and fifty of them to the square mile - and it could support twice this number. In fact, my friend H.H. Croucher, who knows Jamaica well and is technically qualified to judge, asserts that it could support ~~three~~ four times this number.

Not far away, in Puerto Rico, we are having no end of worries, trying to help a million and a half citizens scratch a living out of an island not much smaller than this. Why?

In the first place, Jamaica is made up largely of soft limestone, a material which breaks down quickly into fertile agricultural soils. Admittedly this is not true of the Blue Mountain massif which almost fills the eastern end of the island, and it does not take one long to realise that Jamaica would be in a very bad way if it was composed of Blue Mountains and nothing else. The andesites, shales and conglomerates of which these mountains are composed do not break down rapidly. Nature is very slow in overcoming the effects of erosion.

A second major factor, it seems to me, is the character and education of the population. I have never forgotten a remark made by Carlos Figueroa, when he was Dean of the College of Agriculture at Mayaguez in Puerto Rico. He said to me:

"You Americans have made a great mistake. You came to this island of ours, an island where agriculture is the only hope, and you built high schools all over the place. You educated our youngsters away from the land. For when they had a high school education, they all wanted to live in town and have white-collar jobs."

The Jamaican negro of the hills is not yet posing any such problem as the Puerto Ricans are posing. True enough, there is a tendency away from the land in Jamaica, but it is not yet an overwhelming tendency. The almost complete lack of ambition on the part of most blacks - a notorious fact since the days of slavery - keeps them on the land and keeps them satisfied with a minimum of this world's goods. In Central America, laborers are usually content - even anxious - to work six days a week, so that they can make more money, and eventually buy themselves a little house, or a phonograph, or a pearl-handled revolver, or something else designed to gladden the

heart of a good citizen. In Jamaica, experience seems to show that the great majority of blacks will not prefer to work more than three and a half or four days a week, because they can earn enough in that time to keep soul and body together, and why work more? It is a different philosophy from ours, and one with which we are perhaps inclined to be impatient.

But when all is said and done, Jamaica is a remarkable island. More kinds of crops, and greater quantities of them, come off these hillsides than one can appreciate until he has spent some time here and gone into things deeply. For you do not see much of the ginger industry, or the pimento business, until they are called to your attention. Production does not come from huge plantations laid out in regular order; it comes from the dooryards of thousands of blacks who are scattered all over the mountainsides. Even the banana industry, which elsewhere is a large-scaled, well-organised affair, is in the hands of thirty thousand people, half of whom possess less than ten acres each. It is a rare situation, and has social aspects which are far-reaching and important.

Here banana growing is on a more intensive basis than anywhere else in the world, with the possible exception of the Canary Islands. This is not due to the fact that the Jamaicans have been at it longer - for it was from this island that the first shipments of bananas reached the United States in 1868. It is because natural conditions make it so; nature has to be given more assistance, if good bananas are to be produced, than is the case on the rich alluvial plains of Central America.

In this connection I like to look back on our own experience, because it gives me an opportunity to preach a little

sermon.

Every few years some tropical American government decides to go in for agricultural improvement in a big way. They employ several foreign "técnicos", and ask them just how they should go about it. The first thing the técnicos tell them, in nine cases out of ten, is that they must put up a fine large building, equipped with modern laboratories and a comfortable office for the Director.

The técnicos then go through all the catalogues of laboratory equipment and check off the most expensive items, which are promptly ordered, so as to be on hand by the time the building is ready.

A year elapses, during which the técnicos are getting acquainted with the country, and perhaps picking up a little of the language. Another year, and they are settled in their laboratories, surrounded with apparatus to carry on the most refined investigational work conceivable in the mind of man.

Just about this time some member of the opposition party rises to his feet in the Congreso Nacional. "The Administration has spent $85,000 on agricultural research", he says dramatically. "Gentlemen, I ask you in all frankness, what have we got to show for it? A laboratory full of fine ~~glass-~~ equipment ware, in which the only other thing I was able to find on the occasion of my visit last week was a bottle containing a frog, a centipede, and a large worm. Gentlemen, I submit that this sort of waste must be stopped. We are paying these foreigners tremendous salaries, and they have done absolutely nothing to help our farmers. It is time to end such criminal folly."

