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Señor D.Alvaro Torre Díaz,
Gobernador del Estado de Yucatán,
Mérida.

My very esteemed and fine friend:

Permit me to present to your
estimable attention Señor Doctor Eyler N. Simpson, of the Institute of Current World Affairs, who is in this country to make social studies and investigations and is going to Yucatán to pursue them.

As much for the worthy personal talents of Señor Doctor Simpson, as for the importance of his work and the fine spirit which he has shown in it, he has made himself desserving of our esteem. In presenting him to you I pray you will wish to receive him with your characteristic amiability and to grant him the facilities which may be considered proper.

Allow me to repeat that I am
your affectionate friend and attentive servant,

(Signed) Dr.J.M.Puig Casauranc.

THE GEOGRAPHICAL AND ENVIRONMENTAL BASES OF THE
AGRARIAN PROBLEM IN MEXICO

The impression which the average person in the United States has of the topography and climate of Mexico may be summed up in the two words- low and hot. One may hazard the guess that there are in general three reasons for this widespread assumption concerning the geography of our neighbor to the south. In the first place, it is from maps that most of us gain our impressions of foreign countries. Since in the nature of the case all maps are flat, even when the ordinary political variety is supplemented by what is known as a "relief map", the majority of people find it rather difficult to envisage the mountains and the plateaus, the ups and downs of a country and to think of it otherwise than it is revealed by the plane surface of a graphic presentation. Second, there is a persistent tendency to assume that invariably the further south one goes and the nearer one approaches the equator, the hotter the climate becomes. Finally, the prominent position during recent years given in the daily press of the United States to the industries characteristic of the Gulf Coast Plains in Mexico (oil, coffee, sisal etc.) has made it easy for the uncritical to assume that all of the country is similar to these tropical regions.

It is, therefore, a distinct shock for many people to learn that by far the greater part of Mexico is neither low nor hot, but, on the contrary, is high and relatively cold. The Tropic of Cancer, it is true, passes almost through the center of the country and thus locates Mexico at practically

the same latitude as the Sahara desert, Egypt, and Arabia; but to assume, therefore, that Mexico has the same climate as these regions is to fall into an error as common as it is incorrect. The all important geographical fact about Mexico is that altitude constantly counteracts latitude; to get a true understanding of the geographical situation of the country one must think in perpendicular as well as horizontal terms. Almost the whole story of the geography of Mexico can be written in the one word "mountains". Due to the tremendous upthrust of her mountains the Mexican nation is in the peculiar position of being in the tropical and semi-tropical zones, but, for the most part, not of them.

Roughly speaking, the general shape of Mexico is that of a great inverted triangle, its base determined by the Rio Grande river and the border line of the United States and its apex located in the narrow Isthmus of Tehuantepec. The sides of the triangle are accentuated by two great mountain ranges - the Sierra Madre Oriental and the Sierra Madre Occidental- running from N. to NE. and paralleling the east and west coasts. Spreading out fan-wise from the knot of convergence of the two cordilleras in the narrower part of the Isthmus and enclosed between the two mountain ranges, there lies the high central plateau- an enormous inclined plain which descends by easy grades from its highest point in the region of Mexico City and merges finally into the flat prairies of Texas. Together with the highlands of the states of Guerrero, Oaxaca, and Chiapas, this great central plateau of Mexico contains approximately three fourths of the total area of the Republic. "Rising from

about 4,000 feet in the north to an average elevation of some 8,000 feet in the south central area, the altitude counteracts latitude with such nicety that the mean temperature over the entire plateau is nearly uniform"(McBride). The highlands of Mexico are, by reason of topographical and climatic differences, customarily divided by geographers into four different regions: the Mesa del Norte, the Mesa Central, the Mesa del Sur, and the completely separated uplands of Chiapas. (See map No. and the diagrammatic transverse sections.)

The outer slopes or Escarpments of the Sierra Madre Oriental and the Sierra Madre Occidental descend precipitously in a series of terrace like table lands which finally level off into the tropical plains of each coast. The hot, low-lying regions of Mexico are thus restricted to two relatively narrow strips or ribbons of land skirting the Pacific coast and the coast of the Gulf of Mexico.(Map No.). The tropical littoral of the Gulf coast extends much further inland than that of the west coast. Broad in the north, the Gulf coastal plains reach their narrowest point at Vera Cruz and then widen out again to ~~from~~ the great plains in the states of Tabasco, Campeche, Yucatán and the territory of Quintana Roo. The Pacific littoral attains its greatest area in the long narrow Sonoran desert in the north; in the south western coastal regions the mountains in many places reach to the very sea itself.

