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ABSTRACTAGRARIAN CAPITALISM IN CENTRAL MEXICO:
FROM HACIENDA TO RANCHO IN THE STATE OF QUERÉTARO, 1845-1980

SIMON MILLER

This thesis takes issue with two commonly held assumptions of Mexican historiography. One, that the cereal-producing hacienda (or 'great estate') of nineteenth-century Central Mexico was backward and semi-feudal. And two, commensurate with the first, that the emergence of an agrarian bourgeoisie in Mexico was delayed until these archaic edifices had been swept away by the Revolution of 1910 and the subsequent agrarian reform of the 1920s and 1930s.

The study focuses on the state of Querétaro and draws on detailed archival material for five haciendas in the area for the period from the 1840s: San Juanico, Juriquilla, San José el Alto, Chichimequillas, and Agua Azul. Close analysis is made of the economic structure and profitability of these estates by way of an examination of each of their major products - maize, wheat, chili, and milk. Particular attention is paid to the popular accusation of hacienda inefficiency, and production costs are assessed in the light of comparative material from Europe and U.S.A. In this way the study documents a general trend during the latter half of the nineteenth century towards the establishment of bourgeois production and economic success on the hacienda.

These beginnings of agrarian capitalism in Querétaro were then cut short by the outbreak of the Revolution and the subsequent period of uncertainty and agrarian reform in the 1920s and 1930s. The second part of the thesis examines the impact of these events and goes on to chart the revival of the agrarian bourgeoisie in the area over the years from the 1940s.

AGRARIAN CAPITALISM IN CENTRAL MEXICO:
FROM HACIENDA TO RANCHO IN THE STATE OF QUERETARO, 1845-1980

SIMON MILLER

Ph.D. Thesis
University of Durham
Department of Anthropology
1983

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27 APR. 1984

Preface

This thesis is based upon work carried out whilst I was a student in the Department of Anthropology at the University of Durham over the years 1978-81. The field-work was conducted during nine months in 1979-80, and the writing-up in Cambridge over the winter months of 1982-83. In the process of all this I have incurred a multitude of personal and intellectual debts, the most important of which I would like to acknowledge here.

In Durham I was supported by grants from the Social Science Research Council and the Ford Foundation; I also owe a considerable amount to my supervisor there, Norman Long - he was always a source of sound advice and he gave me the opportunity of changing continents relatively late in a student life. I am grateful too to Robert Layton who has taken over the role of supervisor since Norman Long departed for Holland.

In Mexico there were many more people than I could possibly mention - this work is a tribute to the multitude of individuals in Querétaro whose generosity and patience made it all possible. Some of these must however be mentioned by name, since without their help and kindness I would have been unable to work with primary materials from the haciendas and the research project would have foundered - these are Sr. Gustavo Cabello, Sra. Javiera de la Llata de Estrella, Sr. Fernando Loyola, Sr. Rémigio Amieva, Sr. Ignacio Villasante, Sr. Ignacio Cevallos, and Sr. Alejandro Soto. There were others, too, whose memories were of great help to me - Sr. Javier Cevallos, Sr. José Roíz, Sr. Javier Urquiza, Srta. Ana María Urquiza, Sr. Hilario Ledesma, Sr. Alfonso Adame, Sr. Alejandro Fernández, Sr. José Montes, and Sr. Eduardo Urquiza. I am also very grateful to Sra. Marta Careño for

granting me access to the archives of the Notario Público and Registro Público in Querétaro, and to Professor Rodolfo Porrás for doing the same in the Departamento de la Reforma Agraria del Estado de Querétaro. Finally I would like to add a special word of thanks to Guillermo de la Peña who met me in Mexico City when I first arrived and put me on the right road, both literally and metaphorically.

Since arriving in Cambridge I have benefitted from the stimulating environment of the Centre of Latin American Studies. I have been particularly helped by the informative and penetrating suggestions of David Brading and José María Caballero. Needless to say, however, I am solely responsible for the work which follows, and for whatever errors it might contain. I am also most grateful to Helen Wilson who typed the thesis so well and under great pressure.

A final tribute must be paid to all those people who gave me personal support and solidarity in this project, since it is to them that I am most profoundly indebted. Without them, this work would never have been started nor completed; they all suffered variously my presence and absence - Sam, Miranda, Joey, Sue, Pablo and Mercedes.

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Glossary of specialized Spanish terms used in text

Agrarista	supporter of agrarian reform
Aguardiente	Mexican rum
Alcabala	sales tax
Alhóndiga	municipal corn market
Al quinto	a system of sharecropping, see Appendix 1
A medias	(as <u>al quinto</u>), see Appendix 1
Arroba	(WM)*
Barrio	a district of a Mexican city
Bordo	an earthwork dam for seasonal irrigation
Caballería	(WM)
Cabildo	Town Council
Cacique	Indian chief
Campesino	peasant and country dweller
Carga	(WM)
Casco	house, office and buildings of landed estate.
Coa	Aztec planting stick
Contribuciones	land tax
Cuartillo	(WM)
Diezmo	Church tithes
Ejido	usufruct rights to land granted under Agrarian Reform
Fanega	(WM)
Fanega de sembradura	(WM)
Fraccionamiento	division of landed estate.
Habilitaciones	advances of maize, beans and cash to sharecroppers
Hacendado	owner of landed estate.
Hacienda	large landed estate, normally over 750 hectares

Huerta	irrigated orchard or garden
Intercalado	beans and maize planted amongst one another
Mediero	a sharecropper, see Appendix 1
Milpas	maize fields
Minifundio	small parcel of land
Novia	betrothed or fiancée
Pequeña propiedad	small-holding, normally more than 25 hectares
Pizca	the maize harvest
Pueblo	a nucleus of population
Quintero	a sharecropper, see Appendix 1
Ranchero	owner of a modest property
Rancho	a modest agricultural property, normally between 25 and 750 hecatres
Rastrojo	maize straw
Real	a silver coin, one eighth of a Mexican peso
Sexenio	the presidential term of six years
Temporal	land dependent upon rainfall for water
Tercio	(WM)
Tienda	the shop on a landed estate

* See table of Weights and Measures.

Weights and Measures

Arroba	a measure of weight of 25 pounds or 11.34 kg.
Caballería:	equal to 42.7953 hectares
Carga:	a measure of weight for wheat, of 14 arrobas and 14 lbs, or 364 lbs/165 kg.
Cuartillo:	one 1/48th of a fanega, a measure by volume of maize.
Fanega:	a measure by volume of maize equal to 90.817 litres, and varying by weight between 65 kg and 75 kg.
Fanega de sembradura:	surface measurement of land which varied from 3.56 hectares to 5.35 hectares and 6.11 hectares
Hectare:	2.471 acres.
Tercío:	a measure of wheat by volume, equal to half of a carga.

Sources: J.A. del Raso, Notas Estadísticas del Departamento de Querétaro, Mexico, 1848. Ministerio de Justicia y Fomento, Sistema Métrico-Decimal, Tablas, Mexico, 1862. W.L. Orozco, Legislación y jurisprudencia sobre terrenos baldíos, 11, 740-59, Mexico, 1895. (All within the contexts of various primary sources of the haciendas studied in this work.)

CHAPTER ONEINTRODUCTION: LIBERALISM AND LANDOWNERSHIP IN
NINETEENTH CENTURY MEXICO

THE HACIENDA AND THE LIBERAL CRITIQUE

The theme of this study is the rise of an agrarian bourgeoisie in the central Mexican state of Querétaro. Its timespan is therefore considerable and incorporates the last 150 years. For much of this period landownership was a prominent issue in Mexican politics, and after the Revolution of 1910-20 the Mexican countryside was transformed by a comprehensive policy of agrarian reform. Modern Mexican landownership has thus become a matter of small-scale properties.

During the years before the Revolution, however, the situation was very different and rural Mexico was dominated by the large-scale ownership of the hacienda. This term is conventionally translated by 'the great estate', but both terms are only loosely descriptive and cover a wide variety of types.¹

The hacienda had emerged as the dominant rural institution during the years of Spanish rule in Mexico.² By the end of the Colonial period it was beginning to attract criticism from liberal reformers, and was typically accused of wasteful production practices and of depriving most Mexican campesinos of access to land.³ Within a few years of these criticisms Mexico was plunged into the devastation of the Insurgency, a vengeful populist uprising sparked off by an elite conspiracy to win independence from Spain. The ferocity of this uprising reflected the depth of resentment felt by those who had been impoverished by the excesses of the hacienda, and the lesson of this was not lost on the liberals who rose to prominence in Mexico during the years after Independence.



True to their precursors in Europe the Mexican liberals were advocates of free trade and unfettered individualism.⁴ Central to their ideology was also the notion of private property - one of their leading spokesmen, José María Luis Mora, even referred to the word itself as having a "magical enchantment".⁵

Private property was accorded a special place in the liberal scheme on account of its apparent capacity to reconcile the dissonant principles of individual freedom and social responsibility. The creative energy of personal freedom could only work for the public good when it was anchored by the responsibilities of ownership. It was thus argued that the right to hold private property should be enjoyed by a majority of the people rather than by just an elite minority.⁶

Mexican liberals of this period also envisaged an essentially agrarian development for their country and rejected the alternative strategy of state-protected industrialization. Widespread ownership of rural property thus became a basic tenet of their position, and the minority landowners, hacendados and the Church, came under liberal fire.⁷

The hacendados were accused of being absentee landlords who pursued a dissipated and extravagant life-style in the great cities. They were castigated for their wasteful and inefficient methods of production, for their practice of cultivating only a small portion of their estate, and for giving no encouragement to their tenants.⁸ Perhaps above all, they were charged with obstructing the emergence and development of a rural middle class.

This was the numerous class of small property-holders which had been invested with all the liberal aspirations for a flourishing and peaceful modern Mexico. Its members were depicted as determined and industrious agriculturalists, living on the land that they worked, owned, and nurtured. By way of their presence and industry they would

increase the value and productivity of the land, and thereby make a definitive contribution to the overall welfare and stability of the country.⁹ The rural middle class would thus succeed exactly where the hacienda had failed - in fostering economic development on a multitude of small enterprises, and by providing the social conditions for a stable polity. This was the essence of the liberal dream.

Realisation of this dream was, however, a very different matter. After all, liberal ideology severely curtailed the scope for direct intervention on the part of the state - this made it difficult for liberals in power to take measures designed to accelerate the disintegration of the hacienda and to give rise to a rural middle class in its place. There were in any case a number of landowners amongst the ranks of the liberals, and the movement as a whole showed little real understanding or sympathy for the actual Mexican campesino.¹⁰

Faith was thus placed in the development of colonization programmes in frontier areas where there were no haciendas, and in the removal of any obstruction to a free market in land. To this end the Liberals at first abolished civil entails and then turned their attention to the problem of corporate property - that of the Church and of the Indian communities. According to the Law of Desamortization passed in June 1856 all corporately owned property was appropriated and offered to incumbent tenants at prices calculated on the basis of the rents they were paying.¹¹

The economic power of the Church may have been broken by these measures but no middle class phoenix rose from the ashes. In contrast the hacienda flourished - the bulk of Church property ended up in the hands of established landowners and many estates were given a new lease of life by the state's redemption of Church mortgages. The division of community lands into allodial family plots also gave hacendados the

opportunity of encroaching on property previously beyond their reach.¹²
 A colonization law in 1863 attempted to maintain the policy directed towards the creation of a rural middle class but little effort was made to implement it until the years of the Porfiriato, 1876 to 1910.¹³

During the rule of Porfirio Díaz the liberal measures of the earlier years were pursued more systematically. Executive efforts were made to speed up the division and allocation of community lands, and modifications were made in the laws of colonization to facilitate the carving up of the nation's unsurveyed and untitled areas.¹⁴ An amendment to these in 1883 allowed surveying companies to file for a third of the lands they charted, and a further law passed in 1894 removed all limits to the amount of land that any one individual might acquire.¹⁵ The years of the Porfiriato were thus thought of as boom times for the Mexican hacendado, when the nation's lands became ever more concentrated into the hands of a tiny minority. By 1906 over eleven million hectares of Mexican land had been distributed as freehold property.¹⁶

VOICES OF PROTEST DURING THE PORFIRIATO

There were voices of protest - by far the most prominent, those of Wistano Luis Orozco in the last decade of the century, and Andrés Molina Enríquez during the final days of Porfirio Díaz.¹⁷ Both protests echoed with the words of their liberal precursors of the mid-Nineteenth century. They argued that the hacienda was socially invidious and an economic anachronism, a view best summed up by the phrase coined by Andrés Molina Enríquez, "la hacienda no es negocio",¹⁸ (the hacienda is not a business).

The main focus of their attack on the hacienda dealt with the institution's twin characteristics - scale and methods of exploitation. The estates were enormous tracts of land - Orozco pointed to the

hacienda of Cedros in Zacatecas which covered more than three-quarters of a million hectares; Molina Enríquez commented that one didn't need to travel as far as Zacatecas to find a large hacienda - there was one within 125 km. of the capital city called La Gavia with an extension of 63,000 hectares.¹⁹ Further to the north there were hacendados who controlled even larger areas, such as the notorious General Terrazas, owner of close to two million hectares.²⁰

According to Molina Enríquez, these huge areas were monopolized by generation after generation of the same families, and exploited only for the minimum return of a secure rent, sufficient to support the owners in a city life-style of 'feudal' splendour.²¹ His precursor was a little more specific in his attack on the scale and exploitation of the hacienda. Orozco constructed a model of the typical hacienda and showed the extent to which such scales of ownership demanded considerable capitalization. He took as his typical case a property of around fifty thousand hectares, only a third of which was suitable for maize cultivation. Even with half of this land lying fallow every alternate year, Orozco calculated that close to five thousand oxen were required for the cultivation and 3,690 workers. He concluded that such a scale of investment as this presupposed a circulation of capital, an economic liveliness, and a quality of enterprise in the owner that could not be found in the Mexico of 1895 - the result was that hacendados were reduced to cultivating a mere tenth of their resources.²²

Molina Enríquez and the Mexican ranchero

Molina Enríquez adopted this analysis of Orozco and extended it to argue that large-scale ownership and effective production of the land were natural antagonists.²³ Like Orozco before him, he saw the solution to the problems of agrarian Mexico in the development of the small-holding agriculturalist, whom he called the ranchero.²⁴

A number of these hard-working farmers already existed, on the marginal lands left by the hacienda and on the plots carved out of the community lands at the time of liberal Reforms. They provided Molina Enríquez with the beginnings of a rural middle class, since he argued that they were already "the real agriculturalists" on the mesa central and were responsible for the regular supply of cereals to the urban market.²⁵ But they were confined to small areas by the excesses of hacienda monopolization, and he therefore regarded the destruction and division of the great estate as a sine qua non for the rise of a real middle class - to be composed of a populous group of mestizo small-holders.²⁵

Molina Enríquez's views on agrarian matters were to have a lasting impression on rural Mexico since they were instrumental in the shaping of the policies of land reform in the years which followed the Revolution of 1910. The class to which he attached so much importance has however remained obscure and ill-defined. A few recent studies have served to shed at least some light on the origins and activities of the so-called ranchero.²⁷ They tend to confirm the impression left by Molina Enríquez - small units of land developing during the second half of the nineteenth century and in the marginal areas of Mexico; inaccessible pueblos with their communal lands divided up; or remote haciendas which had fallen prey to economic pressures and had disintegrated into a number of smaller farms. This is the kind of history turned up by the studies of rancheros in the highlands of Guanajuato, Michoacán, Jalisco, Hidalgo, and Guerrero. Their evidence does not, however, support Molina Enríquez's contention that it was from these properties that the cities' workers were fed. Determined and hard-working, fiercely independent and proud to be property holders - all of these things they may have been, but the

poverty of their lands and the distance from the major cities must have severely limited their economic contribution.