It has been a pet thesis of mine, ever since I first came to the tropics, that the way to sell agricultural research to Latin Americans is to do something first, and spend money afterwards. In countries where agriculture is still on a primitive footing - when compared with that of many countries in the north - there are dozens of opportunities to show practical results with the expenditure of little time and effort. A hundred years from now this will not be the case. All the simple things will have been done, and it will take long and tedious investigation to solve those problems which still remain.

As an example of just what I mean, I want to cite the work done by one of our own men, Alfred F. Butler, in the United Fruit Company's banana farms some ten miles from Kingston.

The soils of this region are good, but they are not rich. They have been farmed for many years. Banana growers had found from long experience that they had to reduce the population of their farms - the number of plants per acre - in order to get good marketable fruit. This had progressed to the point where it was becoming serious; low population meant low production per acre, which in turn meant high cost per bunch of fruit.

Butler, a young Englishman who had spent five years with us at Lancetilla Experiment Station in Honduras, was put on the job. He moved his family to a house at Watson Grove which had formerly been occupied by the overseer of the farm. One room he fitted up as a laboratory. He bought equipment which cost two or three hundred dollars and went to work. Several lads were employed as assistants, primarily to take records on field experiments.

A meteorological station was installed and daily records taken - records which conformed to the standards of the United States Weather Bureau in every respect. With a soil augur, an accurate soil map was made of the entire property, which was of course planted in bananas, and formed part of the Company's holdings. Clay-tile tubes were sunk to six feet in depth here and there, and daily observations were made of the height of the water table, a major factor in banana culture.

"Spacing and pruning" plots were laid out: that is, bananas were planted at varying distances, from 8 x 8 to 16 x 16 feet, and their production measured carefully, both as to number of "stems" or bunches, and their size, quality and other characteristics. The records soon showed that local practice was sound: you could not maintain a high population per acre and get good fruit.

Fertilizers seemed to be the obvious solution of the problem. An extensive series of fertilizer experiments was laid out, and conducted with scrupulous care for several years, by the end of which time Butler had ~~discovered~~ proved not only that fertilizers would enable one to get good fruit while carrying much larger populations, but he also knew what kind of fertilizers gave the best results, and how to use them.

To-day, on three thousand acres of land in that area, the Company's annual crop of bananas is one hundred bunches per acre higher than it was ten years ago. Since production costs are but little higher this increased yield has resulted in cutting practically in half the cost of a bunch of bananas.

"That isn't research", my northern colleagues will say; "any intelligent agriculturist could have done the same". Call it what you will, it is the sort of thing tropical America needs at this stage of the game.

Necessity of observing the behavior of Sigatoka disease in all parts of the island has, since 1936, given me an opportunity to know Jamaica as I had never known it before. The excellent and extensive system of roads which the Government has provided facilitated my work tremendously, for it ~~was~~ is possible to go almost everywhere by automobile.

The Blue Mountains have proved a bit disappointing. Before coming to the island, their romantic name and the fact that they reach to 7,300 feet had made me look forward to interesting rambles on their cool forested slopes. But the accessible side - the southern side - of this range has been cut over and washed away until it is now sterile, almost forbidding. A century ago these slopes were the scene of a highly prosperous agricultural industry. Blue Mountain coffee achieved a reputation which it enjoys to this day - though the coffee itself has all but disappeared. The soils which used to produce it have been washed down to form the alluvial fan of the Yallahs River, on the south coast, where we are growing bananas on them.

Here and there in the Blue Mountains one comes upon handsome stone residences of the old planters; here and there are little patches of coffee, growing in pockets of soil which have been protected naturally against erosion. But all in all, I know of no more striking example of what happens to tropical mountainsides when you cut the timber off of them, than I can

view as I write these lines in Kingston, looking out of my window at Roslyn Hall to the heights where Newcastle - the "hill station" for British troops, clings precariously to the mountainside 3,700 feet above the sea. My friend Croucher and I have often talked of rehabilitating these exhausted slopes. What a fine opportunity there is to do some terracing, such as that which has done hundreds of years ago by the aboriginal inhabitants of the Peruvian Andes, and such as that which the Japanese or the Filipinos would do to-day, if they were faced with this same problem.