Corresponding to the different levels of elevation, there may be identified three major climatic zones in Mexico: the hot coastal plains (tierra caliente), the temperate middle altitudes (tierra templada), and the cool plateau regions (tierra fría). Within these general divisions there are, of

course, local climatic variations depending upon differences in rainfall, temperature, and topography. Indeed, in the descent from the central table lands to the coastal plains it is possible to find almost any type of climate which may be desired.

The variations of temperature in the yearly cycle are so slight throughout much of the country that the usual division of the year into Winter, Spring, Summer and Fall is relatively meaningless in Mexico. Since in the uplands it is, speaking by and large, uniformly cool and in the tropics uniformly hot, some other basis than temperature is necessary for designating the seasons. This basis is found in the peculiarities of the rainfall. The rainfall throughout the greater part of Mexico takes place in the months of June, July, August, September, and part of October; the rest of the year the precipitation is very scarce and irregular. There are, accordingly, only two main seasons- the wet and the dry. On the central plateau the precipitation is relatively slight and becomes increasingly so the farther one goes toward the north. On the outer slopes of the mountains ranges it is abundant, and in certain of the tropical regions, notably Tehuantepec, the downpour during the "estación de las lluvias" is little short of torrential. (See map No.).

The great cordilleras which traverse Mexico from north to south form the two principle watersheds of the country. (Map No.). With the exception of a few streams in the plateau region, mostly in the Meas del Norte, practically all the rivers of the country drain either into the Gulf of Mexico or the Pacific ocean. This means that the great majority of the rivers are relatively short, torrential, mountain streams, unfit either for navigation or to provide water for agricultural purposes.

"Mexico", writes the well known geographer Jesús Galindo y Villa, "has many rivers, hundreds in fact; but, nevertheless, the country occupies a very secondary place as compared with other nations of the new continent. Navegable rivers are almost completely lacking..[Futhermore] because of the scarcity of rivers in the plateau region Mexico can never, in the fullest sense of the term, be an agricultural nation. The farmers... must always depend for their harvests upon the caprices of the rains..The currents which traverse the plateaus of Mexico are, in general, torrential in the rainy season.. but they either contribute 'their wealth' to the Gulf,the Pacific ocean,or to interior basins, and,in any case,are of little benefit. 'To retain these torrents and utilize them in the dry season', is the great problem of our agriculture. The rapid descent of our rivers by reason of the great differences in level greatly curtails their usefulness for agricultural purposes".

From the preceeding birds eye view of the geography of Mexico there emerges a picture of a country characterized by the most extreme climatic and topographical contrasts. As José Vasconcellos has written,"Mexico is the zone where nature has put, one opposing the other, the two most powerful but least controllable elements: the tropical heat and the mountain." From the point of view of Mexican agriculture this means not only that the nature of the physical environment sets more or less definite limits to the total amount of land which it is possible to cultivate, but also that the nature and the productivity of the soil, the kinds of crops that can be raised, the amount of water available- in short, the "agrarian problem" will vary from one part of the country to another. Each of the

so called natural areas in the Republic presents its own peculiar physical characteristics and hence its individual agrarian question. The varied physical aspects of these different natural areas have throughout the history of the nation affected in marked fashion the size the land holdings, the systems of tenure, and the possibilities of agricultural productivity.

By far the best statement of the "geographical setting" of the land question in Mexico is that contained in the excellent monograph, "The Land Systems of Mexico", by Dr. G.M. Mc Bride. The following summary statement, supplemented here and there by the findings of other students in this field, is taken from this book. We shall consider the agricultural conditions in each of the natural areas in turn, namely: the Highlands, including the Mesa del Norte, the Mesa Central, the Mesa del Sur, and the Uplands of Chiapas; the Escarpments, including the Eastern, Western, and Southern, mountain slopes; and the Lowlands, including the Gulf Coast, the Western Littoral, and the plains of the Yucatán Peninsula.

The Mesa Del Norte.

Location: The Mesa del Norte is a continuation of the basin and plateau country of Arizona, New Mexico, and western Texas. Beginning approximately where the Rio Grande and Gila river basins intersect the highlands, it rises gradually toward the south, confined between the Sierra Madre Oriental, and the Sierra Madre Occidental. Separated from the Mesa Central, roughly, by the divide between the interior systems of drainage of the basins of the Panuco and the Santiago, it contains the northern parts of the states of Zacatecas and San Luis Potisí, the western part of Nuevo León, and almost the whole of the states of

Durango, Chihuahua, and Coahuila.

Climate and Water Supply: The precipitation in this area as compared to the Mesa Central is very slight- the annual rainfall over the greater part of the region being something less than 20 inches a year. Agriculture without irrigation is practically impossible.

Nature of Land and Products: There are a few small areas where the local rainfall is sufficient to grow cotton and cereals, but, for the most part, the land is fit only for grazing. (" The Mesa del Norte contains only two small agricultural zones- one in Coahuila and the other in Chihuahua-. The rest of the land is dry, sandy, arid, and 'triste'(sad)" Andres Molina Enriquez.)