The relative dearth of information on the history and composition of Mexico's rancheros makes it difficult to classify them as a class. Schryer is right to point to the fact that today's usage of the term is misleadingly elastic - it may refer to the highly capitalistic farmers of the Pacific North-west as well as to the autonomous peasant who works his plot of land or minifundia on the basis of his own labour and that of his family.²⁸

The rancheros of Pisaflores who form the subject of his work fall somewhere between these extremes - they antedate those of the North-West and are clearly better off than the independent peasantry. These men emerged late in the Nineteenth century and came to own land of between 25 and 1500 hectares,²⁹ a similar range to that found in San José de Gracia, Michoacán, by Luis González, where the average holding was in the region of 265 hectares.³⁰ Despite the differences in their landed assets Schryer argues that the group constituted a social class by virtue of the fact that all of these landowners managed their own enterprises and employed waged labour; they also produced for the market and acted as entrepreneurs, and yet they dressed and behaved in the same way as the mass of the Pisaflores peasantry.³¹ To denote this blend of two classes Schryer dubs his rancheros a "peasant bourgeoisie", a strata lying between the richer absentee hacendado and the mass of landless labourers and minifundistas.³²

It is quite likely that Molina Enríquez had such men as these in mind when he wrote of the crucial class of mestizo small-holders. He had, after all, rejected the hacienda as beyond reprieve, and had in addition pointed to the model of the United States' homestead, limited to only 65 hectares and yet responsible for the maize and wheat

pouring across the Atlantic into Europe.³³ His mentor Luis Orozco was better disposed towards the larger-sized properties. He had just the same vision of a flourishing and democratic Mexico, borne up by the populous ranks of a rural middle class, but he seems to have conceived this class in rather different terms.

Orozco: advocate for the smaller hacienda

Wistano Luis Orozco was born in the small town of San Cristóbal de la Barranca on the border of Jalisco and Zacatecas in the year of the Liberal Reforms, 1856. He studied in Guadalajara, the capital of Jalisco and in Tlaltenango, Zacatecas, and worked in both states.³⁴ He was thus familiar with the area's countryside and able to speak with authority. In this way he was able to support his attack on the hacienda with a great deal more specific information than Molina Enríquez.

Orozco cited two pairs of comparable districts, one in Jalisco, the other from Zacatecas. In each case the soils of the district were fertile, the climatic conditions were favourable to agriculture, there was an abundance of water available, and the road connections with the regions' cities were good. What distinguished two of the cases from the others was the scale of landowning.

Villanueva in Zacatecas and Cocula in Jalisco were both surrounded by a few, large-sized haciendas - those of the latter Orozco described as "enormous" whilst those of Villanueva averaged some 40,000 hectares in extension. All of these properties conformed to the wretched stereotype of the feudal estate - the owners were permanently absent, very little of the land was cultivated, and no effort was made to introduce a system of leasing. As a result the areas were bereft of commerce, the towns' buildings were in a state of decay, and the population languished in poverty and inactivity. These lands Orozco

described as "vast and wasted riches which serve neither God, nor man, nor even the Devil".³⁵ It is worth noting that the only hacienda to attract moderate approval from Orozco in either Villanueva or Cocula was that of La Quemada in Zacatecas - this property had at least rented out its pastures and was reported to be in quite good condition. It was also by far the smallest property surrounding Villanueva, with only nine thousand hectares compared to the upper limit of eighty thousand.

By contrast, the other two cases were characterised by a much reduced scale of landowning, and were in turn rich and flourishing centres of activity. In Jerez, Zacatecas, valley bottoms and hillsides alike were divided up into small and medium-sized properties, the majority in the region of 1750 hectares with others ranging from about 45 to 430 hectares. There were also a few "small and beautiful haciendas, such as Santa Fe, Buenavista, and El Tesorero" - these were properties of between five and eight thousand hectares. Orozco's account of the area was lyrical - "throughout the valley rancherías abound, and everywhere you see maize or wheat fields flourishing, livestock grazing, or workers gathering in bountiful harvests".³⁶ His report on the area of Ameca in Jalisco, surrounded by haciendas of "a small size", was no less eulogistic.

It is clear from Orozco's writings that these cases were fundamental to his arguments on the question of land tenure. He explicitly set himself against a policy which would produce a myriad of small plots, and crisply disassociated himself from "socialist" proposals to give each and every man an equal area of land.³⁷ He made it clear that the object of his attack was the larger-sized haciendas of some 50,000 hectares or more. His analysis of conditions in the flourishing Jerez and Ameca led him to argue in favour of a range of

landholdings between a minimum of 85 hectares and a maximum of around ten thousand. Appropriate sizes within this range would vary according to the diversity of local conditions of soil, climate and market-access - in the area around Mexico city, for example, he reckoned the minimum size might slide below 85 and the maximum would rest at around seven thousand.³⁸

Orozco's vision of a Mexican rural middle class was thus somewhat at odds with that of Molina Enríquez. He was clearly not opposed to properties of up to a ceiling of ten thousand hectares. They were justified in terms of the economy of scale, and they also provided the smaller farmers with a model to aspire for. The backbone of Orozco's middle class was ambition for self-improvement - he envisaged a multitude of small and medium-sized landowners all dedicated to raising themselves in society, to educating their children, to being better-dressed and better-housed, and to mixing in higher society. Such aspirations would drive the farmer to ever greater efforts on his land, promoting a continuous struggle to raise levels of productivity and to emulate the standards of the larger property just beyond his reach.³⁹

THE CEREAL HACIENDA: FEUDAL ESTATE OR JUNKER ENTERPRISE

In the event it was Molina Enríquez's image of the agrarian society which prevailed, and the stereotype of the hacienda as a feudal monopoly on land was widely accepted in the years after the Revolution.⁴⁰ Mexico was increasingly thought of in terms of polarities - a handful of colossal landowners and a mass of landless labourers, many of whom were drastically underemployed. An additional part of this conventional view was that the dynamic sectors of the agrarian economy were seen to be those serving the export market, such as sugar, cotton,

and henequen.⁴¹ In sharp contrast, the more typical hacienda of the central areas of Mexico, which was responsible for the production of cereals, essentially maize and wheat, for the domestic market was depicted as being stagnant and as archaic as ever - with the result that it failed to attract any of the foreign capital then flowing into the country.⁴² So apparently poor was the performance of this cereal-producing sector that it was argued that gross output of both maize and wheat actually declined over the period 1877-1907, and that these traditional haciendas were even failing to feed the Mexican people - hence Molina Enríquez's contention that it was the small-holding ranchero and pueblo Indian who attempted to supply this market from a mere tenth of the arable lands.⁴³

This disparaging depiction of the cereal-producing hacienda certainly applied in many instances, but it also failed to take account of the country's wide diversity and gave no place to the dynamic smaller units uncovered by Orozco. Recent research into this sector has done much to redress the balance and it is now clear that Orozco's examples from Jalisco and Zacatecas were by no means isolated cases of a rare phenomenon.⁴⁴

As in the case of sierra-based rancheros these properties and the people responsible for their administration are only now making their appearance on the stage of Mexican history. Together, the two groups constitute the beginnings of a rural middle class, and in turn raise important questions of their role in Mexican development. For this reason Schryer has chosen to designate the rancheros of Pisaflores as a "peasant bourgeoisie" and likens them to nineteenth-century Russian kulaks.⁴⁵ The hacendados of this study represent the other side of this class formation by virtue of the scale of their assets and the nature of their enterprises - they share the rancheros' practice of

employing wage labour and their clear design to produce for the market, but their activities were in general of a far higher order. Their lands were usually more extensive and considerably more productive, and their access to the market and to sources of credit was far better. For these reasons the scale of their operations were larger and more varied, the numbers of their waged workers were far higher, and their profits and capacities to reinvest much greater. They also differed from the rancheros in terms of culture and life-style, for although they took direct responsibility for the administration of their estates, they did not always live on them and in any case maintained a household routine more akin to life in the great cities than to that of the rough and ready backlands.

For all of these reasons the hacendados who feature in the pages which follow were less like the kulaks of Russia, and more akin to the Junker landlords of Brandenburg and Prussia further to the west.⁴⁶ No historical parallel of this breadth can match up at all points and there are clear distinctions between the Junkers and the progressive hacendados of the Mexican mesa central - the latter, for example, never had access to the free labour services of tied serfs, and neither were they in conflict with the towns and their inhabitants.⁴⁷ In general terms, however, the two groups followed the same path of agrarian development, referred to by the German term, Gutscherrschaft, after the notion of the "lords (Gutsherren) who cultivated their lands and became agriculturalists".⁴⁸ The Junkers at first survived, and then flourished, by expanding demesne cultivation with free labour services at a time when corn prices were on the increase - "...agriculture had become a profitable undertaking"⁴⁹ and those with best access to the trading routes of the navigable rivers became the most successful. Their triumph was assured, thus opening the way to the development of

large-scale capitalist agriculture where "landlord and farmer were identified in the same person, the Junker...and ground rent and profit were appropriated by the one actor".⁵⁰

THE RISE OF AN AGRARIAN BOURGEOISIE IN QUERETARO

The story which follows will trace a similar path, but in this case taken by the progressive hacendados of the state of Querétaro in central Mexico during the course of the nineteenth century. Their circumstances were somewhat the same, since there too the stimulus for increased direct cultivation came from a rise in the demand for cereals, although the source of this was domestic rather than external. Under these conditions agriculture became more attractive to the landlord than rent, since labour costs, though not free as in the case of the Junker estates, had remained low and may have even fallen. In this favourable environment the medium-sized property entered an epoch of bourgeois production, and the Querétaro hacendados began to bear all the hallmarks of the enterprising bourgeoisie - they produced specifically for the market on the basis of demesne cultivation and wage labour; they exhibited a rational commitment to modify the form of production in the pursuit of maximum profits; and they revealed an active disposition to reinvest these in diversification, mechanization, and the raising of productivity.⁵¹

This epoch of bourgeois enterprise came to full bloom during the years of the Porfiriato. By the beginning of this century at least a part of the central Mexican countryside was characterised by an unmistakable brand of agrarian capitalism, borne up by the domestic demand in basic staples. In the case of Querétaro, and of the Bajío in general, this emergence had not entailed any dramatic encroachment on lands previously held by indigenous populations. The region had developed as a frontier area and thus had a long history of Spanish and mestizo colonization and acculturation. By the beginning of the

twentieth century the number of indigenous nuclei was inconsiderable and as a result there was little in the way of a basis for community solidarity and collective action. The Revolution of 1910-20 was therefore a somewhat muffled affair in the region although the local economy did suffer from the generalised instability and disruption. On account of this damage the golden age of the bourgeois hacienda came to an end with the outbreak of the Revolution, and there followed a protracted period of some thirty years of difficulties and economic depression. By the end of the 1930s the hacienda had disappeared from the rural scene and the agrarian bourgeoisie was in retreat. The last part of the following study examines the fortunes of this class during these years of ruin and goes onto trace its revival and reemergence in the period after 1940.

Footnotes to Chapter One

1. This has been neatly summed up by Georges Duby for the European experience with the phrase that "the destiny of every manor was individual and its structure unique", quoted by D.A. Brading in Kenneth Duncan and Ian Rutledge (eds); Land and Labour in Latin America (Cambridge, 1977), p.23. Notwithstanding this diversity there has been a legitimate effort to distill from it some general notion of the hacienda. The literature on this theme is now substantial and it will suffice here to refer only to two articles - Eric R. Wolf and Sidney Mintz 'Haciendas and Plantations in Middle America and the Antilles', Social and Economic Studies, 6 (1957), and Magnus Mörner 'The Spanish American Hacienda', Hispanic American Historical Review, 53 (1973), pp.183-216.
2. François Chevalier, La Formación de los Grandes Latifundios en México (Mexico, 1956).
3. Jesús Silva Herzog, El Agrarismo Mexicano y la Reforma Agraria (Mexico, 1959), pp.29-31, and Manuel González Ramírez, La Revolución Social de México (Mexico, 1966), III, pp.70-78.
4. Charles A. Hale, Mexican Liberalism in the Age of Mora, 1821-1853 (New Haven, 1968) passim.
5. José María Luis Mora, Obras Sueltas, segundo edición (Mexico, 1963) p.377.
6. Hale 1968, pp.175-83.
7. David Brading, Los orígenes del nacionalismo mexicano, segundo edición (Mexico, 1980) passim.
8. The importance that was attached to the role of the tenant farmer was derived from a somewhat idealized view of the pattern of agricultural production current in England at the turn of the Eighteenth century. See, for example, R.A.C. Parker, Coke of Norfolk

(Oxford, 1975) pp.100-168, and Susanna Wade Martins, A Great Estate at Work (Cambridge, 1980) pp.77-86.

9. Mora 1963, p.378, 389.
10. T.G. Powell, El liberalismo y el campesinado en el centro de México (1850 a 1876), (Mexico, 1974) pp.69-90, and Hale 1968, p.181.
11. Herzog 1959, p.85; also Robert J. Knowlton, Church Property and the Mexican Reform, 1856-1910 (De Kalb 1976), and Jan Bazant, Los bienes de la Iglesia en México (1856-1875), (Mexico, 1971).
12. As, for example, occurred in the state of Morelos: see John Womack, Zapata and the Mexican Revolution (New York, 1968), pp.43-50, and Arturo Warman, y venimos a contradecir - Los campesinos de Morelos y el Estado Nacional (Mexico, 1976), pp.74-79. But it should at the same time be noted that this encroachment by the hacienda was uneven and has probably been exaggerated - see, for example, the work on the state of Oaxaca by Charles Berry.
13. George McCutchen McBride, The Land Systems of Mexico (New York, 1923), pp.90-91.
14. Nathan L. Whetten, Rural Mexico (Chicago, 1948), p.86.
15. McBride 1923, pp.90-91.
16. McBride 1923, p.96, and Daniel Cosío Villegas, Historia Moderna de México - El Porfiriato, Vida Económica (Mexico, 1965), I, pp.1-3.
17. Wistano Luis Orozco, Legislación y Jurisprudencia sobre Terrenos Baldíos (Mexico, 1895), and Andrés Molina Enríquez, Los Grandes Problemas Nacionales (Mexico, 1909).
18. Molina Enríquez, 1978 edition, p.162.
19. Molina Enríquez 1978, p.157.
20. Herzog 1959, p.124.
21. Molina Enríquez 1978, pp.156-60; it should be emphasised here that Molina Enríquez used the term 'feudal' very loosely and

pejoratively, to denote an archaic form of exploitation based on rent - his work reveals no close analysis of the types of labour used on the haciendas.

22. Orozco 1895, p.955. At the time of Orozco's study this number of oxen, harnessed ready for cultivation, would have cost in the region of one hundred and twenty thousand pesos - a very considerable sum indeed.
23. Molina Enríquez 1978, p.41, in the introduction to that edition, written by Arnaldo Cordova.
24. Molina Enríquez 1978, p.163.
25. Molina Enríquez 1978, p.158.
26. Molina Enríquez 1978, p.305.
27. See for example D.A. Brading, Haciendas and Ranchos in the Mexican Bajío, León 1700-1860 (Cambridge, 1978), pp.62-76, Luis González, Pueblo en vilo (Mexico, 1968), Paul S. Taylor, A Spanish-American Peasant Community - Arandas in Jalisco (Berkeley and Los Angeles, 1933), Tomás Martínez Saldana and Leticia Gándara Mendoza, Política y sociedad en México: el caso de Los Altos de Jalisco (Mexico, 1976), Frans J. Schryer, The Rancheros of Pisaflores (Toronto, 1980), and Ian Jacobs, Ranchero Revolt: the Mexican Revolution in Guerrero (Texas, 1982).
28. Cynthia Hewitt de Alcántara, Modernizing Mexican Agriculture (Geneva, 1976).
29. Schryer 1980, p.31.
30. González 1968, pp.29-43, 84-85.
31. Schryer was also able to subclassify the rancheros of Pisaflores on the basis of the fiscal values of their lands during the last years of the Porfiriato, thus forming three categories - 'rich' (up to 5,000 pesos), 'medium' (up to 1,000 pesos), and 'small' (up to a mere 250 pesos). It will be seen later how this range of wealth is of a

sufficiently reduced scale to set the rancheros of Pisaflores apart from the landowners who form the subject of this study.