But if the Blue Mountains are disappointing, the same cannot be said of the rest of the island. The seacoast, especially that of St Thomas on the southeast, and of the northern side from Manchioneal almost to Falmouth, presents some of the most exquisite bits of tropical scenery which can be found anywhere.

Then there are the rolling hills and pastures of St Ann's, where I always imagine myself to be in Maryland - or could, if it were not for an occasional coconut palm which dispels the illusion. Everything is fresh, and green, and neat and orderly; altogether a pleasing scene, well calculated to bring peace to one's soul.

But of all the fourteen parishes, I think Manchester is really my favorite. If somewhat less beautiful than St Ann's, it is cooler and in a way more attractive. A rough country, with limestone outcroppings everywhere and red soil, most of this parish lies two thousand feet above the sea and therefore enjoys a climate which has neither the unpleasant characteristics of the tropical lowlands nor those of the temperate zone. The hackneyed phrase "eternal spring" applies better here

than to many other regions which boastfully use it. No wonder that Manchester, ~~and~~ with its pretty little capital Mandeville, has been chosen by many northerners who sought a place to retire, a place where life would be comfortable, peaceful and inexpensive.

Driving along the smooth roads of this parish, one meets retired Indian army colonels with florid complexions and huge mustachios, taking the dog for his morning walk. In fact, it is all very English. The servants in the homes of these people are immaculately dressed and dignified. One would as soon take liberties with an English butler as with one of these black boys when he gets his white coat buttoned closely round his neck. It is something we Kansans do not altogether understand, nor perhaps accept.

Nor can we understand their language. For in Jamaica there are two kinds of English - the impeccable, and the impossible. Nowhere will you hear a softer, more lovely accent than that of high class Jamaicans; and nowhere will you be so completely dumbfounded as when trying to understand the conversation of a group of laborers along the roadside. And how they love to talk! It is the one thing they simply cannot resist. When there is no one handy at whom they can direct their remarks, they are perfectly content to wander down the road talking loudly to themselves, or to the Universe in general. And if they have had sufficient education so that they can put their words in writing, they supplement the joys of conversation by writing letters to the Gleaner.

This newspaper, which is the size of the New York Times and has a circulation of 30,000 - meaning that it is read by

more than 100,000 people - is an institution, the People's Forum, where not only political views but the pettiest grievances are aired with an abandon which is unequalled. The man who slips on a banana skin while walking down King Street writes a letter to the Gleaner voicing his contempt for a Government which will permit people to throw banana skins on the public highway. The man who thinks he has discovered a cure for foot-and-mouth disease announces it in the Gleaner, with a subtle suggestion that he would be glad to impart the secret to those in power - for a consideration.

The advertisements, too, are choice. From the Classified section of last Saturday's issue I lift the following:

> DOMESTIC: A young girl seeks position as nurse, plain cook, office maid, to work in restaurant or with small family or with single gentleman.
>
> DOMESTIC: A decent young girl just from the country seeks employment as a nurse or general worker in a decent family.
>
> EXCHANGE
> TO SELL: Six milch cows in calf for pedigree Holstein bull to calf within one month, also 23 head sheep.
>
> TO SELL: At best price offered, good as new, extension dining table with or without six leather seated sitters. Also twenty pounds turtle shell.
>
> TO SELL: Three pieces newly made mahogany furniture, wardrobe, vanity, and chesterdraw, all modern and matches something that will suit any home.

And so on. In fairness one must admit differences in the use of English: the word "decent" has an implication distinct from that to which we are accustomed. But these advertisements are amusing, especially when they reflect the psychology of the lower-class citizen, as does the following:

WANTED: Position as butler, gardener, willing to make myself useful about the house, or enamelling beds.

To many of these people, circumlocution is of the essence, and big words one of the chief joys of life. It matters not whether the words are aptly employed. In a recent report of a police court trial, the constable who brought in the prisoner deposed and said that on Friday last, at about ten o'clock in the morning, he was walking his beat as was his custom, when he saw a man carrying a basket come out of a gate. His suspicions aroused, he perused the basket, and found it to contain contraband liquor.