Population: The Mesa del Norte, although comprising over one half the area of the country, contains less than one fifth of the population and shows vast expanses where the density is less than one person per square kilometer.

The Mesa Central.

Location: The Mesa Central is bounded on the east, south, and west by the convergence of the two great mountain ranges; on the north by the river systems separating it from the Mesa del Norte. It includes the whole of the states of Aguascalientes, Guanajuato, and Tlaxcala, and the Distrito Federal; the southern parts of the states of Zacatecas and San Luis Potosí; the northern and western parts of Jalisco and Michoacán; and the northern parts of México and Puebla.

Climate and Water Supply: The relative uniformity of the temperature makes possible a long growing season and in many

districts two crops a year can be harvested. The summer months are temperate- the mean for the warmest month is 65°; and the winters are mild- the mean for the coldest month is 53°. The nights are invariably cool. An occasional frost in the early spring and the late autumn inflicts heavy damages upon the crops.

The lack of water is ^{the} greatest drawback to agriculture throughout this region. Over most of the surface there is a precipitation varying from 20 to 30 inches a year, but in certain districts it is much less. During the summer there are almost daily showers in the southern part of the Mesa Central, diminishing in force and frequency toward the north and west. For the rest of the year there is little or no rain and agriculture without irrigation is very uncertain. " Even in the rainy season crops are often imperilled, for a decrease in rainfall, even though slight, leaves many fields too dry to yield a satisfactory crop. Furthermore, without irrigation it is impossible to take full advantage of the long tropical growing season. Fortunately sufficient rain or snow falls upon the mountains to form a number of permanent streams, and, although the porous character of the soil allows much of the water to disappear from the surface, there is still enough for irrigation, especially in the lower parts of the aggraded depressions". (Mc Bride).

Nature of Land and Products: The soil contains large quantities of volcanic ash. In many places where former lake beds have been drained by rivers which have gradually worked back from the coasts the soil is exceedingly rich and the flat surfaces offer choice sites for farms. "In any consideration of the use of the land and of the forms of land tenure, the Mesa Central is by far the most important region

of Mexico".(Mc Bride). The Mesa Central is the "zona fundamental" of cereals. "Only in this zone are wheat and corn produced in sufficient quantities to exceed the needs of the local population and of a quality which permits their conservation over a period of two or three years".(Enriquez). The life of the nation has always depended upon its crops of corn, wheat, and beans.

Population: The density of the population is higher in the Mesa Central than in any other portion of the country. (Map No.). "Today some 40% of all the inhabitants of Mexico live upon these lands [of the Mesa Central and its escarpments] or in centers immediately dependent upon them. Of the entire rural population (11,675,363 in 1910), about 5,000,000 live in the states represented by these areas. Ten of the principal cities of Mexico (Mexico City, Guadalajara, Puebla, León, Querétaro, Morelia, Aguascalientes, Orizaba, Jalapa, and San Luis Potosí) are situated in these districts and are directly dependent^{upon} their agriculture, while many of the most important mining towns, such as Pachuca, Guanajuato, and El Oro, are near these same fertile areas and derive their food supply from them. The aggregate population of these large centers is not far from 1,500,000, which, added to the rural population mentioned, makes a total of 6,500,000 people to be fed from the products of these lands. Were the greater part of the Mesa Central and its escarpments (about 120,000 square miles) fit for cultivation the problem of the subsistence of this relatively dense population would not be so serious. But since..not more than 25% of its surface is available for agricultural purposes, it is not surprising that the use and ownership of the lands here have presented problems of the greatest difficulty".(Mc Bride).

The Mesa Del Sur.

Location: The Mesa del Sur has been almost entirely separated from the main body of the highlands by extensive and long uninterrupted erosion. The Río de Balsas, working eastward and the Río Papaloapam, eating its way toward the west, almost meet in northern Oaxaca. This natural area includes practically the whole state of Guerrero and over two thirds of Oaxaca.

Climate and Water Supply: In the greater part of the region the yearly rainfall varies from 20 to 40 inches. The eastern slopes are, in general, better watered than the western and, consequently have a more highly dissected surface, more mature topography, longer streams, and more complicated drainage systems. Hence they offer greater possibilities for human occupation. The western slopes are characterized by numerous short streams which reach the sea through deep gorges and between wider interfluvial areas.

Nature of the Land and Products: The intensive erosion of the many streams has left very little level land for cultivation and in many parts the rainfall is too slight or too uncertain to be relied upon. Cattle raising has developed to some extent, but even this has been restricted by lack of pasture lands. Wheat and corn can be produced in the upper reaches and in the lower parts semi-tropical fruits, rice, coffee, and sugar cane.