32. Schryer 1980, pp.6-7.
33. Molina Enríquez 1978, p.163.
34. Herzog 1959, pp.119-20.
35. Orozco 1895, p.944.
36. Orozco 1895, p.946.
37. Orozco 1895, p.953.
38. Orozco 1895, p.952.
39. Orozco 1895, p.955.
40. José C. Valades, El Porfirismo, Historia de un régimen, I EL Crecimiento (Mexico, 1977), pp.263-298. See also McBride 1923, Frank Tannenbaum, The Mexican Agrarian Revolution (Washington, 1930), and Eyler Simpson, The Ejido: Mexico's Way Out (Chapel Hill, 1937).
41. Cosío Villegas 1965, I, pp.4-7.
42. Molina Enriquez 1978, p.158.
43. Molina Enriquez 1978, p.174, and El Colegio de México, Estadísticas económicas del Porfiriato, Fuerza de trabajo y actividad económica por sectores (Mexico, 1961), pp.67, 69.
44. See Brading 1978; Eric Van Young, Hacienda and Market in Eighteenth Century Mexico (Berkeley, 1981); Ursula Ewald, Estudios sobre la Hacienda Colonial en México (Wiesbaden, 1976); Herman W. Konrad, A Jesuit Hacienda in Colonial Mexico (Stanford, 1980); Jan Bazant, Cinco Haciendas Mexicanas (Mexico, 1975); Enrique Semo (ed.), Siete Ensayos sobre la Hacienda Mexicana, 1780-1880 (Mexico, 1977); Claude Morin, Michoacán en la Nueva España del Siglo XVIII (Mexico, 1979); and Edith Couturier Boorstein, La Hacienda de Hueyapán, 1550-1936 (Mexico, 1976).
45. Schryer 1980, p.161.

46. Max Weber, 'Capitalism and Rural Society in Germany', in H.H. Gerth and C. Wright Mills (eds), From Max Weber (London, 1948); F.L. Carsten, 'The Origins of the Junkers', English Historical Review, CCXLIII, 1947.
47. Carsten 1947, pp.160-70.
48. Weber 1948, p.375.
49. Carsten 1947, p.165.
50. Cristobal Kay, 'Comparative Development of the European Manorial System and the Latin American Hacienda System', Journal of Peasant Studies, 2 (1974) p.78.
51. In this respect these haciendas represent cases where the mode of production has moved beyond the initial capitalist stage, to which Marx referred as 'the formal domination of labour by capital' - see Karl Marx, Capital (Vol. 1), Penguin Edition, 1976, p.1021.
52. Where Womack (1968, p.42) described the change as a precipitate transition from 'manor' to 'factory'.
53. Brading 1978, pp.13-38, and Eric R. Wolf, 'The Mexican Bajío in the 18th Century: an analysis of cultural integration', in Synoptic Studies of Mexican Culture (ed. Munro S. Edmundson, New Orleans, 1957).

CHAPTER TWOPRELUDE TO AGRARIAN CAPITALISM: ECONOMY AND SOCIETY IN
QUERETARO BEFORE 1845

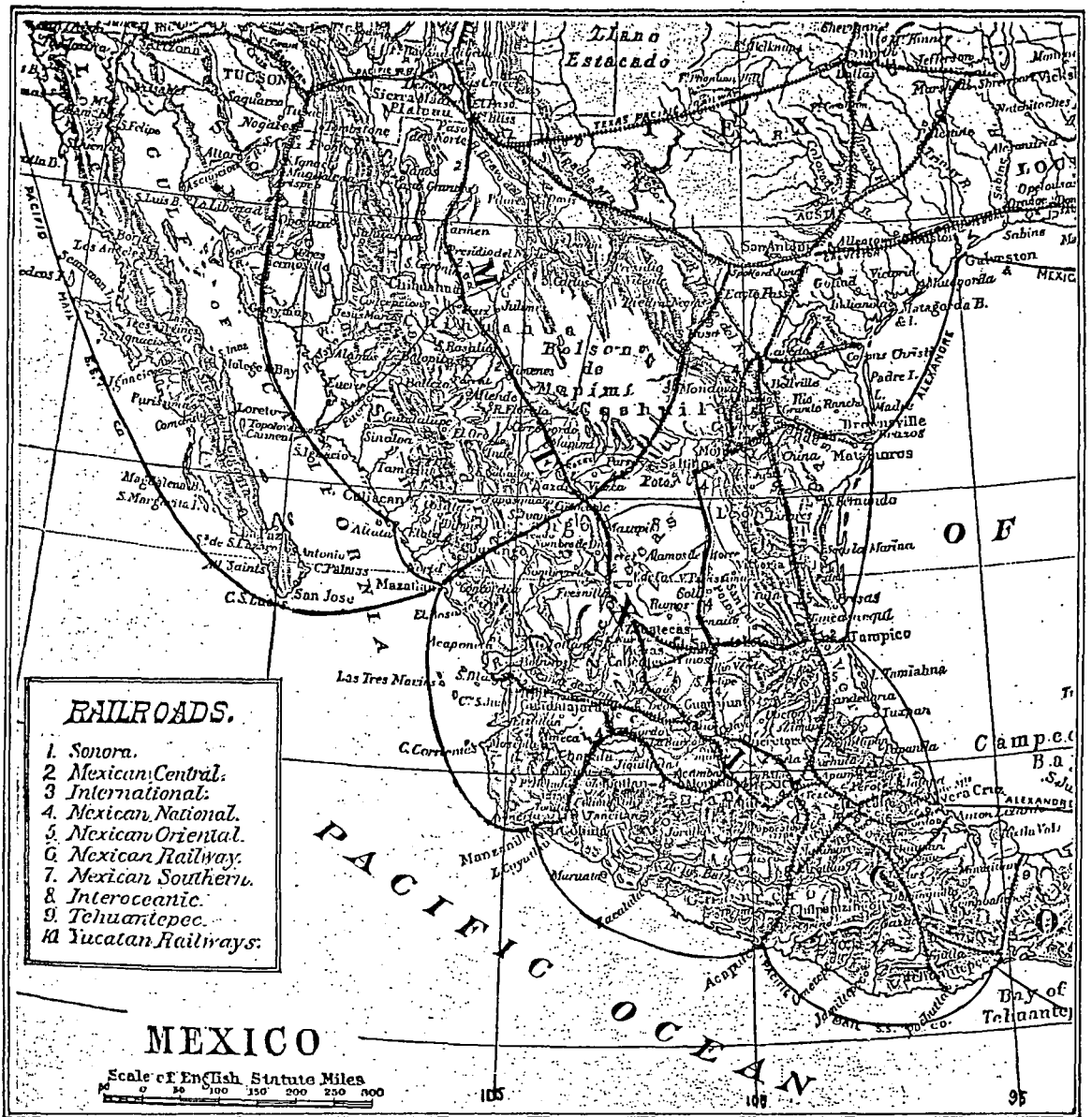
QUERETARO: LOCATION AND ORIGINS

The state of Querétaro lies in the middle of Mexico just to the north of the capital city. It is one of the smallest states in the Republic, and is surrounded by those of San Luis Potosí, Hidalgo, México, Michoacán, and Guanajuato; the shape thus formed is said to have the appearance of a rabbit about to jump.

The northern part of the state, up beyond the towns of Colón, Cadereyta, and Tolimán, is dominated by the sheer and unyielding slopes of the Sierra Gorda, and will barely feature in the story which follows. The stage for this is rather to be found on the plains of the centre-south, composed of those broad and fertile basins which connect the area with the region sweeping westwards to Jalisco and known as the Bajío.

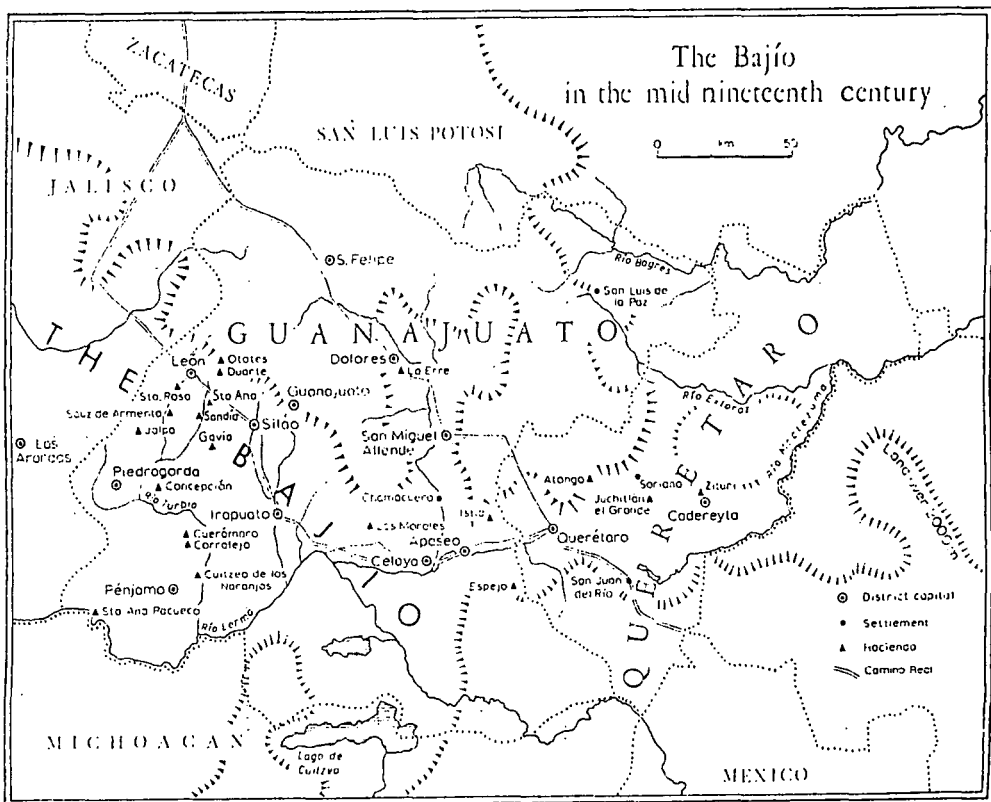
Perhaps Querétaro is best known for the part it played in the Creole conspiracy for independence from Spain in 1810.¹ By this time the area certainly bore the unmistakable imprint of Hispanic culture and society. Clearly this was not always the case. Previously the region had fallen within the confines of the Tolteca civilization, although by the time of the Conquest it had already been conceded to the dominion of the Chichimecas. By 1532 it had been recovered by way of a combination of Spanish design and indigenous soldiery, and by 1538 it was granted the status of 'pueblo de indios' under the leadership of a Christianized Otomí called Hernando de Tapia.

To begin with, Querétaro served as a bridgehead and bastion against the expansionist Chichimecas. Some



Map I above

Map II below



Map III



little time later its future was assured by the discovery of silver in Zacatecas, and thereafter it was to enjoy the benefits of acting as an entreport between the capital and the extending frontier to the north, benefits which were also to attract the attentions and ambitions of immigrants from the Peninsula.

THE JEWEL OF NEW SPAIN: ECONOMIC EXPANSION IN QUERETARO

As a result of these attentions Querétaro became increasingly Hispanic in character and composition, although there remained a substantial, if somewhat submerged, indigenous population. The cronista Larrea remarked upon the four hundred Spaniards living there in 1638, and he also sung the praises of the bountiful orchards, productive soils and plentiful herds. Part of this Hispanic dominance must have come from the city's flourishing Catholic community, predominant within it the Franciscans, which had developed from the end of the seventeenth century. By 1700 the city must have greeted the visitor with a splendid array of ecclesiastical buildings, and overall to have appeared to justify its reputation of being one of the brightest jewels in the crown of New Spain. In addition to trading interests and fertile surrounds the city could now boast of thriving concerns in woollen textiles and tobacco, thereby providing a base of sufficient diversity and resilience to see it through the period of recession which followed. At least it was a city which seemed to inspire strong loyalties: Archer tells of the extreme reluctance of even the poorest Querétano to succumb to the charms of the army's recruiting sergeants, and turns up two cases of persistent desertion, with one Carlos Almaráz making it back to Querétaro all the way from Havana!²

PRESSURE ON THE CEREAL PRODUCING HACIENDA: LABOUR SHORTAGES AND LOW DEMAND

Late in the Colonial period, however, Querétaro's reputation had been somewhat dented by a recession in woollens, and by the exposure of the inhuman working conditions which characterised the industry's workshops.³

Agriculture at least appeared to be more buoyant. Humboldt could scarcely contain his enthusiasm for the region's fertility, and Dominguez observed that since his arrival as Corregidor there had been a rapid extension of the area of land under cultivation. This turn of events was however fairly recent.⁴ Earlier on in the eighteenth century the hacienda's fortunes had been at a very low ebb. This state of affairs had come about as a result of the combined agencies of an inadequate labour supply and a low level of market demand for maize, the main crop.⁵

In this latter respect the hacienda had been hoist on a petard of its own making. Querétaro was a frontier society and suffered from labour shortages: the hacienda had attempted to overcome the problem by adopting the strategy of leasing out land in return for labour services. It was as though the hacienda had opened its gates to a trojan horse, since the tenants thus attracted were all too familiar with the business of producing maize for the market as well as for subsistence. Forthwith they became suppliers and thus competitors with the hacienda - with market demand for the produce already at a low ebb such extra supplies meant that prices remained dangerously close to cost.⁶

The defects of this contradictory arrangement were then accentuated by other pressures on the hacienda's incomes. Getting agricultural produce to the urban markets on the backs of mules was, as we shall see later, an expensive business, and there were further deductions to be

made for excise duties, tithes for the Church, and interest payments which had been incurred by loans. Under these adverse conditions the hacienda was clearly no money spinner.

Indeed, just how hard it was for the hacienda to survive can be gauged from a set of costings elaborated in 1739 for an area in Puebla very similar to Querétaro.⁷ According to these calculations, a plot of land of 3.6 hectares required an investment of 86 pesos if it was to produce a crop of maize. Manual labour, seed, carriage and administration accounted for fifty percent of this total, with rent costing a further 9 pesos. The remaining 34 pesos was charged to the hire of oxen. This last item can be discounted since the vast majority of haciendas stocked their own beasts, and in any case, the amount charged for hire is more than it would have cost to purchase a yoke of animals at the time.

The rest of the figures are however revealing. What they show is the extreme severity of the situation facing the maize-producing hacienda mid-way through the eighteenth century. Making no allowance at all for the cost and upkeep of oxen, production costs still reach the level of 52 pesos for the 3.6 hectares. To have just broken even on this basis would have been a tall order. Assuming a deduction of ten per cent for diezmo, and a sale price of one peso the fanega, these costs would have required yields of more than a ton per hectare. Neither this productivity nor the market rate of one peso could have been assumed by the hacendado, and in addition to these uncertainties, he would have been confronted with the heavy costs of transport from hacienda to market place. Small wonder, then, that the less well endowed hacienda of Juchitlán and Los Panales to the north of Querétaro fell into the hands of its creditors in 1752, and that others attempted to maintain production on the basis of labour services received in lieu of rent.⁸

THE HACIENDA SURVIVES

Survival for the cereal-producing hacienda was clearly a precarious business, although the production of pulque and livestock was more remunerative, and elsewhere, of course, crops such as sugar gave the hacienda a more profitable basis. The main focus of this study concerns the hacienda dependent upon the production of such staples as maize, wheat and beans - these were the properties under economic pressure during the later colonial years.

One thread of security for them was provided by the practice of leasing lands for a cash rent or part of the tenant's crop, thus giving the hacendado an income over the leanest of periods. Alternative lines of production were also vital, especially wheat, since these gave the hacendado the chance to produce beyond the reach of his competitors in the maize market, the tenants and smallholders. Crops like wheat could not be raised around Querétaro without irrigation and this required access to water and capital, both of which the hacendado was able to dominate.

A further aid to the ailing hacendado, as just suggested, came in the form of loans. The Colonial economy had operated largely on credit transactions which required sources of securities and collateral. The almost solitary source for these had been land, and this had guaranteed the agrarian sector a steady infusion of capital and the landowner the capacity to raise loans.⁹

The final corner-stone to survival was derived from the ironic cooperation of an otherwise antagonistic climate. Although the area's average annual rainfall of 500 mm was sufficient for the cultivation of maize, it was not at all reliable, and years of drought turned up with cyclical regularity. In times like these the area's maize production plummeted, and market prices soared. In order to exploit

N.B. Pages 27 & 28 are out of order.