Nor is circumlocution altogether limited to the lower classes, for I well recall the sign which for many years graced one of the principal corners in uptown Kingston. It was designed to inform the public that this was a cab stand, and that four cabs were here allowed to station themselves. But instead of going right to the point with some such inscription as " 4 Taxis", the notice read: "Stand for 4 Mechanically Propelled Hackney Vehicles."

Clear enough, certainly, and capable of no misrepresentation. Perhaps not quite the same can be said of the man who advertises himself as "Unique Tailor". From what I know of Jamaican tailors there is more truth in this than was intended.

I commenced this chapter by talking of the Jamaica that was. Kingston is not the place to see it, for with the exception of a few lovely old homes such as Widcombe and Bellevue, on the heights behind the town, and Vale Royal, the present residence of the Colonial Secretary, there is little which breathes the spirit of the Grand Old Days. Spanish Town has more, but per-

-haps better still are the stately residences of the ancient gentry which one finds scattered here and there over the island. Most of these date from the seventeen hundreds; a few are even later.

Colbeck Castle
Good Hope
Bryan Castle
Cardiff Hall

Architecturally these old residences are often disappointing, not because they are in bad taste but because they are devoid of taste. They are chiefly stone buildings of simple lines, with no attempt whatever at ornamentation. The outside staircases, which usually fall away on both sides of the entrance, frequently provide the only feature of interest.

Windows are few, and of about the size which would be expected in England. Floors are of dark wood, and polished till they shine; woodwork is usually of mahogany and dark, as is the general feeling of the rooms, intentionally perhaps, since it must be admitted that the glare of the tropical sun is to be avoided as much as possible. Jalousies to many of the windows permit free circulation of air but prevent the entry of rain. They constitute one of the characteristic features of Jamaican homes, ~~ancient and modern~~.

Though mosquitos are often troublesome, and malaria far from unknown, windows are rarely screened in this island. Residents will tell you that screens prevent the free circulation of air. Only once have I heard another reason advanced, and this was not in Jamaica, but in Guatemala.

The Governor of the Crown Colony of British Honduras - Sir John Burdon, I believe it was - came to visit the Manager of the United Fruit Company at the little banana colony in the lower Motagua valley. As is not only customary, but obligatory in the Company, the veranda was screened from floor

to ceiling. "How perfectly delightful", exclaimed Lady Burdon; "these screens keep out all insects, but permit one to enjoy the view."

"I dislike them heartily" growled Sir John.

"But why, Sir John?" he was asked by the Manager.

"Supposing one should wish to spit outside" he replied; and then as he realised the enormity of his suggested offence, he added hastily, "Not that one would spit outside, of course, but supposing one should wish to?"

Jamaican history can well be divided into the Spanish and English periods. About the first we know relatively little. The Spaniards, it seems, did not take to Jamaica enthusiastically. There were no mines here, for one thing. Nor were there great Indian nations to be exploited, such as those which were found on the high plateaux of the mainland. One cannot picture the Arawaks as having been worth much, from the Spanish standpoint; and perhaps there were not many of them anyhow.

Had the Spanish colonised here as they colonised in Mexico, in Colombia or in Peru, mute witnesses of the Conquest would still be visible as they are in all these countries - sturdy stone structures dating back to 1600 or even earlier. But if it were not fairly clear from the literature, it would be fairly clear from a glance at the island to-day that Penn and Venables, when they came in 1655 to wrest Jamaica from the Spaniards found little which was worth preserving.

Yet the Spaniards had enjoyed ample opportunity to know the island. Columbus himself spent a year on the north coast, at the time of his fourth and last voyage. I like to wonder what the Old Admiral thought of the place. He had a better

appreciation of ultimate values than many of his comrades. But his days here could not have been happy. Harassed by the knowledge that Obando, in Hispaniola, was plotting his undoing, and with active dissension among his own men, he doubtless gave little thought to Jamaica and its possibilities. And it is a pity, for when all is said and done, the Spaniards worked hard to develop many regions which potentially were not worth a tenth of this island.