Population: The distribution of the population is uneven, being concentrated in the few fertile pockets. The average density of the population for the whole region is about ten per square kilometer.

The Chiapas Highlands.

Location: The Chiapas Highlands are found in the extreme and southern and western part of the Republic and are almost entirely restricted to the state of Chiapas.

Climate and Water Supply: Several rivers traverse the area and the rainfall is very uneven, varying from 30 inches a year in some parts to 70 inches in other parts.

Nature of the Land and Products: "The highlands of Chiapas form a distinct natural region.. belonging rather to the upland system of Central America than to the other plateau regions of Mexico. Their extensive savanas offer rich pasture lands and good agricultural soil, while timber is exploited from the forests of the upper mountain slopes. From ancient times tribes of sedentary Indians have cultivated the more productive areas, and agriculture still remains the principal occupation of the people. Rural property is, consequently, highly prized, and great importance is attached to matters relating to the systems of land tenure".(Mc Bride). Almost any product of the temperate zone can be raised in these highlands- wheat, rice, corn, tobacco, sugar cane etc.

Population: The density of the population in the state of Chiapas is 5.6% per square kilometer.

The Escarpments.

For convenience we may treat the three principal escarpments of the great central plateau together, and without the sub-headings used above. The "Mexican Year Book" for 1920-21 estimates that from 15% to 18% of the population of Mexico

lives on the slopes of the Cordilleras; 7% to 10% in the coastal plains; and approximately 75% in the plateau regions. The three slopes differ somewhat from each other both in climate and topography but all lie in the "tierra templada" zone and hence are well adapted to human habitation. Here and there they offer some of the best agricultural lands in the country.

The Eastern Slope.

The rainfall in this region, thanks to the warm moisture-laden winds which blow against the mountains from the Gulf during the greater part of the year, ranges from 40 inches upward and is distributed through the year, reaching a maximum in the summer months. The heavy rainfall gives rise to a number of streams which are constantly cutting away the rich soil from the sides of the mountains and carrying^{it} down to the sea. For the most part this has worked to the detriment of the region, but in certain places, as at Orizaba and Maltrata, where some obstacle has temporarily checked the erosion process, very rich fertile plains have been laid down which are exceedingly valuable for agricultural purposes. In these restricted areas sugar, coffee, tobacco, and tropical and semi-tropical fruits can be produced in large quantities.

The Southern Slope.

"The southern escarpment of the Mexican plateau should be regarded as occurring, not beyond the Oaxaca uplands, but along the eje volcánico lying between the 18th and 19th degrees of latitude. It is at this point that the highlands have been almost cut through by the Río de las Balsas and the Río Papaloapam. This has produced a well defined east and west escarpment lying just south of the volcanic belt that virtually

terminates the great Mexican plateau. So situated, the southern slope receives less rain than the eastern. The storms that originate upon the Gulfward side of the plateau or about the high inland peaks of Malintzin, Popocatépetl, and Ixtaccíhuatl lose much of their moisture before reaching the southern escarpment. On the other hand sufficient rain falls upon the high volcanic ridge to form a number of small rivers. Though this southern slope is less deeply dissected than the eastern flank, since its base level is the Ríode las Balsas rather than the sea, extensive valleys have been formed as tributaries to the Balsas depression. Consequently, here, too, gently sloping, wide valley floors, with an abundant water supply and a climate that resembles constant spring, offer unusual attractions to the agriculturist and cause tillable lands to be highly prized and eagerly sought." (Mc Bride).

The Western Slope.

The western escarpment extending from Sonora to the state of Nayarit, since it is deprived of moisture by the highlands in the rear, is much dryer than other slopes of the plateau. In this area erosion has made little progress over the general surface of the land, but the downward cutting of the streams has been very rapid. The characteristic feature of the landscape, therefore are the deep cut barrancas, through which flow the few large rivers that cross its surface. "Many of the interfluvial areas are too dry for farming, and the barrancas contain a very limited amount of arable land. That which does exist in the valley bottoms and along the benches that border the canyons is usually of excellent quality, can be watered by means of simple canals, and enjoys a mild climate in which sugar cane, tobacco

coffee, and tropical fruits can be grown."

The Lowlands.

The lowlands, which lie ^{along each coast} in a belt varying in width from a few miles to several hundred, as we have noted above, probably do not contain more than 10% of the population. In general these regions are unhealthy and, like the tropics elsewhere, offer a constant resistance to the efforts of man to reduce them to productive uses.

The Gulf Coast.

During the greater part of the year this region is deluged with heavy rains. The enervating effect of extreme heat and humidity and the incessant attack of ever-encroaching tropical vegetation render cultivation of the soil an arduous and discouraging task. Within recent years the development of large-scale fruit culture in parts of Vera Cruz and Tabasco has been initiated and there is some cattle raising in the drier northern districts. "However, the few inhabitants of the lowlands have concerned themselves comparatively little with maintaining continuous occupation of the land and the problem of its ownership has seldom provoked serious difficulties".