These were conditions which gave momentum to a tentative trend of change in the hacienda, manifested in the extension of cultivated land noted by Dominguez, and in the attempt to raise rents or to increase demesne production at the expense of the hacienda's tenants. Cases of this attempt were recorded on Querétaro haciendas in Atongo and La Griega, as well as in nearby Celaya, and they were met with resistance and resentment on the part of the tenants.¹⁶

Here, then, were the conditions of struggle between landowner and labour surely conducive to the development of a powder-keg of antagonism in the area, creating a submerged threat which the Creole conspirators were apparently prepared to ignore. They could hardly have been immune to the rising tide of tension, since by 1809 desperation born of famine had been added to the burden of the masses. By this time things had deteriorated to the extent that troops were needed to accompany convoys of maize into Querétaro and Celaya, and that both the Corregidor of Querétaro and the city's cabildo were expressing anxious doubts as to whether their forces could contain the storm of violence building up around urban recession and the trends of change in the countryside.¹⁷

THE INSURGENCY AND THE INTERRUPTED TRANSITION

Hidalgo's spark in nearby Dolores was all that was needed to set this smouldering mass alight, and within a short space of time the whole of the Bajío was ablaze with popular protest and revenge. The entire network of commerce in the centre of Mexico came to an abrupt halt, in the Bajío many haciendas were forced to suspend production, and some were even burnt to the ground by the enraged populace.¹⁸

The initial devastation to the Querétaro area by Hidalgo's throng was undoubtedly severe, but it was probably also short lived. What is perhaps more impressive is the evidence that some haciendas managed to

these market conditions hacendados took advantage of their superior access to capital, and built barns either on their haciendas or in the town. Maize from bountiful years, when the small producers' supply flooded the market and kept prices at or even below cost, was then stored in these barns and only released onto the market when shortages had pushed prices through the roof, thereby securing for the hacienda an acceptable profit margin.¹⁰

THE TIDE TURNS FOR THE HACIENDA

These precarious conditions prevailed throughout the large part of the eighteenth century, but by the 1770s things were beginning to look better for the hacendado in Querétaro. Part of this was due to the region's expanding urban sector, which raised levels of demand. Mining was booming in nearby Guanajuato, and Querétaro itself was a hive of urban activity, based on textiles, tobacco, trade and construction.

The general increase in population was probably of even more significance. From 1747 to 1790 the jurisdictions around Querétaro doubled in population,¹¹ and the entire area grew from around 70,000 to a little over 126,500 in the last two decades before the Insurgency.¹²

Such trends in urbanisation and demographic increase had the twin effects of raising demand and of swelling the labour supply - although to some extent this last was partly neutralised by the competition for labour generated by the expanding urban sector.¹³ By and large, however, these trends had the effect of unshackling the hacienda from the torments of the earlier epoch, and it is clear that this period witnessed a considerable increase in the volume of agricultural production and a rise in market prices.¹⁴ Wages meantime remained stagnant, and may even have fallen from the daily rate of two reales to one and a half.¹⁵

maintain production, even in areas near the eye of the storm, such as Duarte, near León, which had suffered deprivations and was left with a severely depleted stock of draught oxen, the key to cultivation.¹⁹

Recent research in this area suggests that it was only the peripheries of the Bajío, around Dolores and San Miguel in the north and Maravatío, Salvatierra, and Acámbaro in the south, which resisted the Royalist counter-offensive of 1813 and remained disrupted for very long. Elsewhere the objective of pacification and a return to production was probably accomplished soon after the beginning of the Royalist campaign. Some students of the area are even prepared to suggest that the city of Querétaro in fact benefitted from the disruption by becoming the centre of contraband activities.²⁰ Surrounding haciendas do not appear to have been devastated or abandoned, since attempts by Iturbide in 1813 to requisition livestock and produce between Querétaro and San Juan del Río were met with a concerted campaign of resistance on the part of the hacendados. One gets the same sense of the hacendados' stubborn commitment to their properties from their outright rejection of the Viceregal project to settle rancheros on hacienda lands between neighbouring Apaseo and León to the north.²¹ A last clue to the area's restoration before the end of the decade of the Insurgency may be found in the fact that the rate of inflation in maize prices in the pacified areas was considerably lower than that of the rebel strongholds, and certainly never approached the heights of the 1786 famine.²²

Disruption, then, there may have been, but it is clear that actual physical devastation was far less profound. And yet there can be no doubt that the years after the decade of insurrection found the area in the depths of a depression, and that recovery from this was delayed until as late as the 1840s.

QUERETARO IN THE ERA OF INDEPENDENCE

The persistence of this depression and sluggish nature of the recovery dominate the pages of a meticulous report on the Querétaro economy prepared by one José Antonio del Raso, the deputy to the National Congress, during the first years of the 1840s. Raso was no stranger to the business of running haciendas, since his family had been the exacting owners of Juchitlancito from the turn of the century, and the detailed depiction of Querétaro that he presented to the state Assembly in 1845 has the ring of authenticity.²³

By way of omission his work tends to confirm the impression that the direct effects of the Insurgency on the area's productive capacity were largely ephemeral. No mention is made of burnt-out buildings, nor of irreparable damage done to the area's system of irrigation, despite the fact that the entire drift of the report rests on the contrast of the state's agrarian economy with the "brilliant" years prior to the Insurgency.²⁴ Neither does he even refer to a depletion of livestock, upon which the whole process of cultivation depended; indeed, if we are to believe the reports made by the Corregidor in 1799, elaborated on account of a dispute between the army and the local hacendados over the provision of mounts for the cavalry, it is clear that at least the number of horses held on the haciendas in the 1840s far surpassed those of the earlier date.²⁵

The Insurgency had certainly affected the state of trade in the whole of central Mexico, and this had accentuated the hacienda's perennial problems of finding markets for its produce. But in addition to this, Raso laid emphasis on the chronic shortage of currency and capital which meant that both landowners and large-scale tenants were unable to "give flight" to the full potential of their properties.²⁶ The routine cycle of production was hampered by

insufficient cash, and any move or intention to improve or diversify production was effectively frustrated by the scarcity of capital.

ECONOMIC RECESSION AND THE CRISIS IN MONEY SUPPLY

Raso's words would have found an echo in virtually every corner of independent Mexico. This monetary crisis had dominated the economy for some time, and it is clear that the roots of the problem stretched back to the years before the outbreak of the Insurgency to the days of the Consolidación. The effect of this metropolitan measure was to syphon off from the Mexican economy something like eleven million pesos between the years 1805 and 1809.²⁷ There had been a general consensus that the measure would damage and debilitate the development of agriculture, mining and trade, but these arguments failed to move the Crown.²⁸ This serious blow was then compounded by the collapse of silver production during the Insurgency, and by further withdrawal of capital effected by rich Peninsulares returning to Spain in its aftermath.

Bourbon mintage rates were not restored until the 1830s, and it was only with the discovery of the rich lode of La Luz in Guanajuato in 1848 that production levels were lifted to a level which could have compensated fully for the drain which had occurred earlier.²⁹

Estimates made by the British consul O'Gorman for the decade from 1832 to 1842 for the output and destiny of Mexican silver suggest that sixteen million pesos were mined every year, but that only six per cent of this total was retained in Mexico "for domestic uses, Church plate and hoarded by individuals".³⁰ If O'Gorman's figures are to be trusted the implication is that the domestic economy, reputedly already short of currency in circulation, received an annual injection of less than one million pesos, whilst four and a half millions were destined for the economy of the United States. Small wonder then that Raso

identified the main block to recovery and development in Querétaro as this chronic shortage of money. The other major problem was the population.

QUERETARO AFTER THE INSURGENCY: DISEASE AND POPULACE

By the eve of the Insurgency the upturn in population growth had left the state of Querétaro with a population of 126,597. This number was then rapidly depleted by the effects of the insurrection, although those actually accounted for by the military encounters were surely in the minority. The more important causes included hunger brought on by the crisis in production, but particularly far-reaching were the effects of epidemic disease, notably the outbreak of yellow fever in 1813. Once all these various scourges took their toll, the state's population plummeted to 73,757 in 1822.³¹

Such disruption of the population can only have had adverse effects on the level of demand and the flow of labour supply. Effects which clearly compounded the damage done to the economy by the collapse of commerce and the drain on the money supply.

Population may have recovered faster than these latter aspects of the economy, thanks to the prolific fertility of the area's women, but even here problems dragged on. Perhaps a brand of Mexican bandit-ridden stability had indeed returned to protect the people of Querétaro from the ravages of war and civil disorder before the end of the second decade, but such measures had precious little impact on the virulence of the period's epidemic diseases, and these relentlessly continued to afflict Queretanos in town and country alike. Between the years 1822 and 1844 over twenty-two thousand people were to perish from a number of outbreaks, including two of small-pox and measles, one of scarlet fever and dysentery, and a scourge of cholera in 1833 which claimed almost six thousand dead.

Deaths caused by such epidemics accounted for thirty per cent of Querétaro's reported burials, and they had the overall effect of debilitating the work force and reducing the level of demand. In this respect, one should guard against imagining that the bulk of the casualties affected the very young, and that therefore the impact on labour and demand was less onerous. Certainly a disease like measles held considerably less threat for adults than it did for children, but other common killers like cholera appeared to discriminate the other way around. Over eighty per cent of the six thousand reportedly carried off by cholera in 1833 were adults, thereby producing an overall pattern of deaths by disease which cut more deeply into the labour force than it did into the young.³² A natural consequence of this pattern was that the population in Querétaro remained biased towards the youth, such that forty-three per cent of the population were below the age of puberty in 1844. This demographic profile can only have had an adverse effect on the supply of labour and the level of demand, and in this way played a part in the protraction of economic problems in the area and the sluggishness of recovery.

THE AGRARIAN ECONOMY IN 1845: QUERETARO ON THE THRESHOLD OF REVIVAL

We come now to Raso's diagnosis of these problems and his assessment of the area's potential for the future. His careful survey revealed that the state of Querétaro extended over some 35,630 caballerías, or a little over a million and a half hectares. Almost forty per cent of this area was held in private title, divided into 124 haciendas and 398 ranchos. An area slightly larger than this, predominantly to be found in the mountainous northern part of the state, was classified as unappropriated, the property of the nation. A further 205 caballerías of land had been charted as the legal grants

of the state's fifty-two poblaciones, whilst an additional 820 caballerías were designated communal lands attached to the pueblos of the Sierra, Tolimán, Cadereyta, and Amealco. The remaining 6,150 were taken up by roads, rivers, streams, gulleys and so on.³³

The arable lands were in general of the best quality, composed of a rich mixture of clay and sand, a composition which made for great fertility, with the vital capacity to retain water and hence resist up to sixty days of drought. Within the domain of the haciendas and ranchos there were almost seven thousand hectares of irrigated land, and close to a hundred thousand of rain-fed temporal. Over three and a half thousand hectares of similar quality ('tierras de pan llevar superiores') were still covered by wild brush, and awaited clearance before they could be brought into cultivation; the fact that this area constituted little more than three per cent of the haciendas' arable lands shows that the charge of wasteful underexploitation was inappropriate in the case of Querétaro. There were in addition to these lands close to forty-eight thousand hectares of poor quality soils, amenable only to the raising of barley, beans, or maguey, and almost four hundred and fifty thousand hectares of hillside pastures, where the haciendas grazed their herds of cattle, horses, sheep, mules and goats.³⁴

Here then were the lands which Humboldt had found reminiscent of the plains of Lombardy. The area's native son, José Antonio del Raso, was no less impressed by the landscape around Querétaro, and waxed lyrical over "the striking vistas which met the eye, haciendas rich with the diverse bounty of their cultivation, flourishing villages of great beauty, and a spread of irrigation works, ancient and modern." And yet still afflicted by a torpor born of a protracted depression.³⁵

THE HACIENDA IN QUERETARO: PROBLEMS AND PRESCRIPTIONS

The depression had contained Querétaro's potential; probably much of Raso's lyricism came from a vision of how the area might have looked under more favourable conditions. As it was, the disruption of population and the shortage of money had forced the hacendados to abandon their tentative move towards a more intensive system of demesne cultivation, and to revert instead to the archaic practice of leasing out their lands in small plots.

At this point it is worth stressing that this progressive trend of increased direct cultivation, which has already been remarked upon, was in all likelihood a very partial and tentative development. Although the changing circumstances in labour supply and market demand gave some momentum to this transition during the last years of the Colonial epoch, it is by no means clear that these changes were of a sufficiently significant order to bring about wholesale transformations in a sphere of production which had always been hazardous. I refer here, of course, to the cultivation of maize temporal on unirrigated lands.

Humboldt may have suggested that a fortune could be made in maize, but set against this optimism there were many reports of persistent problems with the crop. It is clear that many hacendados at the turn of the century had their doubts about the virtues of moving into increased direct cultivation since the Corregidor Dominguez observed at this time that one of "the principal businesses" of the hacienda was still to lease out small plots of land from between five and ten hectares in return for money rents or a part of the harvest.³⁶ Further evidence of the inconclusive nature of this trend can be found in the common lament that poor work rates and high labour costs pushed production costs too close to the market price. This complaint, noted

by Dominguez in 1801, found an echo throughout central Mexico from Puebla to Michoacán and Veracruz.³⁷ Part of the problem lay with the prices, as shown by the case of the complaint made in 1806 by the owner of the Ixtla hacienda to the west of Querétaro: the gist of this was that the going rate of five reales the fanega was insufficient to cover the costs of production and maintenance.³⁸ The other side of the equation was the much disputed productivity of the Mexican peon.

Many hacendados of the late eighteenth century blamed the shortcomings of maize production on the inefficiency of the Mexican peon, who was said to be less than half as productive as his Spanish cousin. This comparison cannot concern us here, but it is worth noting that costings elaborated by one Juan Cervantes of Puebla in 1739 (referred to earlier) do suggest that production costs in Mexico were high. The Cervantes case was taken from land similar to that of the plains of Querétaro, land apparently flat and not the most difficult to work. And yet the time required to prepare the land for sowing, 9.44 man-days per hectare, was almost double that needed in seventeenth century England and Switzerland.⁴⁰ Comparisons made between the Cervantes figures and recent observations made by anthropologists of contemporary Mexican peasants working the land with similar tools, shows that the coercive regime of the hacienda - close supervision and a dawn-to-dusk work-day - squeezed a thirty per cent better work-rate out of the eighteenth century peon than that of the present-day unfettered peasant.⁴¹ This suggests that there may not have been that much space for improved productivity amongst the Mexican peons, but at the same time it cannot alter the implication that Mexican conditions in the round demanded relatively high investments of manual labour. This in turn underscores the proposition that unit profit margins on an undervalued crop like maize were bound to be tight, if not prohibitive.

Returning now to the situation reviewed by Raso, it should come as no surprise to find that the long years of depression had put paid to the move towards increased demesne cultivation. Livestock interests and irrigated wheat still remained in the hands of the landowners, but the entire temporal sector had been returned to the sphere of the small tenant, with an additional if limited use of sharecropping.⁴² The extent of this leasing and subleasing had reached the point where some parcelas were barely large enough to support the family which worked them.

There are two sides to Raso's account of this situation. On the one hand he took the firm view that this reversion to leasing represented a block to the full development of the area's assets. But on the other hand, he recognised the social benefits of such a widespread distribution of the land. Previously, he argued, income from the land had tended to end up in the pockets of the area's 110 hacendados and 392 rancheros; the system of small leases had considerably extended the number of these beneficiaries, now incorporating some 2,623 tenants of various types and dimensions. "Whilst such a division of labour and profits might reduce the wealth of a few", he observed, "it also alleviates the penury of many others."⁴³ This alleviation was given further momentum by the haciendas' other practice of leasing out all rights to the exploitation of their marginal assets, such as the felling of timber, the production of charcoal, and the gathering of wild cactus: the number of these tenants was as high as 2,170.