Whatever were the causes, they had not made much of the place when the English drove them out. The erudite Frank Cundall tells us that the only remaining evidence of Spanish occupation is the church bell which is to-day proudly exhibited at the Institute of Jamaica. I am inclined to believe Mr Cundall, as against many friends who have told me of Spanish bridges, and Spanish walls, and other remains of the Spanish occupation which are to be seen upon their properties.

Incorrect. Amend

Cundall's "Historic Jamaica", by the way, is the book par excellence for the visitor who is seriously interested in the English background. Though there is an abundance of literature, especially on the Jamaica of the late eighteenth and early nineteenth centuries - which I think must be considered the Golden Era - Mr Cundall brought together in one small volume just about all the information one needs. It is a pity that the book is out of print, and therefore difficult to obtain.

In travelling about Latin America, it is always my custom to look up the old churches. They are usually the storehouses of history, and have had a better chance of withstanding the vicissitudes of Time than have secular structures. What a

grand thing it would be if the Spaniards had left us a cathedral in Jamaica, such as any one of a hundred which are to be seen upon the mainland! But there is none, and the Anglican cathedral at Spanish Town (Santiago de la Vega of the Spaniards, and ~~their capital~~) is ancient only in its tombstones. For it was damaged several times by earthquakes and must have been almost wholly rebuilt after the terrible disaster of 1907.

Cathedral Half Way Tree Alley 1st 3 churches

Notwithstanding all this, the cathedral is eminently worth a visit. Here lie the remains of worthies who came out with Penn and Venables and took part in driving the Spaniards ~~out of~~ from the island. St Andrew's Church at Half Way Tree in the outskirts of Kingston is also worth a visit, as is the church at Port Royal and the one at Alley in Vere. This latter is the counterpart of several old churches I have seen in Virginia. A visit to the one at Port Royal brings home forcibly the importance of Yellow Jack in those early days.

Many of the leading English families represented. Give examples.

Standing in this church and reading the inscriptions on the tombstones, it suddenly came home to me that our generation is probably the last one to know this dread disease. One of my uncles died of it in Tehuantepec, yet to my children the name will mean nothing. I myself have never seen a case of it; though I have been in towns where it had been present only a year or two before. ~~It~~ Yellow fever is passing completely out of our lives. Thus is the face of civilization changed by medical science.

Expand

Historically, Spanish Town is of course the most interesting place in Jamaica, for it was the Capital, not only in Spanish days, but in British times down to the year ~~1872~~ 1872 later, when the honor was transferred to Kingston. The old buildings around

the square constitute its chief interest to-day. King's House, burned down in 1908 but now restored sufficiently so that we get a clear idea of its exterior beauty, ~~is one of the few buildings which has any architectural merit.~~

~~In~~ fact, ~~M~~ost of Spanish Town is to-day in a rather advanced stage of decay. The fine old residences which housed such worthies as the Earl of Inchiquin and Sir Hans Sloane are no longer places in which to view handsome mahogany and brass. The gentry has moved out en masse, ~~it seems~~, and the place has largely been taken over by their former slaves.

But fine mahogany and brass are still to be seen in Jamaica. The homes of the old families are full of it, and very handsome it is too. Great age has given the mahogany a tone which nothing else can impart, while brass locks and knobs and hinges are kept as bright today as they were a century ago. Incidentally, it is worth noting that there is a great difference between West Indian mahogany and Central American mahogany. The former is Swietenia mahogani, the latter Swietenia macrophylla, so there is a botanical basis for this statement. To-day West Indian mahogany is scarce, and most of the lumber which reaches the markets of the north is of the coarser species. But in Jamaica you can still buy furniture made of the native wood, and it is surprisingly inexpensive. Five years ago I bought a dining room set from a cabinet maker in St Elizabeth. It was of Windsor pattern and consisted of two arm-chairs and six straight-backs, all beautifully heavy and solid. The lot cost me eight pounds eleven, which was at that time about forty-two dollars.