Yucatán.

Yucatán in its northern portions differs markedly from the other regions of the Gulf Coast. "On the one hand, it lies farther north than most of the Mesa Central and, on the other hand, has no high ^{mountains} moisture to precipitate moisture from the winds. Hence, in point of rainfall, it bears a closer resemblance to the semi-arid sections of northern Mexico than to the humid territories that adjoin it. Whereas in Tabasco and

the coasts of Vera Cruz the precipitation is over 50 inches, barely enough rain falls in northern Yucatán to make the growing of cereals possible. The character of the soil, a porous coralline limestone, still further accentuates the deficiency. This comparative aridity, however, seems rather to have favored than to have hindered the occupation of the land, and, for many centuries, the region has been densely populated and has been the home of a relatively advanced civilization. Agriculture has been adapted to the climatic conditions and has afforded man a possible, if meager, means of subsistence. Furthermore, within the last quarter of a century, a newly created demand for binding twine in the great grainfields of Russia and the United States has opened up great possibilities of wealth in the dry limestone region of Yucatán and has made its aridity a still greater asset in the production of sisal. Thus Yucatán stands alone among the districts of the Gulf Coast in having valuable agricultural soil and in presenting keenly disputed agrarian problems." (Mc Bride).

The Western Littoral.

The western coast is as dry as the eastern coast is wet. The Sierra Madre Occidental with its high mountain peaks effectively deprives this region of moisture. "Isolated districts such as the valleys of the Santiago, the Fuerte, the Yaqui, and the Mayo, where irrigation is possible, are the only regions where the soil is sufficiently productive to be worth contending for or where questions of tenure have become of vital importance. In these limited areas, however, the land often commands very high prices and the problems connected with its ownership are acute".

Since the days of the Conquest when Cortéz wrote his

glowing letters to the Emperor Carlos V. describing the fantastic riches of the New World, the legend of "Mexico the great treasure house of the world" has grown little by little until now it has come to be accepted as self-evident fact. The prodigious productivity of Mexico's mines and, in more recent years, of her oil fields, and the enormous fortunes reaped by many foreigners, have only served to strengthen the believe in this myth. As a matter of fact, however, as the well known Mexican writer, Justo Sierra, pointed out many years ago, the riches of Mexico have been greatly over-estimated. This conclusion has since been confirmed by another Mexican, Carlos Díaz Dufoo, who, after a careful survey of the resources of the country, summed the whole matter up in the now famous formula "we are naturally rich, but economically poor". Leaving out of consideration as foreign to our present purpose a discussion of the truth of this statement with regard to the mineral resources or the commercial and manufacturing potentialities of Mexico, it is clearly apparent from the brief survey which we have made of the geographical and physical bases of the agrarian problem that, so far as agricultural development in Mexico is concerned, even Dufoo's statement is rather optimistic.

Modern realistic students of Mexico are pointing out that agriculturally the nation is not only "economically poor" but also "naturally poor". "The industry of agriculture", writes Daniel Cosío Villegas, "which is always the most desirable basis for the prosperity of a nation, in our country is deficient, not only because our methods of cultivation are backward, ... but also because the soil itself is poor. In order that agriculture be able to satisfy our necessities.. costly engineer-

ing works, especially of irrigation, will be necessary throughout the whole nation. We cannot expect anything as a gift of nature; everything in Mexico depends upon the activity and the ingenuity of man. It is for this reason I say 'economically we are poor'; but, more than this, the origin of our economic poverty is in our natural poverty".

Various estimates have been made as to the extent of Mexico's agricultural resources and of the amount of arable land available in the country. The latest one which appears in Jesús Galindo y Villa's "Geografía de la Republica Mexicana", (1926), reads as follows: "The industry of agriculture which is supposed to be one of our greatest fountains of riches, has among its mortal enemies: the heterogeneous regime of our rains and the early frosts.. The dry seasons, the inundations, the persistent torrential showers, and the early frosts are causes of the frequent loss of our most important crops- corn and wheat. This state of affairs condemns half of the national territory to the most precarious type of agricultural exploitation. It is painful to discover that four fifths of Mexico's territory is adversely situated for maintaining a population richer or greater than the one which we now have.... The following percentages represent the present agricultural situation in Mexico: (See Fig.No.)

Land where cultivation is possible and irrigation unnecessary..10%
Land where cultivation is possible and irrigation necessary....20%
Land where cultivation is impossible and irrigation impossible.70%

"The Mexican Year Book" for 1920-21 gives, in round numbers, the total area of Mexico as 490,000,000 acres. Of this amount about 120,400,000 acres are pasture land and 44,000,000 forest. Only about 25,000,000 acres are arable with

the present amount of irrigation and it is estimated that scarcely one fourth of the total area (c.122,500,000 acres) would be fit for cultivation even if irrigation were general.