Part of Raso's study included a meticulous compilation of the state's agricultural production for the year 1844, and of the pattern of employment which corresponded to this production. As a result of these figures it is possible to demonstrate the full weight of Raso's observed social benefits. His data takes the form of

the pattern of distribution of the year's total value according to occupation within the economy. From this we can see that tenants of land or marginal assets did indeed benefit. Whilst clearly not doing as well as hacendados or rancheros, who averaged an annual income of more than twelve hundred pesos, their position proved to be eminently preferable to that of wage labour. Whereas the tenants accounted for close to forty per cent of the total value of production and on average received almost a hundred and fifty pesos per year, labourers on the haciendas, more than three times as numerous as the tenants, could not even account for a quarter of the total value and emerged with incomes of less than thirty pesos. Tenants, in effect, were enjoying standards of living some five times higher than those of waged labour.⁴⁴

Clearly, then, Raso was right to acknowledge the social benefits of leasing out land. But he also reckoned that the position of waged labour was acceptable, since the vast majority of families had at least one member in gainful employment. This was because the economy was finally stirring, and that as a result there was a growing demand for labour. Since around forty-five per cent of the male population was either less than twelve or more than seventy it was hardly surprising that the majority was in gainful employment, even if only on a seasonal basis.⁴⁵ From Raso's figures it is possible to estimate that the total rural population in 1844 was in the region of 130,000; discounting all women, and males below puberty and in senility, this represented a total work-force of around 36,000 males between twelve and seventy. Given these figures, and with over twenty thousand at work in the agricultural sector, it was probably legitimate for Raso to conclude that the population in general "may not have been living in opulence, but neither were they suffering in penury".⁴⁶

Despite the social benefits of this distribution, however, such a spread must have been undesirable to Raso the economist. And yet when it came to production he was apparently in an optimistic frame of mind. It is clear from his comments that many of his peers did not share such sentiments, and much of his work seems to be designed to dispel the gloomy impression that the state's agriculture was continuing to decline. To support his case, Raso provided data which showed that the total value of the sector's production had surpassed the two million peso mark, and that this produce met the needs of the population and left a surplus for sale outside the state. By the end of his survey Raso was prepared to herald a new dawn for Querétaro's haciendas with the prediction that "directed well, they would progress".⁴⁷

Footnotes to Chapter Two

1. Details of the history of Querétaro are taken from Enciclopedia de México, vol. 10 (Mexico, 1977), and from Manuel M. de la Llata, México y su Costosa Independencia 1821-1879 y Así es Querétaro 1525-1810 (Mexico, 1976).
2. Christon I. Archer, The Army in Bourbon Mexico 1760-1810 (Albuquerque, 1977), p.232.
3. Enrique Florescano, Origen y Desarrollo de los Problemas Agrarios de México 1500-1821 (Mexico, 1976), pp.78-80.
4. Alexander von Humboldt, Ensayo Político sobre el Reino de la Nueva España (Mexico, 1966 edition), pp.250-58, and D.A. Brading, Relación sobre la Economía de Querétaro y de su Corregidor Don Miguel Domínguez, 1802-1811 (Mexico, 1970), p.292.
5. Florescano 1976, pp.125-46; Brading 1978, pp.9-12; and John Tutino, 'Life and Labour on North Mexican Haciendas: the Querétaro-San Luis Potosí Region 1775-1810' pp.350-368, in El Trabajo y los Trabajadores en la Historia de México (eds. Elsa Cecilia Frost, Michael C. Meyer and Josefina Zoraida Vazquez, México, 1979)
6. Tutino 1979, pp.363-6.
7. Data taken from Morin, 1979, pp.248-251; see also Guillermo de la Peña, A Legacy of Promises (Manchester, 1982), pp.158-60.
8. Brading 1978, pp.34-7.
9. John E. Kicza, 'Great Families of Mexico: Elite Maintenance and Business Practices in Late Colonial Mexico City', Hispanic American Historical Review, 62 (1982), p.435.
10. Florescano 1976, pp.82-100.
11. Tutino 1979, pp.343-4.
12. José Antonio del Raso, Notas Estadísticas del Departamento de Querétaro (Mexico, 1848), p.97.

13. Tutino 1979, p.356.
14. See Brading 1978; Van Young 1981; Morin 1979; and Konrad 1980.
15. Morin 1979, p.260, and Tutino 1979, p.377.
16. Tutino 1979, p.375-78, and D.A. Brading, 'Hacienda profits and tenant farming in the Mexican Bajío, 1700-1860' in Land and Labour in Latin America (eds Kenneth Duncan and Ian Rutledge, Cambridge 1977), p.37.
17. Archer 1977, p.293; and Tutino 1979, p.374.
18. Brading 1978, p.202.
19. Brading 1978, p.100-1.
20. Doris Ladd, The Mexican Nobility at Independence, 1780-1826 (Texas, 1976), pp.114-16; and Brian Hamnett, 'Royalist Counter-Insurgency and the Continuity of Rebellion, Guanajuato and Michoacán 1813-30', Hispanic American Historical Review, 62 (1982), pp.41-42.
21. Hamnett 1982, p.45.
22. Hamnett 1982, p.40.
23. Raso 1848, p.37.
24. Raso 1848, p.55.
25. Raso 1848, p.40; and Archer 1977, pp.143-4.
26. Raso 1848, p.34.
27. Brian Hamnett, 'The Appropriation of Mexican Church Wealth of the Spanish Bourbon Government: the Consolidación de Vales Reales 1805-1809', Journal of Latin American Studies, 1 (1969), p.100.
28. Lavrin 1973, p.47.
29. Brading 1978, p.202.
30. I am indebted to Margaret Rankine of Cambridge University for this information, discovered amongst the British Foreign Office papers, no. 50/156 in the Public Record Office, London.
31. Raso 1848, pp.97-8.

32. Raso 1848, pp.104-5.
33. Raso 1848, p.20.
34. Raso 1848, pp.20-1.
35. Raso 1848, p.4.
36. Brading 1970, p.298.
37. Brading 1970, p.292; and Morin 1979, p.248.
38. Brading 1977, p.31.
39. Morin 1979, p.248.
40. Morin 1979, p.249; and B.H. Slicher van Bath, The Agrarian History of Western Europe, A.D. 500-1850 (London, 1963), pp.299-300.
41. Morin 1979, pp.250-51.
42. Raso 1848, p.55.
43. Raso 1848, p.55.
44. Raso 1848, p.86.
45. Raso 1848, pp.114-15.
46. Raso 1848, p.115.
47. Raso 1848, p.50.

CHAPTER THREEMAIZE PRODUCTION ON THE HACIENDA: THE DILEMMA OF THE
TEMPORAL LANDS

THE CROP: PRECEDENTS AND POTENTIAL

Maize, the indigenous staple of the New World, "the holy grain, the teocentli of the Aztecs", was the foundation of the civilizations of Middle America and the centrepiece of their religions and rituals.¹ Its virtues of extraordinary adaptability had provided those surpluses of food and time so necessary to the elaboration of complex and hierarchical societies. The Conquistadores may well have been cast down when they discovered that Mexico was rich in maize instead of the gold they had dreamt of, but their eventual survival and prosperity in the New World was in the end largely due to this prolific grain and the population it nurtured. There is, as a result, a degree of poetic irony in the fact that it was this same crop, maize, which came later to plague the institution perhaps most closely connected with Spanish settlement, the hacienda. We have witnessed the problems it had given the cereal-producing hacendados in the years before 1840; they could only be assured of recovery and expansion once these problems had been resolved, and the majority of their lands had been put to profitable use. As noted earlier, in the case of Querétaro these temporal lands covered close to a hundred thousand hectares in the 1840s, and represented a substantial proportion of the capital invested in the agrarian economy. The key to the hacienda's breakthrough and expansion thus lay in the optimum use of this invested capital.

STRATEGY ON THE HACIENDA: RENTS OR DIRECT CULTIVATION

The central question, then, which faced the hacendado was what to do with the temporal lands on his hacienda, rain-fed lands which were only amenable to the provision of pasture or the cultivation of maize. One option, as we have seen, was to turn these over to a number of small lease-holders. This practice, as shown already, had originally served the separate function of attracting labour to the hacienda when this was scarce in the region. As labour became more available, such leases took on a different purpose, and began to provide the hacendado with an important supply of regular cash income. With land values rising towards the end of the Colonial years, these rents apparently began to look increasingly alluring, and with maize production still plagued with difficulties and dangers, it has been suggested that landowners would have been better advised abandoning the temporal sector altogether, and settling instead for rental incomes.²

The mystery is that there is less evidence of this option being taken up than the a priori case would suggest, except during those years of the depression after the Insurgency, when hacendados were scarcely making a choice, but were rather having the single pattern for survival imposed upon them. On the other hand, cases of this option being chosen during less strenuous times are indeed rare: the solitary recorded instances appear to be the Mariscales de Castillo in the Bajío, and the Porres Baranda entail to the east of Guadalajara.³ The unusually large size of these properties suggests that the option was only realistic for the most extensive of the latifundia.

The key to this puzzle is that small-scale leasing did not alter the objective problems of production which had been set by the quality of the soil and the reliability of the rains. Most tenants of this sort were hardly more than subsistence peasants, and were vulnerable to

all the hazards involved in raising maize on temporal lands. As such they could hardly have represented a reliable source of income for the hacendado, a fact which is borne out by the frequency of entries in hacienda accounts of rents from small parcels of land being unredeemed, written off, and simply piling up from year to year.⁴

In addition to this problem there were the difficulties of supervision and rent collection. Rents would not have made their own way to the hacendado's coffers, and management in the absence of the owner was, as noted by the assiduous Jesuits, notoriously expensive and wide-open to corrupt practice.⁵ As a result, probably only the largest of properties could command a sufficient magnitude of potential rents to compensate for these inherent flaws in the system.

In any case, a further point should be made in relation to the rate of rent accruing from this form of leasing. The general tendency is to reckon this to have been ten pesos the fanega de sembradura throughout most of the nineteenth century. This was the rate introduced to the north of Querétaro in Atongo, and to the west near Celaya, after population growth had favoured the hacienda in the last years of the Colony. By the middle of the nineteenth century we find similar rates recorded, and of other cases of land being rented out for ten and twelve pesos the fanega in San Juanico and Juriquilla, haciendas close to the city of Querétaro, and again in the 1880s in the hacienda Miranda to the south.⁶ These are the figures which underpin the suggestion that landowners would have been better off abandoning cultivation in the temporal sector.

But there are problems with the assumption that all maize lands could command rents at these remunerative levels, since all of the cases referred to concern areas which were endowed with relatively fertile soils and favourable locations. Rents, after all, merely

reflected values, which were themselves only refractions of productive potential. This capacity, we know, encompassed a huge diversity of soils and locations. Even the briefest review of the notarised land transactions in Querétaro, and nearby Guanajuato, will reveal this wide range. Temporal land sold in the middle decades of the nineteenth century in these areas sold from as little as twenty-five pesos the fanega right through to the peak values of two hundred.⁷ Surely it is not too much to expect rents to have varied accordingly. Or more likely, land leased on this model was limited to the better qualities of temporal, since rents chargeable on lands of more meagre worth probably barely justified the effort involved.

The picture is now somewhat clearer. Variable land qualities would have combined with the disincentives of the administrative hazards and costs involved to make the option of extensive piecemeal renting far less attractive than it may at first have appeared. Hacendados certainly took up the option, but what is now clear is that their reasons for doing so may well have been defensive, and that the money they made from such a system hardly amounted to a satisfactory return on their investments. The crucial question, then, is whether or not such a situation amounted to Hobson's choice for the hacendado, or whether the option of direct cultivation on temporal lands was any less ominous.

THE TEMPORAL LANDS: SEASONS AND FERTILITY IN QUERETARO

Maize in Querétaro was sown during the first days of the rains which started variously between mid-May and early June. The first young shoots appeared after some eight days, and weeding was required twenty days after sowing, and again after thirty-five. The crop matured, according to variety, within ninety to a hundred and twenty days, but actual harvesting was delayed until the corn-cobs were dried and hardened, about the beginning of December, so that the harvest

could coincide with the feast of the Virgin of Guadalupe.

Beans, the other native staple, were also sown alongside the maize, and were harvested somewhat earlier, during the middle and the end of October. Apart from providing a supplementary crop from the same land, this practice of raising beans intercalado, with their runners climbing the maize stalks, had the important function of giving the young maize shoots some cover from hazardous early frosts, and of replenishing the soil.

Other crops were also grown on the milpas in the same way. Various species of squash were recorded growing in San Juanico in the late 1850s, and these were harvested later on just before the pizca, or maize harvest. It is probable that these plants served the same protective function as the beans, and that the produce was both eaten and also used to make domestic receptacles.

Barley was also cultivated amidst the maize, and formed an important part of the diet of the hacienda's livestock during the dry season, when pastures became very sparse.

Once the land had been cleared of all its various products, the maize stalks, or rastrojo, and the barley straw was left on the land and provided another source of fodder for the livestock; any manure thus deposited was seen as a welcome means of replenishing the soil. This replenishment was also achieved by leaving the land fallow every alternate year, such that a plot was able to revive itself from the opening of one year through to the March of the next, when the land was first worked on in preparation for sowing. It is also said that the soils of Querétaro were blessed by the replenishing nature of the area's storms: rain falling amidst the turbulence of thunder and lightning was claimed to be rich in nitrates and therefore especially good for the soil.

Of course, the other characteristic of the Querétaro rains was their unreliability, as has been pointed out. Over the years from 1810 to 1843 only six were described as good, fifteen were reckoned to be average, and twelve were bad.⁸ In addition to the hazards of unreliable rainfall crops were also subject to damage from frosts and hail-storms.

Whether or not the rains, when they did come, were indeed replenishing is unknown, but it is clear from the reports of the period that the soils in the Querétaro area were prodigiously fertile. This was certainly the impression left by Humboldt's enthusiastic claims for the lands between Querétaro and San Juan del Río, which he had singled out for particular praise. The prime case in his eulogy was the hacienda of Buena Esperanza: there Humboldt claimed to have witnessed yields of eight hundred to one, enough to fulfill dreams, let alone hopes, and that average returns were of the order of between three and four hundred to one.⁹ In contemporary terms, this rate of return would mean a regular harvest of up to four tons a hectare, no mean feat by today's standards, let alone those of two hundred years ago.

José Antonio del Raso was more familiar with the area's soils and the climate's fluctuations. He commented directly upon the reports of Humboldt, and implied that the top eight hundred to one yields of Esperanza were perhaps an exaggeration. He did nonetheless confirm that haciendas such as Esperanza were very fertile, and mentioned others besides, such as Jofre, Juchitlancito, and Montenegro.¹⁰ Once he had done this, however, he went on to considerably modify the impressions left by the Prussian visitor.

Raso's calculations were based on an intimate knowledge of the area, of Juchitlancito in particular, as his family's property, and of other haciendas where he had had access to records of production:

thirty-three years' in Esperanza, twenty from Tequisquiapán, ten from Juchitlancito, and several more from haciendas around San Juan del Río, Amealco, Cadereyta, and Jalpán.

We can therefore safely assume that his judgements are more reliable than Humboldt's second-hand reports which he shows to have erred significantly. He stressed how production levels were determined by variations in climate and soil quality, thereby producing considerable fluctuations both within the state and between different years. In pressing home this point, Raso referred to the year 1829 in Esperanza, a hacienda with some of the best soils in the country, when drought reduced yields so catastrophically that the hacienda managed to harvest a mere twelve hundred fanegas of maize from a sowing of one hundred and eighty, a ratio of less than seven to one.

Other years swung in the opposite direction: 1802 yields in Juchitlancito were of the order of six hundred to one; 1804 in Jofre recorded some five hundred to one; and in 1830 Esperanza managed four hundred to one.¹¹ Over the thirty-three years examined in Esperanza almost six hundred thousand fanegas of maize were produced, giving an annual average yield ratio of some eighty-two to one. Raso aligned this information with similar data from his other sources, and concluded that the area's soils could be relied upon to give average annual yields of eighty to one.¹²

Information drawn from the records of other haciendas in the area, such as San Juanico, Juriquilla, Calamanda, Chichimequillas, Carretas, and San Rafael, strongly suggests that such an average represents a realistic return from the best temporal lands in the area, but that returns from less well endowed soils would have been at least twenty-five per cent lower.¹³ The discrepancy here may well be due to the fact that Raso's sample incorporated only the better lands, since it

will be recalled that some nine thousand fanegas of land were designated "middling.....suitable only for raising barley, beans and maguey".¹⁴

The chances are that as the century progressed and increased demand brought more land into cultivation, these inferior lands were also used to produce maize - the data from San Juanico etc. referred to above probably reflected an assessment of their inferior performance.