I have mentioned that the West Indies were the Sugar Is-

-lands of the last century and, to a certain extent, remain so. But sugar has fallen upon evil times. It is no longer the lucrative business that it was in the early eighteen hundreds. Today bananas account for more than half the island's prosperity: together with coconuts, ginger, allspice, cocoa, logwood, and a few other crops, they have eclipsed King Sugar, though now and then it appears that the eclipse is only temporary. One cannot drive far out of Kingston without seeing the cane fields swaying in the breeze. The crumbling remains of old sugar factories dot the landscape, while here and there is to be seen a modern mill. Fewer of them are required, because their capacity is several times that of the largest mills of bygone years.

aqueducts and water wheels which still ran

Coconuts are everywhere. One has only to fly to Jamaica from Miami to realise what this palm has done to the island's landscape. The north coast, when seen from the air, is one vast coconut grove from St Ann's clear to the eastern end.

Ginger is grown in little patches by the peasant farmers, mainly toward the central part of the island. One overlooks this plant until it is pointed out: a low, almost grasslike thing - though a close relative of the lilies - the roots of which are dug, scraped, and washed, and give off ~~a pungent~~ an appetizing fragrance when piled almost to the ceiling in the warehouses of the merchants who trade in this crop.

Allspice (pimenta) is produced by a native tree. Throughout the western half of the island it is abundant, though mainly at the higher elevations. It is a handsome ~~tree~~, with silvery bark and glossy leaves. The clusters of small berries are gathered and dried, as I have seen them on the cement patio

at Malvern in the Santa Cruz mountains; after which they are sacked and sent down to Kingston for export. Nutmegs are sometimes seen in Jamaica, too; but they do not form an important article of export.

In the days of the Yankee clippers, Jamaica rum was a major factor in our trade with the West Indies. Around Boston and on the Maine coast, it is still darkly hinted that many local fortunes were founded on this product, sometimes without the co-operation of the customs house. And in Jamaica, rum still forms the beverage of the planter, perhaps because it is cheaper than Scotch whiskey, even though heavily taxed locally.

One's education is not complete until he has tried the West Indian rum drinks on their native heath. Somehow they never taste quite the same in the North. Take Planter's Punch, for example: the formula is simple - one of sour, two of sweet, three of strong and four of weak. But if you make it in the north, and do not get the genuine West Indian lime (known as the Key lime in Florida, not to be confused with the Persian or Tahiti lime also grown in that State) your one part sour will not provide the aroma which is such a great desideratum in this drink. Two of sugar, three of rum, and four of water can be supplied anywhere - if you have the rum.

Good rum - old rum - is scarce even in Jamaica. I confess to no profound knowledge of the subject, except that which I gained once upon a time when I lunched at the Jamaica Club with Tom Bradshaw, Percy Lindo and Lionel de Mercado. The two last-named, Jamaicans of the old school (and more delightful luncheon companions it would be impossible to find anywhere), had grown gray in the business. They dispelled sev-

-eral of my illusions, including the idea that rum improves indefinitely with age.

"Thirty to thirty five years" they said, "and rum commences to deteriorate. Don't keep it longer than that; drink it."

Under the present system I don't think there is much danger of one being sold rum which is too old. It isn't on the market; and it is to be doubted that it exists in the island, at least in commercial quantity. Percy Lindo gave Tom Bradshaw two bottles of Monymusk from his own cellar, rum made in 1905. I had the pleasure of sampling this, while Mr Lindo told us the story of an expert who was served some of it while blindfolded, and mistook it for rare old Cognac.

These two men, Lindo and de Mercado, represent an element which has made such a place for itself in Jamaica as to deserve particular mention. In the old days, the big sugar properties were largely in the hands of wealthy families who lived in England.

With the decline of sugar, and the economic difficulties incident to Emancipation, some of the large properties were broken up and sold to "peasant" farmers. Others were sold intact, and not a few of them were bought by Portuguese Jews, an intelligent and energetic group of individuals who in many respects have usurped the prerogatives of the quondam English aristocracy. For it is these people who own, to-day, many of the finest residances in Kingston as well as many of the old estates. And you will go far to encounter more bountiful hospitality than that dispensed by them, and better conversation than that which is enjoyed about their dinner tables.

They are but one of the elements which has gone into the

Jamaican melting pot, but they have risen to the top. Several other racial groups are numerically prominent in the island, particularly the Chinese, who have in their hands so much of the retail trade in foodstuffs that the term "Chinaman's shop" is the local synonym for "grocery store". There are also a large number of East Indians, but most of them came as coolie labor and have remained on this level.