Mc Bride summarizes his findings in this fashion:

"Mexico does not possess a large amount of arable land. The mountainous character of the relief, the scarcity of rainfall, the prevalence of undisintegrated volcanic deposits, and the presence of saline materials in the dessicated lake bottoms reduce the amount of land on the plateau that can be devoted to agriculture, while most of the lowlands are either too moist or too dry to make for successful farming. Although the country has a total extent of 767,198 square miles (491,006,720 acres) and had a population of 15,115,612 in 1910 [less now], the area under cultivation is relatively small, being but 30,027,500 acres (about two acres per person), while 120,444,200 acres are used only for pasture and 40,933,200 acres are in forest. The larger part of the remainder (299,601,820 acres) is regarded as virtual waste.

"Most of the best agricultural lands of Mexico are found upon the Mesa Central and its adjoining slopes. The extensive bolsones already described contain a large proportion of the nation's tillable soil. The valley's of Toluca, Mexico, Querétaro, Guanajuato, Aguascalientes, Morelia, Guadalajara, Puebla, and Tlaxcala are examples of these lands. In them are located most of the rural productive properties in the country. Next in importance come the lava flows and deposits of volcanic ash that have been sufficiently exposed to moisture to suffer disintegration upon the surface. These deposits afford large areas of productive soil, such as the red-earth hills of Michoacán and the more liquid brown flows of the valley of Puebla. Moreover, the bands of pied-

mont that border the filled in basins, though containing much sand and gravel and frequently suffering from lack of water, furnish excellent land for one of Mexico's principal crops, the maguey plant (*Agave americana*) from which pulque is obtained. If we add to these the rich, though restricted areas of alluvium found in the deep valleys that descend from the Mesa Central, we have the greater part of the tillable soil of the entire country.

"No statistics are available to show the extent of these various kinds of land, but they may be estimated approximately as in Table I.

Table I- Extent of Arable Lands.
(In Square Miles)

Aggraded surfaces of former closed basins in the valleys of	Toluca.....	1,000	
	Mexico.....	1,000	
	Querétaro.....	1,000	
	Guadalajara.....	3,000	
	Aguascalientes.....	1,500	
	Morelia.....	500	
	Guanaajuato.....	3,000	
	Puebla and Tlaxcala..	<u>2,000</u>	
			13,000
Piedmont deposits bordering the above.....			1,500
Decomposed lava sur- faces in	Michoacán.....	5,000	
	Puebla and Tlaxcala..	1,500	
	Jalisco.....	<u>1,000</u>	
			7,500
Alluvial pockets in the escarpment valleys	Morelos.....	1,000	
	Veracruz.....	2,500	
	Hidalgo.....	1,000	
	Michoacán and others.	<u>1,000</u>	
			5,500
Total.....			<u>27,500</u> "
(or c. 17,600,000 acres).			

By combining^{ing} the various estimates quoted above we get a statistical picture of the geographical and environmental background of the agrarian problem in Mexico something like this:

In round numbers the total area of Mexico is 767,000

square miles, or approximately 490,000,000 acres.

The total amount of land which it is possible to cultivate without irrigation is probably about 49

The total amount of land which it is possible to cultivate with irrigation is about 98,000,000 acres.

The total amount of land in Mexico which it is possible to cultivate under any circumstances is somewhere between 122,500,000 (Mexican Year Book) and 147,000,000 acres (Galindo y Villa). That is, between 65% and 70% of Mexico's land is useless for agricultural purposes.

With the present (1921) amount of irrigation probably not more than 25,000,000 acres of land can profitably be cultivated.

"The best agricultural lands of Mexico [those of] the Mesa Central and its adjoining slopes" probably do not exceed 27,500 square miles or 17,600,000 acres. (Mc Bride).

About 120,400,000 acres are pastoral land.

Between 41,000,000 (Mc Bride) and 44,000,000 (Mexican Year Book) acres are in forest.

From these statistics and from the foregoing summary of the characteristics of the various natural areas of Mexico two fundamental facts of a purely natural and geographical nature should be apparent.

First: Mexico, despite its superficial extension of 767,000 square miles; despite the fact that it ranks third in area of the nations of the two American continents and could contain within its borders the combined territory of France, Germany and Spain; nevertheless, has available for agricultural purposes, by reason of purely natural limitations, a relatively small amount of land.

Second: the extreme heterogeneity of the natural areas of Mexico and the different types of agricultural techniques and systems of land tenure demanded by the varied character of the topography and the nature of the soil if the land is to be worked to the best advantage, render the political and economic phases of the agrarian problem exceedingly difficult and complicated. In other words, any attempt to bring about a fair and equable distribution of the land, either by law or by the manipulation of economic forces, must inevitably take into account a number of purely physical and environmental facts which differ widely from one part of the country to another.