There are in any case indications that this extension was underway at the time of Raso's writing, since there was an increase in the area under maize of some thirty-seven per cent from 1841 to 1844 in the districts of Querétaro, San Juan del Río, Cadereyta, and Jalpan; if this increase had been general across the state, it is clear that the lands designated by Raso as temporal and suited to maize production, had already been taken beyond the limit of what was available.¹⁵

QUERETARO IN THE 1840s: COSTS AND PROFITS IN A NEW DAWN

Such an intensification of activity was certainly possible, since the agrarian sector was in general working well below capacity. The year 1840 is a case in point. That year 8,996 fanegas of land were cultivated within the hacienda sector; some one hundred and sixty of these were irrigated, and 7,811 were committed to maize production. Taking the round figure of nine thousand fanegas as the area cultivated, and making no allowance for the fact that the various crops were produced at different times of the year, it follows that such a level of activity would have required at least the same number of yoked oxen and ploughs - one such team was reckoned sufficient for the preparation of one fanega of land in the Querétaro area, equivalent to 5.35 hectares.

Raso's survey shows how this requirement fell within the capacity of the local stocks of oxen and implements, since the number of the former exceeded twenty-six thousand, and that ploughs were produced

from hillside timbers at the rate of eight thousand a year.¹⁶ These latter were fitted with iron shares and steel coulter, and were then valued at twelve reals each.¹⁷

Maize was thus cultivated in the Querétaro area, and in 1840, with average yields at eighty to one, some 624,880 fanegas were harvested. Consumption of the grain in the state ran at some 87,148 fanegas in the capital city, and a further 368,852 in the districts, leaving a theoretical quarter or more of the 1840 crop as surplus, available for sale outside the state.¹⁸

Transport costs, however, made such an option uneconomic for the hacienda, and as a result, local maize during the Raso years was either consumed on the hacienda of origin, some sold, some given as rations, and some fed to stock, or, as in the case of much of the produce, was deposited in the city's alhóndiga and sold according to the decision of the producer.¹⁹

Land use and marketing

Here again there are some clues as to the structure and direction of the agrarian economy. In the first place, it is clear from Raso's analysis and descriptions that most of the state's temporal sector was leased out; even so, it is also clear that the hacienda controlled some of the maize supply, thus raising the question of its source. The probability is that much of this supply came from the small-producers' sector, either in the form of rent paid in kind, or as a purchase made by the hacienda from tenants unable to market their produce in town; other amounts probably came from the limited use of sharecropping, and from the tentative return into direct cultivation where conditions were optimum. Yet, predictably, within the midst of all this, Raso's reference to the use of the alhóndiga and the practice

of selling only at the behest of the owner, has all the hallmarks of the hacendado's time-worn dilemma of being caught between saturated demand and low profit-margins, such that his only profitable years were those of famine and inflation.

The validity of these inferences is confirmed by Raso's subsequent discussion of the problems of maize production and its high cost of labour.

Production and labour costs

Raso's first comment is cautionary, and thus indicative of his meticulousness and probable accuracy. He averred that "the cost of cultivation is very variable; it is not the same in every case, either in terms of the land or in terms of the year. The quality of the soil, the amount of rainfall, and the degree of intelligence on the part of the labourer, all contribute to the final cost of production."²⁰

He then goes on to report that local calculations put the cost of raising maize at seventy pesos per fanega of land. Raso argues that such estimates were unreliable since they were based not on careful measurements of area cultivated, but rather on the volume of seed used. His objection is that such a method of costing cannot take account of the differential requirements of the various soil conditions: the more fertile soils will produce adequately with a low seed density, whereas the poorer areas need heavier sowings. Put in modern terms, this variation would have been of the order of between nine kilos per hectare for sowing the better soils, up to twelve kilos for the inferior quality.²¹

It is clear that in Querétaro the traditional measurement of land, based on the area which could be sown with a given volume of seed, confusingly called a fanega, amounted to over 5.35 hectares. This represented a heavy seed density of around twelve kilos per hectare.

Lower density requirements probably evolved as the conditions of land and seed variety improved over the decades of clearance and seed selection. By the beginning of the nineteenth century there were parts of the Querétaro area which did well with densities of only nine kilos to the hectare, and this would have meant that any entry of cultivation in terms of seed used, as was the convention, concealed the larger land-surface in production. In simple terms, whereas one fanega of seed had previously denoted the cultivation of around 5.35 hectares, it could now mean that the area had risen to 7.22 hectares. Translated into costs per surface area, this meant that conventional costings in terms of seed sown in fact concealed a 25% reduction. In this way Raso revised the costings given by local hacendados, and reduced them from the original 70 pesos per fanega of seed to a new format of 50 pesos per fanega of land area, 5.35 hectares. These 50 pesos were then subdivided into the three component factors, each being attributed a value: thus rent and oxen cost 10 pesos each, and labour with seed 30 pesos.²²

The way Raso shaped these contributions is important, since at the heart of his project is the question of why profits seemed to be so elusive: "it's incredible" he wrote, "that soils so fertile as our's, attracting as they do the surprise and admiration of all who visit the area, in fact yield such low profits".²³

The new costing for labour, with wage rates running at 1.5 reals a day, represented an investment of some 156 man-days' work to raise a maize crop from a fanega of land. This amounted to a 14% reduction on the estimates made by Juan Cervantes a century before. It is possible that such a reduction was the result of improved technology, but it is more likely that it reflected the attempt on Raso's part to exhort the hacendados in Querétaro to greater efficiency.

The exhortation comes out in two ways. Firstly, when the new costs are given the guise of targets by Raso's insertion that such rates are presupposed by "expert management".²⁴ And then again when it becomes clear that Raso shares the conventional viewpoint on the subversively high costs of Mexican labour. Here, however, his position is more sophisticated than the common lament on the laziness of the peon. His argument is drawn from a comparison of Mexican agriculture with that of England. According to this comparison, more than half of the entire disposable value of Mexican agriculture was consumed by the costs of production, over three times as much as occurred in England. This difference Raso attributed to the use of machinery in England instead of labour, and he thus deduced that similar savings could be made in Mexico where the soils were so much better. Given these savings, Raso predicted that profitability would rise by 35%, and that Mexico would then join the ranks of the great granaries of the world, like Egypt and Rome. To this end, he made a strong appeal to the government to take all measures necessary to facilitate the introduction of machinery, including the use of prizes to encourage domestic invention.²⁵

Such a diagnosis may have given Raso grounds for optimism, but the whole tenor of his assessment, culminating on a note of exhortation, reveals the true nature of maize production at the time. Many hacendados were clearly despondent with the rates of return from direct cultivation. These were only decisively better than those from rents under conditions of famine and scarcity. With fresh memories of the Insurgency, and of the price inflation which lay behind it, hacendados naturally hesitated before the choice of strategies which lay ahead of them. Neither option was proving to be wholly satisfactory, and thus it is no surprise to find the hacendados' representative, José Antonio del Raso, pouring over statistics and comparisons in the search for

a solution to the problem. His depiction was thus of an economy at a cross-roads, and his prescription for progress entailed more efficient management and a reduction of labour costs. We now need to examine the fate of such a prescription within the context of specific haciendas and of their operations in the years which followed.

MID-CENTURY IN SAN JUANICO: PROFITS IN A FAVOURED HACIENDA

The case of the hacienda San Juanico provides us with the opportunity of assessing the development of maize production over the period 1858-65. These were times beset with severe problems of civil war and foreign invasion. Of all the areas of Mexico, Querétaro suffered the most from these disruptions,²⁶ and not least affected was the hacienda of San Juanico. November 1859 found the administrator of the hacienda on the roof of the cowshed, observing the dawn manoeuvres of the competing armies of the Liberals under General Vélez, and of the Conservatives commanded by the victorious Miramón; by dusk he was picking his way through a battle-ground of dead and wounded, counting amongst them men from his staff, and noting with disgust the corpse-choked irrigation system. Symbolic and symptomatic of this period for Querétaro was the final execution of the Hapsburg Emperor Maximilian and his Conservative generals Miramón and Mejía, on a hill outside the city in June 1867, the climax of various military encounters and a protracted siege and bombardment of the city itself.²⁷

The hacienda of San Juanico has a history as long as the city of Querétaro. It had formed a part of the property of the city's original cacique Hernando de Tapia, and was then donated to the convent of Santa Clara de Jesús by its founder, Hernando's son, Diego, in honour of his daughter, one of its first novices. Despite its modest size, it became an important source of income for the Convent by way of production of maize and wheat from the early seventeenth century on.

By the late 1840s it formed part of a cohesive unit of properties on the western edge of Querétaro, the others being the haciendas of Santa María Magdalena, Santa María del Retablo, and El Cerrito, this last named after the concealed pyramid of the Tolteca civilization.²⁸

This group of haciendas was perfectly situated within the fertile basins to the west of Querétaro, thus enjoying the benefits of soils worthy of Humboldt's enthusiasm. They were also blessed with a very convenient location, with the casco of San Juanico being placed alongside the road leading from Querétaro to Celaya by way of the hacienda Obrajuelo, and a mere three kilometers from the city itself. A further asset was the fact that the river Querétaro ran from its source in Pinal de Zamorano, past the city on its northern side, and on through the haciendas of San Juanico and Santa María Magdalena before emptying into the tributary of Lerma, the river Apaseo, just over the border in neighbouring Guanajuato. The other two haciendas in the complex were similarly favoured, though in their case by the river Pueblito. This rose in the southern part of the state, making its way north past Huímilpan and Villa Corregidora before bordering on the haciendas Santa María del Retablo and El Cerrito on the way to the same tributary of Lerma in Guanajuato.

As a result of this access to water, the haciendas of San Juanico were able to produce substantial harvests other than maize temporal. Even so, the majority of the land was specified as temporal, and in notes made on the composition of the haciendas by their administrator in 1862, there are 196 fanegas of land designated for the production of this crop. At about this time there had been an initiative from the Ministry of Justice and Development (Justicia y Fomento) to rationalize and standardise the various Mexican measurements of area and volume. A fanega of sembradura of maize within this system became equivalent

to some 3.5662 hectares, or one twelfth of a caballería. It is clear from the notes of the haciendas' administrator that this system of equivalence had been adopted in San Juanico, and we can therefore be sure that the area referred to above as temporal lands suited to maize production amounted to some seven hundred hectares.

Demesne cultivation of maize temporal and political upheaval

Not all of these lands were being directly cultivated by the hacienda in the late 1850s. We know from the haciendas' ledgers that rents were still being received for small plots, and the indications are that the area thus leased came to around 24 fanegas, each one earning ten pesos for the year.²⁹

This left the hacienda with around a hundred and seventy fanegas to cultivate directly. It is clear that most of this was cultivated in the years 1857, 1860, and 1861, assuming the haciendas followed the convention and left the land fallow during alternate years. 1858 and 1859 were years of very reduced cultivation, with perhaps only a third of the land in use; why this happened in 1858 is a mystery, unless it can be attributed to the relatively good harvests of the previous year, but it is clear that the area was curtailed in 1859 by the delay and subsequent failure of the rains.³⁰

Here, then, is a case of fairly extensive direct cultivation of maize temporal, providing us with a great opportunity of assessing the success of such a system in actual practice. Conditions for production were hardly ideal. Letters written from the hacienda during the period are rife with complaints of the "incredible number and frequency of hold-ups" with little attempt on the part of government to remedy the situation.³¹ The criss-crossing of competing armies was also a menace to production: at one moment in March of 1859 we find the administrator of the hacienda holding off demands

from the liberal, Constitutionalist army in Querétaro for a contribution of three thousand pesos in cash and various numbers of horses, cattle, and arms, whilst at the very same time the owner of the hacienda was being harrassed for similar items by the conservative government of Miramón in Mexico City. The entire correspondence is spiked with references to collapse of business, the acute shortage of ready money, and to the decline in the numbers and quality of labourers, the result of the fear struck in the heart of the population by the army campaigns for conscription.

These manifold problems were then accentuated by the prolonged drought of 1859 and 1860, which reduced the maize plants to the "size of onions", caused the administrator to attempt a form of watering in the temporal sector, and provoked him to refer to the times as being as "bad as any in memory" and as "the work of the devil". Harvests were so badly hit that by September 1860 prices for maize had more than trebled their normal level and gave every appearance of continuing to rise, such that rioting became virtually inevitable and caused the government to step in and prevent any further increases.³² Hardly an auspicious moment to make the transition into direct cultivation.

In spite of these difficulties the five years' record of production is relatively successful. The average yield for the period came out at almost seventy-five to one, and as a result, a total of 10,650 fanegas were produced.³³ It is clear however that profit-margins were still tight, and that prices in the market were sometimes too low to justify sale. The harvest of 1858 was a case in point: on San Juanico yields were of the order of over a hundred and seventy to one, perhaps giving harvests of over a ton and a half per hectare. Such bountiful returns clearly saturated the market, and in January 1859

all sales in the hacienda were suspended "because the price is so low". The situation had not changed by the middle of May, with almost nothing being sold "since there is a lot on the market at seventy-five cents, at which we make nothing".³⁴ Piecemeal sales were being made on the hacienda, presumably to its resident peons, at the rate of one peso the fanega, and then towards the middle of September, a letter noted that the drought was intensifying and that the river Pueblito had run dry. Another, a week later, reported that the maize harvest had been lost throughout the area between Querétaro and Celaya. By the middle of October letters referred to prices being on the move, signifying the end of the unusually plentiful supplies left over from the previous harvest.

At this point prices were raised in San Juanico by some 25 per cent, and within three weeks the administrator had started to sell maize in much larger quantities, despite reporting that reserves were running low. Rates of sales leapt up from a weekly level of around 10 fanegas in September to a peak of over 170 in mid-November, a huge increase of 1,600% correlated with the doubling of prices which had occurred. It is worth noting here that the hacienda could have made more from this price boom than it did, since prices in the hacienda were 25 cents lower than those prevailing in Querétaro, and 50 cents below the general rate in the Bajío. We do not know if this was an instance of a commercial strategy tempered with a little mercy, or whether it reflected the hacienda's inability to shift the produce to the most inflated market. Famine conditions prevailed throughout the following year, and prices achieved by the hacienda rose to an average, exorbitant level of 3.95 pesos the fanega: this success suggests that the prior failure had more to do with opportunity than mercy.³⁵

Here, then, is a further instance of the way the hacienda benefitted from the cyclical failure of the rains. Drought conditions continued through 1860 such that yields in San Juanico plummeted to a ratio of 26.52 to 1. And yet, thanks to the inflated price of 3.95 pesos the fanega, the meagre harvest of that year, a mere 1,051 fanegas, gave the hacienda its best profits of the period, with 2,584.75 pesos, two-thirds of which being explicitly attributed to the artificial increase in price.³⁶

A concealed trend: profits without famine

It is possible, however, to make too much of this factor of famine-inflated prices and to overlook an important concealed trend of profits made in maize without such a dependence upon failed harvests. Thus a closer analysis of the figures for San Juanico over the years 1857-61 shows that the drought of 1859-60 brought a year of total deficit as well as one of splendid profit.

TABLE 1: Maize Production in San Juanico, 1857-61

Year	Sowing	Harvest	Cost	Sales	Profit
1857	37.47	3,414	1457.78	3424.30	+1966.52
1858	12.36	2,205	1019.45	2951.80	+1932.34
1859	12.24	761	911.59	904.86	- 6.72
1860	39.30	1,051	1564.63	4149.38	+2584.75
1861	40.27	3,219	2115.20	3219.00	+1103.80
Totals:	143.20	10,650	7068.65	14649.34	+7580.69
Annual Averages:	28.30	2,130	1413.73	2989.87	+1510.14

Sowings are given in fanegas and cuartillos.

Harvests are given in fanegas.

Costs, sales, and profits are given in pesos and centavos.