What of the future of Jamaica? Experts are brought from England to assist in solving this problem, for a problem it is. The island has a psychology all its own, a psychology as different from that of the Latin American republics as night is from day. It has racial factors, and mixtures of racial factors, as complex as those of the United States; and sometimes they seem to me even more puzzling and difficult.

Jamaica has been, is, and in my opinion will continue to be an agricultural community. There is land enough for all, but it is land that does not yield a bountiful harvest without abundant labor. I have faith in the future of the Jamaican people if they cleave to the soil and eschew petty politics. But there are problems: the heritage of slavery is still a factor. Better intellects than mine are struggling manfully to bring this island out of its eighteenth century lethargy and make of it a unit in the larger order of things. I retire. There is an old Jamaican proverb which says:

"Jackass no b'long in hoss race."

JAMAICA RUM

March 3 1940. Talked with Mr Dron at Monymusk.

"Is Jamaica rum really good rum?"

"Commercially speaking, it is nothing wonderful. The best rum in the West Indies is probably Martinique rum. Haitian rum is also good."

"What makes a good rum, anyway?"

"The quality of Jamaica rummdepends mainly on two things: bhe percentage of sugar in the molasses which is used, and the percentage of cane juice which is added to the molasses. The cheap rums are distilled from molasses alone. These rums are called "common cleans" and they take about twenty years in wood to mature properly. Naturally few of them remain in wood that long. Proportionately as cane juice is added to the molasses from which rum is distilled, the quality is improved. Rums ~~xxxxxxxxxxxxxxxxxxxx~~ based on molasses and a god percentage of cane juice - say 25% - are called high flavored or German falvored rums. They contain more "ethers" than the common cleans, and they will mature in three or four years.

"What makes the rums of one mill differ from those of another, for example, what is the difference between Shrewsbury and Appleton rums?

"Probably it is almost wholly a matter of the percentage of cane juice to molasses. It used to be thought that the different flavors of these various rums must be due to different bacterial complexes which had developed in the vats with the passing of time; others thought it might be the variety of cane used, and still

others suggested that the water used had something to do with the quality of the rum, just as it has with beer. But when the West India Sugar Company bought up seven mills in the western part of the Island, and commenced to concentrate the manufacture of rum at Frome, the Philippine sugar chemist whom we employ found it possible to make, right at Frome, the charactersitic rums of all seven mills. This he did mainly by varying the percentage of cane juice. The Appleton rum which he made at Frome could not be distinguished by an expert from the Appleton rum which used to be made at the Appleton mill."

"What is the best rum in Jamaica?"

"That is a matter of taste."

JAMAICA - RUM

O.M.Henzell, manager of Caymanas Estates Ltd, with long experience in West Indian sugar, says he does not think much of Jamaican rum. Considers it not nearly so good as rums from the French Islands, especially the rum of Martinique which is the best of all. Haitian rum is also very good.

He says the direct distilled rums mature in three years, while it takes twenty years to mature properly a molasses rum. He thinks one trouble with Jamaican rums is that most of the factories are so dirty. I well remember Monymusk in this connection.

F A Kirkpatrick, "Latin America, a Brief History" Cambridge University Press, 1938

Later talked with Croucher about rums, and with A C Barnes and one or two others. They say about 95% of all Jamaica rums are made from molasses. LLandovery is direct distilled and one of the best. Rums made with a large proportion of cane juice compared to molasses are called high flavored or German flavored rums; those from molasses are called common cleans. Butler thinks each factory develops its own bacterial complex in the rum vats, wh accounts in parts for the different character of different rums.

12-38
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C-1536

HOTEL CASA GRANDA
SANTIAGO DE CUBA
(OPERATED BY THE CUBA RAILROAD Co.)

About 95% of the rum made in Jamaica is molasses rum - "clean common" as it is called. The high-flavored rums, "German flavored rums" are direct distilled or nearly so. Varying amounts of cane juice and molasses seem to be used by different factories: and Butler thinks the bacterial complex which gradually develops in the vats of a given factory is in part responsible for the particular flavor of its product. Llandovery TTL is one of the best of Jamaican rums: Appleton is another which is famous.