The struggle with and for the land of Mexico has been going on for centuries and still no satisfactory solution of the agrarian problem has been reached. The attempts to ^{effect} ~~reach~~ some sort of "modus operandi" in this basic matter of the nation's welfare have been as numerous as they have been futile. At the present time the country is convulsed by still another great effort to find a way out of the agrarian maze. Whether this effort will succeed or fail depends upon many factors and not the least of these will be the extent to which the political and social leaders of the nation comprehend clearly the physical and geographical bases of their problem.

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moved from all "orchestral din."

We had made no mistake in our choice of a playground; for most of those personages in the new Mexican hierarchy, who so admirably lend themselves to gossiping tongues, came in sometime during the course of the evening. Each arrival seemed wrapped in a cloak of romance--- worn shiny in spots, 'tis true, as even my not too exacting eye could discern. But I had heard hints of this one and caught glimpses of that one and I wanted all the details of the group picture touched up and brought out. Our young Mexican intellectual was obliging enough and so, joining elbows with him over a corner of the table, I was regaled with the current stories. He, himself, I may say in passing, is an interesting person, only fairly well portrayed in Mr. Lawrence's Plumed Serpent.

"The young Mexican who was accompanying the party was a professor in the University too: a rather short, soft young fellow of twenty-seven or eight, who wrote the inevitable poetry of sentiment, had been in the government, even as a member of the House of Deputies, and was longing to go to New York. There was something fresh and soft, petulant about him. Kate liked him. He could laugh with real hot young amusement, and he was no fool."

"At this table just back of me and to my right," he began, "is General José Alvarez, Chief of Presidential Staff.... Yes, he is rather handsome and has what you Americans call a 'pleasing personality'. He has served with President Calles in military campaigns and is probably closer to him than any man in the Republic. Unlike most of our military men who 'have arrived', he is something of a scholar and interested in Mexican arts and artists. By way of demonstrating this fact he has built a veritable palace out in the new Hippódromo addition for 'La Conesa'. That's she--- the dark, heavy

woman with beautiful, lowering eyes. I hope she smiles so you can see the diamond filling in her front tooth-- it far outshines that pendent on her breast. She undoubtedly enjoys a high position under the present administration, but there was a time when she was given twenty-four hours to get out of the country, which she did with ' neatness and dispatch ' ... Why? Well, it seems she was in some way mixed up with the Grey Automobile case..... a notorious trial. A woman was held up and robbed of a valuable diamond choker by bandits in a grey car. Only a short time afterward she went to the theatre and saw La Conesa wearing it on the stage. So on rather brief notice she left for Cuba and remained there several years. She made a very wealthy marriage at one time and has a young son about sixteen years old now in the States. Anyway, Alvarez seems quite devoted to her and is so faithful to her that he is never seen with his own wifeLet's dance. "

" That sad and unsmiling couple you asked me about while we were dancing is now seated there almost directly behind you," Señor B said to me in short puffs of undertone as he dabbed at the beads of perspiration on his forehead ." I think you are right about her frock; it looks like the only 'direct from Paris ' model in the bunch---- beside your own." This last with such a low bow to me over the table that his lapel caressed the lobster we were all afraid to eat.

" Thanks! You have a discerning eye. Mine came from Paris alright ,but so long ago that I have already taken out naturalization papers for it. The girl,"I continued," has

a much lovelier figure than most Mexican women, which is enough to make her feel superior no doubt, but she seems more sad than haughty, 'verdad' ? " Ordinarily I prefer compliments to gossip but on this particular night I felt time was being wasted.

Señor B leaned closer before he replied, "Well, don't you think that fat, stupid looking duck with her is enough to make anyone sad? That's General Escobar, one of our best butchers, who has just returned from his successful campaign against Gomez and his rebels in the Vera Cruz district. There are various stories about his companion. Some say she is his niece; prudent persons like myself believe it. However, at a small dinner party one night, I heard an English girl give a strange account of this so-called niece. It seemed she was an orphan; passed much of her childhood in Paris (hence the dress) and was later living in Juarez when General Escobar chanced to stop off there. He met this girl at some 'función' and, in the most approved fashion ~~off~~^{for} villains, promptly abducted her in his private train. From that day to this she has lived in a special coach, where no one is allowed to communicate with her. You notice no one speaks or goes near their table, but 'quién sabe?.....Let's dance! "

" Oh, we can't dance now," I lamented, sinking back into my chair," for they are going to have the raffle. Too bad that I lost my number ages ago."