Source: ASJ/D 1861

On average, the years affected by the drought worked out less profitably for the hacienda than did those of more plentiful harvests: profits recorded for 1859-60 averaged out at 1289 pesos per year, thanks to the 3.95 pesos price in 1860, whilst those for the other three years showed an average profit of over 1667 pesos, even though prices recorded for those years fell to an average of 1.09 pesos. Taking the five year period as a whole, annual profits emerged at 1516 pesos on the basis of yields slightly lower than those specified as average by Raso, at around 75 to 1, and of average market prices of 1.38 pesos the fanega.

Production costs, transport and profit margins

Further analysis of San Juanico's records shows that the hacienda was assessing the costs of maize production in terms of only seed and labour, without making any allowances for oxen or rent, let alone administration. On this limited basis the costs of producing one fanega of maize (approximately 65 kg. in weight) from the point of cultivation to shelling the grain ready for market came out at an average of 66 cents.³⁷ By this time San Juanico had dispensed with voluntary diezmo payments, and so gross profit-margins were only subject to further deductions for transport and excise.

Trade in Mexico had always been hamstrung by the problems of transport. The terrain was difficult, there was no navigable river system to compensate for this difficulty, and in addition to all this there were the hazards of banditry. Mexican liberals and free-trading foreign visitors were of one voice on the prime necessity of resolving this problem, a unanimity which bestowed on the railways the illusory aura of a panacea.³⁸ But in the meantime, the Mexican hacendado had to struggle against the costs and hazards of mule transport, and attempted to adhere to the principle that all haciendas

should possess their own mule-trains. The record of San Juanico in the 1860s demonstrates the wisdom of this axiom.

We know from the letters written from the hacienda during these years that wheat was being transported to Mexico City on the backs of hired mules. As a result it is possible to calculate with a degree of certainty the cost of such a factor for a similarly bulky commodity like maize. Mules would carry up to 165 kilos weight over a distance of some forty kilometers in a day.³⁹ The journey from Querétaro to Mexico City took some five days to complete, and transport for such a journey was charged in the mid-1860s at a rate of 30 reals the carga of wheat.⁴⁰ In this way it is possible to calculate that a day's journey for two fanegas of maize, some 35 kilos lighter than the carga of wheat, would have cost around six reals. This means that any hacienda within a day's journey of the urban market must have suffered a 38 cent reduction in the gross profit-margins on a fanega of maize, unless they had been able to supply their own transport. In other words, for maize to be profitable under such conditions, market prices would have had to exceed 1.04 pesos, or nearer 1.10 once excise had been taken into account as well. The fact that San Juanico had been able to make good profits in 1858, 1860, and 1861, with an average price of 1.09 pesos the fanega merely serves to emphasise the hacienda's good fortune in being so close to the city's market.

At the same time it should be noted that transport rates for the León area in the 1820s and 1830s were perhaps only half of these charges for Querétaro in the 1860s.⁴¹ In all probability rates had risen as a result of the civil war. Quite apart from the effect of the widespread requisitioning of livestock by both armies it is clear from the letters leaving San Juanico in this period that the scale of banditry in the area deterred many people from taking to the highway.

It was only after one member of a local gang had been publicly hanged outside Celaya that trade began to pick up once again.⁴²

Given these arguments, it would perhaps be prudent to reduce the deductions for transport from 38 cents to around 20 per fanega of maize transported over 40 kilometers. This would then mean that under normal conditions maize became profitable for well-endowed haciendas like San Juanico once market values exceeded 90 cents. Such a conclusion is entirely consistent with the refusal to sell maize in San Juanico in 1859 when prices were at 75 cents the fanega, a level where the hacienda apparently "made nothing", and also with the earlier complaint from the similarly favoured hacienda Ixtla, that prices of 63 cents were insufficient to cover costs.⁴³

All of this lends support to the view that by the mid-nineteenth century good soils, convenient locations and self-sufficiency in transport were able to make acceptable profits from the demesne cultivation of maize temporal.

The preferred option: demesne cultivation of maize

It is also possible to draw a second, connected conclusion on the question as to which strategy, rents or direct cultivation, emerged as the dominant trend during this transitional period. The figures for San Juanico demonstrate that optimum conditions made demesne cultivation preferable to leasing land for a money rent. The argument in its favour would have run as follows.

The average area under direct cultivation in the years 1857-61 came to slightly less than sixty fanegas. Even with rents running at the maximum rate of 12 pesos the fanega, the income from such a strategy would only have been 720 pesos, less than half that of maize. The hacienda's internal consumption of maize, in the form of rations, a saving of the precious supply of ready cash, and of fodder for

livestock, made the logic for this choice even more persuasive: with price fluctuations still the order of the day, it was an imprudent administration that allowed the hacienda to fall prey to vagaries of the open market. With heavy requisitions of maize compounding the low harvest of 1860, San Juanico suffered a similar fate, and was found purchasing 240 fanegas of grain from the hacienda Bravo in April 1861 at the stiff price of 3.38 the fanega.⁴⁴

Not only was demesne cultivation a preferable option to leasing temporal lands, but it was also justifiable in terms of the return it gave on invested capital. The land in San Juanico was valued in 1869 at 1,500 pesos the fanega (3.5662 hectares).⁴⁵ Strictly speaking, the annual returns from maize cultivation should be measured against double the area actually in production, since successful cultivation relied upon a fallow period of one year during which time the land yielded nothing but rough fodder for the hacienda's livestock. Profits from the average area of 60 fanegas are therefore set against the value of 120 fanegas, or 15,000 pesos. The area in question would have required some 40 yoke of oxen equipped with ploughs: at the time of production these were valued at some 48 pesos each.⁴⁶ These valuations mean that the invested capital involved in such demesne cultivation can be considered to amount to some 16,920 pesos. Average profits of 1,516 pesos from this activity can then be expressed as a percentage return on this investment of almost nine per cent, a very acceptable rate when general interest rates were around five per cent. To some extent, of course, this is an artificial reckoning since other aspects of investment, such as the hacienda buildings, should be included in the calculations. But against this it should be remembered that the oxen involved in maize cultivation were also shared by other activities in the hacienda at different seasons, such as the production

of wheat. Even if the value of the entire casco, house, barns, office and so on, is distributed as an addition to the value of each fanega of land, thus bringing the investment involved in demesne maize to almost 21,000 pesos, the return on this activity still looks very healthy at over 7%.

All of this goes to show that no matter how adverse the political circumstances in the area, the transition from piecemeal rents to demesne cultivation of maize was indeed underway by the 1850s and fully vindicated by the profits earned. Does this signify that the Raso prescriptions for prosperity had been adopted on the hacienda? To answer this question, we now need to turn to an analysis of the pattern of production which prevailed on San Juanico, and of its costs.

Productivity and labour costs in maize production

It will be remembered that Raso attempted to reformulate the production costs for maize, such that rates were reduced from 70 pesos per fanega of seed sown, to 50 pesos per fanega of land under cultivation. Of this latter 50 pesos, only 30 were to be committed to seed and labour. These last two factors are the only ones which appear in the San Juanico books beneath the heading of maize temporal, since the conventions of book-keeping for the time disregarded rents, and entered livestock and administrative costs separately.

What emerges from an analysis of the records for 1858-61 in San Juanico is that costs of labour and seed averaged out at the rate of 49.44 pesos per fanega of seed sown. These were excellent soils, and so we can safely assume that the area cultivated per fanega of seed (65 kg) was around 7.22 hectares. Making an allowance of 14 cents for the cost of seed involved in the cultivation of one hectare from land preparation through to shelling cobs in the granary came to 6.70 pesos. With wage-rates running at one and a half reals or \$0.1875

for a 12-hour day, this figure signifies an investment of 35.75 man-days' labour per hectare of maize production, compared with estimates of 41.5 man-days submitted by Cervantes 120 years before. This apparent improvement in labour productivity, of some 14%, may well represent the margin of error involved in such estimates and comparisons, but it is also possible that it had something to do with the widespread use in Querétaro of steel coulters to cut into the soil and of iron ploughshares to turn it over, a practice which could hardly have been employed in early seventeenth century Puebla.

What is more pertinent to the discussion here, however, is that the San Juanico labour investments of 35.75 man-days per hectare work out at a cost per fanega of land (5.35 hectares) of 35.88 pesos, only some 6.36 pesos above the target levels prescribed by Raso fifteen years earlier, once we have accounted for the cost of seed. Now, whilst there can be no denying that this achievement still fell some way short of the target, it is also safe to assume that such reduced costs were crucial to San Juanico's healthy record in maize production over the period. It should also be noted as an aside that these figures may well have represented a lower rate of labour productivity than was reckoned possible by the hacienda's administrator, since it should be remembered that his letters featured complaints in 1859 and 1860 of the problems of army conscription, and of labour desertion born of panic, such that, in the disparaging words of one letter of March 1859, he was reduced to working the hacienda with "indios de Santa Rosa y Pueblito".⁴⁷ With the resumption of more stable circumstances, production costs may well have taken on a more favourable appearance, even closer to those prescribed by Raso.

This, however, is very far from the total picture. San Juanico can only be taken as representative of those haciendas with level

land of good quality and convenient locations to counter the otherwise crippling costs of transport. Whilst there were a good number of such properties in the Querétaro area, and in the Bajío at large, there were a greater number of less well-endowed haciendas, less favourably placed, and with stoney soils and uneven ground. The transition to demesne cultivation of maize may well have been underway in the 1850s and 1860s where the optimum conditions prevailed, but elsewhere inferior haciendas were still impaled on the horns of the time-worn dilemma of temporal lands, where neither rents nor direct cultivation could provide the owner with a compelling solution - as the following case of Juriquilla will amply testify.

JURIQUILLA 1858-65: A CASE OF AN UNRESOLVED DILEMMA

Juriquilla and its subsidiary properties La Solana and San Isidro were situated in the hilly country to the north of Querétaro, adjacent to the road connecting the city to the small pueblo of Santa Rosa. In the 1850s its major asset was an abundance of water, stored behind the dam Dolores, which had been built across the torrent of Santa Catarina.

Much had been made of this single asset in an attempt to sell the hacienda in 1859 to the owner of the neighbouring property, Jurica. The attempt had failed, leaving the potential purchaser Eulogio López de Ecala unimpressed by the depiction of Juriquilla as a thriving arable enterprise with annual maize crops of 3,000 fanegas. By an ironic twist of fate, the hacienda was to fall into the hands of the author of this account, then the administrator, some ten years later. In contrast to the eulogy of his earlier depiction, Juriquilla was then disparaged as having 'malas tierras', and within a couple of years of it falling into his lap, the new owner was complaining that losses on the hacienda were forcing him to think of abandoning it altogether.⁴⁸

In short, Juriquilla provides us with an alternative case to San Juanico, where in place of fertile plains we come across stoney slopes.

Small wonder then that the pattern of exploitation during these years approximated to the traditional model of livestock and leasing. Proceeds from fat-stock sales were claimed to be of the order of 3,000 pesos a year, although the best year on record only yielded 2,000. The leasing of land was a more reliable source of income for the hacienda, with average revenues reaching almost 1,500 pesos a year. This was hardly the case for maize temporal: over the six years on record only the boom harvests of 1858 worked out well for the hacienda; no crop was attempted in the drought of 1860, and in the poor years of 1862 and 1863 net deficits were recorded. Even if we disregard the suspension of activity in 1860, which should strictly speaking be taken into account, the average annual income for maize temporal did not reach 275 pesos, a figure often exceeded, sometimes doubled, by the leasing out of marginal assets on the hacienda such as the collection of firewood and the gathering of wild cactus fruit.⁴⁹ So unimpressive was the record of this line of production that the hacienda began to run it down, reducing the area under direct cultivation by at least half over the period.

But more important for our case here is the evidence of the relatively high labour costs involved in the production, presumably due to the more demanding nature of the soils and surfaces. As recorded in the correspondence of the time, these were poor lands, a fact reflected by their valuation at less than half that of San Juanico's, and we can safely assume that seed densities used were in the region of 12 kg. per hectare. Working on this assumption, the total costs for seed and labour recorded in the hacienda's books can be reduced to a per hectare cost of 10.13 pesos - or, in other words,

over \$24 above the target levels submitted by Raso. Once an allowance has been made for seed this figure can be translated into a figure for the number of man-days needed to raise a maize crop. At 53 man-days per hectare direct cultivation in Juriquilla appears to be very labour intensive in comparison with San Juanico. The difference in labour requirements represents an almost 50% reduction in labour productivity, a disadvantage in Juriquilla which would have been further compounded by lower yields - although here it should be said that the land's inferior fertility was compensated for by heavier seed densities.

THE DILEMMA RESOLVED: SHARECROPPING AND PROFITS FROM THE TEMPORAL

Haciendas like Juriquilla must have been in the forefront of Raso's mind. Here were properties which possessed temporal lands perhaps inferior to the rich loams of San Juanico and the like, but which were nonetheless capable of producing an acceptable crop. Their problem was the amount of labour required to raise such a crop. If the lands were to become decisively profitable, these costs had to be substantially reduced, as Raso perceived. However, the recommendation of saving labour through mechanization, as suggested by Raso in general, could not really apply to the production of maize. Three-quarters of the production costs there were incurred in the early stages of field cultivation, and in this area the technology remained largely unchanged, and continued to require high levels of labour intensity where land conditions were difficult.

The significance of this situation was not lost on a later commentator on the hacienda economy, J.B. de Santisteban.⁵⁰ If labour costs are prohibitive and cannot be significantly reduced by improvements in technology or supervision, then an alternative method must be found where the factor of labour is unremunerated. The solution

to this puzzle was found in the practice of sharecropping, a universal strategy where the land is provided by one party and the labour by another, with the produce of this alliance being divided according to some prearranged agreement. J.B. de Santisteban was the author of a popular guide to hacienda management, Indicador Particular del Administrador de Hacienda: Breve Manual, within which he submitted a clear case for the use of sharecropping in the production of maize temporal. His argument was straightforward. Successful maize cultivation first needed high inputs of heavy labour in preparing and ploughing the land; thereafter the milpas required regular care, and benefitted from round-the-clock vigilance. He argued that such intensive labour commitments rendered the crop unsuitable for the hacienda: either it became too expensive to be economical, or the short-cutting procedures introduced to save on labour costs seriously affected the size of the harvest. On the other hand, however, such crop determinants made maize ideal for the system of sharecropping, since the seasonal patterns of work provided the scope and incentives to involve a wide range of family labour. The initial heavy tasks of preparing the land and then ploughing it with a yoke of oxen fell to the male adult; later tasks of weeding, vigilance, and harvesting could be accomplished by women and adolescents. In this way, without being explicit, de Santisteban incorporated within his discussion two of the most important rationales for sharecropping, the reduction of costs by way of unremunerated labour, and the improved levels of productivity achieved through the incentives of the share system and the involvement of a wide range of family labour.⁵¹

Santisteban might well have also mentioned the additional advantage of risk reduction. Sharecropping eliminated most of the expenditure previously committed on faith, since it was very hard to

withhold field labour until the crucial factor of the weather had shown its hand: in 1859, for example, San Juanico had invested over six hundred man-days between the beginning of March and the beginning of April, 113.73 pesos, before the land could be ready for sowing after the rains had started. In the event, the rains were delayed, sowing and weeding occurred throughout late June and early July, with costs of 225.81 pesos in wages, and in the last analysis the resultant low yields of some 60 to 1 failed to justify early costs, with the year registering a net deficit on seed and labour alone of 6.72 pesos.⁵²

This kind of eventuality was eliminated for the hacienda which introduced the system of sharecropping, since initial inputs on its behalf were limited to a plot of land, usually in the region of 5-6 hectares, a yoke of oxen equipped to plough, and the seed required to raise a crop from such an area. Habilitaciones, or maize rations, were also advanced to the sharecropper at this early stage, so that he and his family were able to survive the lean period running up to harvest time in December; these allocations were then reimbursed from the share of the crop assigned to the sharecropper. The operation of the harvest was supervised and financed by the hacienda, predominantly a means whereby the hacienda could be sure that the entire crop was disposed to the system of sharing and that pilfering prior to this division was eliminated. The costs of harvesting were then borne by the sharecropper in proportion to the percentage share of the crop that was his prearranged due.