A table piled high with gangling French dolls and a lottery cage filled with small numbered balls was carried to the middle of the dance floor. Then came the master of ceremonies, followed by three waitresses each carrying a frantically squealing, little pig bedecked in a large red bow.

The drawings were made and the prizes awarded amid cries of delight and vehement protestations. Only one spotted pig remained . Amid shouts of , " No haga trampa," (no dirty tricks) the last number was drawn--- from someone's sleeve--- and the protesting little razorback . . . delivered to Cholita.

" Cholita !.That's a name to be conjured with in Mexico, isn't it? " I asked by way of getting the conversation back into its proper channel. " I am terribly disappointed in her appearance---- dresses impossibly, is too fat and she glares out from under that African bushman coiffure like a-a-a---- well, she looks quite Indian , doesn't she?"

" Yes, she can glower," he admitted," and there are those that tremble when she does. But I hear there are other things she does rather well too. In addition to being President Calles' private secretary (and she must be smart because she is still that when she is no longer his sweetheart) she manages extensive real estate holdings of her own and has had in the past--- I am not certain about the present time--- a concession on the "Paleta Helada"(small, frozen ices) industry which anyone may observe has more 'salesmen ' than any other product in Mexico--- with the possible exception of chicle. It has been said that in troublous times more than one discontented general , on the verge of leading himself and his troops over to the revolutionary side, has been made to see the light of reason after one...one.. well, one interview with Cholita. I have an American friend who grew up with Cholita in President Madero's household and he has always defended Cholita's honor in that stubborn(if you will pardon my saying it) American way. You know what I mean---

that dogged way some of your countrymen have of clinging to one idea when all the evidence is to the contrary .Anyway, he confided to me recently that after a visit to one of the lady's Quintas (villas) ,he felt less positive about the matter. The place approximated his idea of a Turkish harem. However,he shouldn't shift sides on that score since all of us who can afford it build our houses after the American movie models. We do,though, put our stamp of individuality on them by continuing to build the bathroom by the front door. That chap sitting at the far end of Cholita's table is supposed to be the middleman between the United States and Mexico on many big business deals . That's his wife opposite him..... Yes, she's an American too. The floor's cleared now; let's dance! "

In the middle of this dance the music suddenly stopped, all save a great rolling of drums followed by shouts of " Feliz Año! " Then with great gusto we snag the National anthem and afterwards,while the orchestra played the Diana (a thrilling bit of music always played by way of acclaiming persons or occasions) ,everyone embraced everyone else while they pounded each other on the back. I was so engrossed in watching General Alvarez lean staidly across the table and kiss La Conesa that I missed out all the way around.

We were seated once more. A melting dish of pistaccio ice cream had taken the place of the meat pie or the roast turkey or some one of those plates that so inevitably follow each other in course dinners.

" What pikers! They leave the bottles of Sauterne and red wine on the table but pour out ^{only} a glass of champagne and run," There was just a suspicion of the New Year spirit in my exhildration. I began to explain to Señor B that mine was not a vulgar curiosity, no indeed !These people were nothing more than case studies to me. For instance, that girl in blue with the blue silk wig looked like an interesting case; now just who was she?

" Just a girl," he said with a peculiar semi-oriental movement of the hand and a protruding of the lower lip.

To several such queries I received this response, accompanied always by the same negligent turn of the wrist. I put down my empty glass and tried once again. " And the girl with the lavender hoop skirt?"

To his ,by now, form answer Mrs D. exclaimed in a voice filled with horror, "What, just a girl, and she so young, too! " I think it was probably my hilarious appreciation of this line which made my husband decide it was time to start a homeward -bound movement.

Feeling, somehow, that he had for a minute been lax in his duties, Señor B. leaned toward me. " Do you recognize that fat man at the table just to the right of the stairway?"

Of course I didn't.

" I thought maybe you went with your husband to some of the CROM (Confederación Regional Obrera Mundial) meetings during their convention last fall. Well, that's Señor Don Luis Morones, Minister of Commerce and Industry and the 'Jefe ' of the CROM..... The woman with him is his wife--- by right

of priority, I suppose, since he has four or five. For a "labor" man his income is rated as enormous--- something like three ~~hundred~~ thousand pesos a day. His country place out in Tllalpan is famous----four small but complete houses in one enclosure with a grand piano in every one. Like other of our people who never had a bath until grown, he has made a fetish out of bathtubs. On his estate he has every known kind of bath--- Turkish and Sweedish included,---yards and yards of them all glass enclosed. In addition, he boasts a huge outdoor swimming pool. When there is work to be done, committees are rounded up and taken uot to Tllalpan for the week-end. Liquors and ladies are furnished in abundance and, hence, the business is usually dispatched in a way entirely satisfactory to Señor Morones. I have heard, too, that his really great passion in life is roller skating..... Can you believe ,the others are getting ready to leave? Shall we have one last dance ?