Two variations of this system were practised around Querétaro and in the Bajío in general.⁵³ 'A medias' involved sharecroppers, or medieros, who possessed their own oxen: the hacienda provided the land and the appropriate seed, and was entitled to half the harvest, as well as a reimbursement of half of all the costs involved in the vigilance,

harvesting and cleaning of the crop. The other variation was known as 'al quinto', and this drew into the system sharecroppers who could not provide their own animals and equipment. This arrangement proceeded in the same way as the other, although in this case the sharecropper was obliged to make good any losses of oxen or implement incurred during production, except in cases of "genuine misfortune". The division of the crop and of the expenses entailed was, however, modified to take account of the larger investments made by the hacienda: under the 'al quinto' arrangement, the hacienda took sixty per cent of the crop and bore sixty per cent of the costs, whilst the 'quintero's' share was only forty per cent of the produce and the costs.

It is clear from other sources on the area that the system of sharecropping was no stranger to the hacienda. There is evidence of its widespread usage in Puruandico in the 1760s, and it is also clear that at least one hacendado in the León area of the same period was aware of its virtue of turning deficits from maize temporal into profits.⁵⁴ In the 1790s it was being employed to colonise new lands in the Dolores hacienda Charco de Araujo and to make the most of its mediocre soils.⁵⁵ Then again it was to be found in use around Querétaro and León in the 1820s and 1840s as a partial answer to the post-Insurgency problems of cash shortages and collapsed demand, perhaps also of disrupted labour-supply.⁵⁶

All of these cases show the sporadic emergence of the practice of sharecropping from the end of the Colony on. But the picture overall is unclear. We know from other sources that the practice virtually dominated the temporal sector by the times of the Porfiriato, even if this fact had been conveniently overlooked by Andrés Molina Enríquez.⁵⁷ The question of when and why this proliferation occurred remains an open question. The drift of what has been discussed in the preceding

pages, together with the following data on sharecropped maize production in Juriquilla, San José el Alto, and Agua Azul in the late nineteenth century should go some way towards answering it.

Temporal triumphant: sharecroppers and profit, Juriquilla 1850-1910

Bernabé Loyola may have originally doubted the possibilities of making a good living out of the 'malas tierras' of Juriquilla, but had he anticipated the scale of the contribution available in the system of sharecropping he would not have continued to worry, at least about the profitability of the then-bankrupt temporal sector.

We have seen how maize in Juriquilla in the late 1850s and early 1860s barely justified the effort of production, with average annual revenues of less than 275 pesos. Within thirty-five years the dire condition of this line had been transformed beyond recognition, largely on account of the introduction of sharecropping. Output from the temporal lands over this period had leapt up by some six hundred per cent, whilst profits had increased even more dramatically by 1100%, registering average gross revenues of well over 3,000 pesos.⁵⁸

It is impossible to tell exactly when this introduction and proliferation occurred. It is clear, however, that the practice was already in use before the end of the 1850s, if only on a limited scale. We know that there were ten sharecroppers working lands on Juriquilla in 1857, and further evidence suggests that the system was extended as a result of the poor showing in demesne maize over the difficult years from 1859 to 1862.⁵⁹ It will be recalled that droughts were so severe during these years that no maize was cultivated at all in Juriquilla in 1860. With further deficits of over 150 pesos for the activity in 1862, it looks as though the administration decided on a tactical withdrawal from direct cultivation, and to increase instead the number of sharecroppers on the hacienda: the area under cultivation fell to

the smallest on record, less than 20 hectares, whilst the number of sharecroppers increased to 16, working perhaps as many as 100 hectares. The move was immediately vindicated: in 1863 the hacienda suffered another terrible drought and the demesne crop was written off with a 70 peso deficit. The sharecroppers, on the other hand, succeeded in making at least a small harvest, and with market values soaring, the hacienda was able to register profits on its share of the crop of almost 240 pesos.⁶⁰ Similar arrangements and outcomes followed for the years 1864 and 1865, with the hacienda's crop recording an overall deficit of almost 40 pesos for the two years, whilst the sharecropped sector yielded profits of over 200 and 430 pesos.⁶¹

The picture is now a great deal clearer. As revealed in the earlier discussion, direct cultivation of temporal lands was hamstrung by high production costs; by the mid-1860s it looks as though this interest in Juriquilla had dwindled to an insignificant level, and had been replaced by an expanding sharecropped sector with growing significance both in terms of providing the hacienda with its internal requirements of maize, and of leaving a surplus for profitable sales. Even so, the size of the transfers made to the hacienda, apparently never more than 250 fanegas, suggests that the system was still in its infancy.

Clues as to when sharecropping became fully-fledged are hard to come by. All that can be gleaned from the documents available is that maize production was already considerably increased by the end of the 1870s, and that by the beginning of the 1880s both were working in Juriquilla, ('medieros' and 'quinteros').⁶² It has been argued that the latter system was only introduced during the Porfiriato, "when real wages paid to hacienda labourers fell sharply", thereby presenting the hacendado with a dilemma: "If sharecropping was to

remain as profitable as direct use of hacienda land, the hacendados had to find a means to reduce the real income of the sharecroppers as much as that of the agricultural workers".⁶³ The drift continues with the proposition that the reduction in real income was effected by the strategy of barring the medieros' beasts from the hacienda pastures, thereby forcing them to convert to the quintero variation. The detail of this assertion cannot concern us here, but it is worth mentioning that the notion of a tension developing between potentially higher profits from direct cultivation on the one hand, and those accruing from the sharecropped sector on the other, seems somewhat misplaced, at least in the circumstances of the medium-quality temporal lands. It seems unlikely that a relative decline in labour costs would have been sufficient to persuade the hacendado to reverse a policy which had been so dramatically successful in resolving the major dilemma of the hacienda economy, both in terms of making profits and of reducing risks in the use of the temporal lands.

An alternative view of the reasons as to why the quintero variation came to dominate the sharecropped sector is that such an arrangement was deemed yet more profitable for the hacienda than that of the medieros, or even, more simply, that the increase in the area under cultivation eventually entailed the introduction of men who did not own their own beasts or ploughs - the numbers of peons who were so equipped could hardly have been all that high. Whatever the reasons behind this variation, it is probably fair to see their coexistence in Juriquilla from the 1880s as an indication that the system was by that time already well-established, having developed during the late 1860s and the 1870s. According to the evidence of maize production in the hacienda for the years 1888-95, the system of quinteros had superceded that of the medieros, but not to the

point of excluding the latter. Table 2 below shows that some two and a quarter times as much maize was transferred from quinteros as from medieros. This suggests that there may well have been three times as many quinteros working in Juriquilla as medieros.

TABLE 2: Sharecropped Maize Production
in Juriquilla, 1888-95

<u>Quinteros</u>					
<u>Year</u>	<u>Maize Harvested</u>	<u>Beans</u>	<u>Costs</u>	<u>Sales</u>	<u>Profits</u>
1888	2,128.00	223.26	313.05	2,351.54	2,038.49
1889	1,321.24	186.01	701.03	1,748.80	1,047.77
1890	3,464.00	308.02	551.51	4,380.65	3,151.14
1891	1,196.00	196.00	312.81	3,434.37	3,121.56
1892	1,051.00	129.00	488.96	1,332.88	843.92
1893	2,359.24	491.00	529.96	3,219.09	2,761.13
1894	740.00	364.00	251.32	1,811.54	1,560.22
1895	577.00	120.12	208.74	1,521.68	1,312.94
Totals	12,843	2017.31	3363.38	19,872.55	16,509.17
Annual Averages:	1,605.18	252.90	420.42	2,484.07	2,063.65
<u>Medieros</u>					
1888	919.24	110.01	188.02	1,029.52	841.50
1889	402.24	58.13	337.67	549.22	211.50
1890	1,302.00	138.00	347.92	1,697.74	1,349.82
1891	542.00	89.32	131.77	1,566.36	1,434.59
1892	702.00	85.35	199.40	880.66	681.26
1893	1,482.00	324.00	330.77	2,107.08	1,776.31
1894	288.00	282.29	208.63	1,083.98	875.35
1895	108.00	80.10	180.26	584.19	403.93
Totals	5,746	1168.24	1924.44	9,498.75	7,574.31
Annual Averages:	718.12	146.03	240.56	1,187.35	946.79

Maize and Beans harvested are given in fanegas and cuartillos. Costs, sales, and profits are given in pesos and centavos.

Source: AJ/CC, July 11, 1896.

In any event, the system of sharecropping provided the hacienda with regular and substantial amounts of maize and beans. What is truly remarkable is that in not one case over a cycle of eight years did the system fail to yield a profit for the hacienda, even during the catastrophic seasons of 1892-3. In dramatic contrast, the demesne crop failed three years out of six between 1888 and 1893, with only 1890 emerging with any real credit - and even here the extent of the failure is concealed by the better performance of irrigated maize.

TABLE 3: Direct Cultivation of Maize in Juriquilla, 1888-93

<u>Year</u>	<u>Maize Harvested</u>	<u>Costs</u>	<u>Sales</u>	<u>Profit</u>
1888	789.00	560.62	852.50	+ 291.88
1889	487.24	1092.51	595.50	- 497.01
1890	1322.00	497.09	1723.50	+1226.41
1891	131.00	322.88	262.00	- 60.88
1892	924.00	861.75	924.00	+ 62.25
1893	360.00	489.75	360.00	- 129.75
<u>Totals</u>	<u>4013.24</u>	<u>3824.60</u>	<u>4717.50</u>	<u>+ 874.90</u>
<u>Annual Averages:</u>	<u>668.44</u>	<u>637.43</u>	<u>786.25</u>	<u>+ 148.82</u>

Maize harvest is given in fanegas and cuartillos.
Costs, sales and profits are given in pesos and centavos.

Source: AJ/CC, July 11, 1896.

This is important evidence that sharecropping improved the levels of productivity in maize production. The incentives involved in the share system gave workers an interest in the quantity of the harvest, and they therefore invested higher levels of care and attention in their work. This was enough to make the difference between a crop being written off and something being salvaged. It also appears to

have raised productivity under optimum conditions, since Raso records that one of the extraordinarily high yielding years in Esperanza, that of 1830 with yield ratios of 400 to 1, was produced by sharecroppers.⁶⁴

The triumphant rationale for sharecropping is clearer than ever when the results are examined alongside the production costs involved. These had worked out for the earlier period at 74 cents per fanega of grain produced. According to the figures for demesne production in 1888-93 these costs had increased to 81 cents, probably reflecting a small rise in wage rates. This amount is considerably higher than the costs incurred in the sharecropped sector: here a fanega of maize from the medieros in Juriquilla cost only 34 cents, whilst that from the quinteros proved even cheaper at 26 cents, a mere third of the costs incurred in direct cultivation.

Raso had argued that the hacienda needed to reduce its labour costs, and implied that this should be done by way of raising productivity. The evidence on sharecropping in Juriquilla shows how dramatic savings were made for the hacienda, since it was only involved in providing workers for its portion of the harvest. The rest of the labour was provided by the sharecropper and his family. This system meant that the hacienda received a crop with very low production costs, but it did not entail any real changes in labour productivity.

POPULATION, PRICES, AND PROFITABILITY

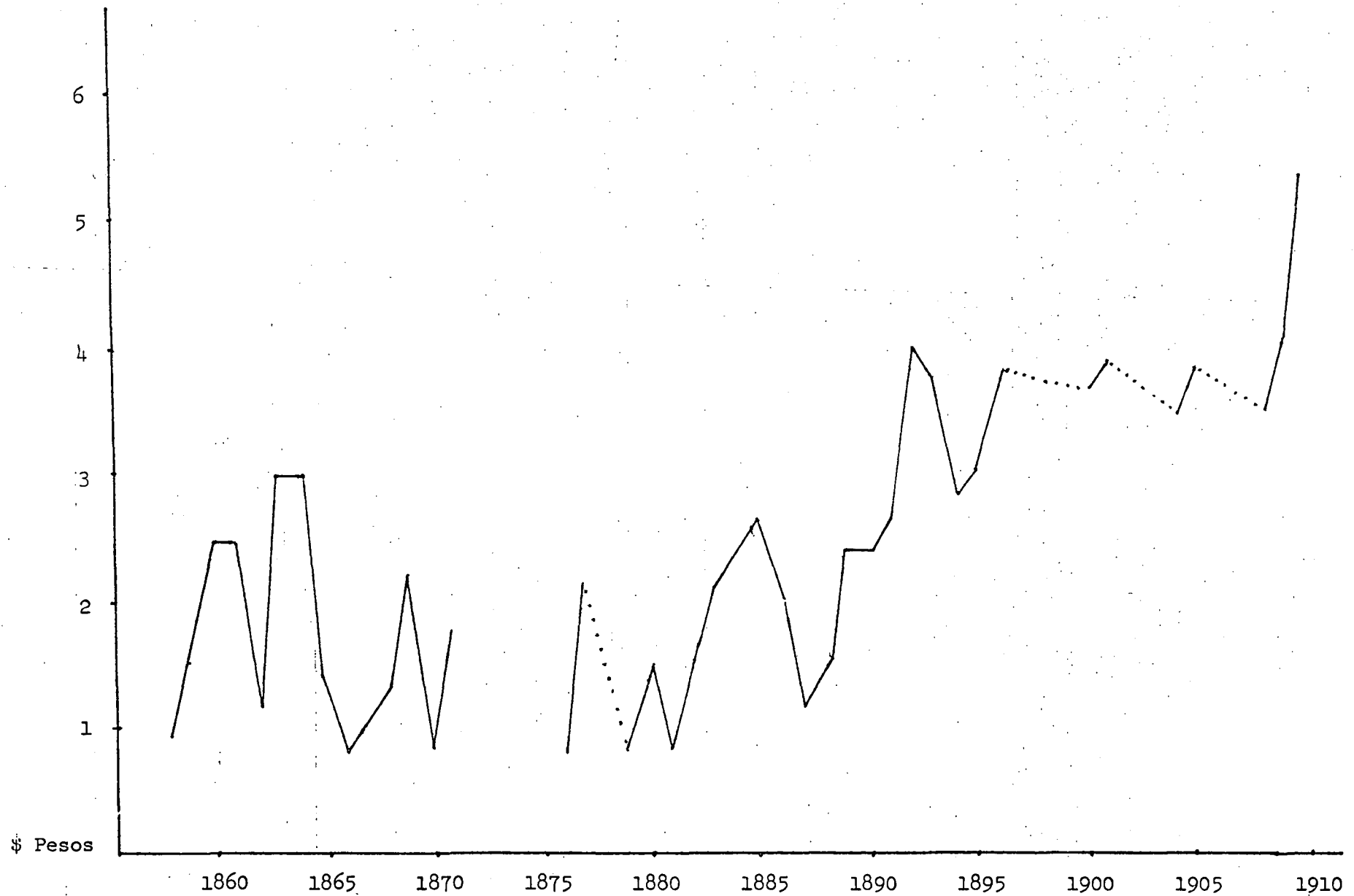
The preceding discussion has served to demonstrate the way in which sharecropping came to solve the dilemma of the temporal lands by radically reducing the hacienda's labour costs of maize production. Profit-margins thus created totally vindicated the enterprise.

In addition to this breakthrough there were other developments under way which also improved the prospects of the maize sector.

General population growth in the area, the rise of urban employment, and finally the spread of the railways, all contributed to an increase in the level of demand for maize. Price rises followed in their wake. (See Table 4.)

The arrival of such favourable conditions stimulated the extension of lands cultivated for maize. Over the years from 1840 to the 1880s maize output rose from 624,880 fanegas in Querétaro to over a million, an increase of some 62%.⁶⁵ By this time and through the 1890s, government reports were full of wistful nostalgia for those lost decades when maize was "fabulously cheap" and could have been bought for a peso the fanega.⁶⁶ Prices of at least twice that were now the norm, and with the arrival of the railways in Querétaro in February 1882, new-found access to other markets increased the pressure on local stocks of grain and hence its price. Rates of transport by rail may not have been dramatically lower than those of the mule-trains they replaced, but there were clear advantages to having easier access to more lucrative markets. Thus by 1884 we find the maize produced by sharecroppers in Juriquilla following the tracks north to the booming markets in Coahuila and Durango.⁶⁷ Prices in the north tended to be consistently higher than in the Bajío, and with Coahuila and Durango offering an average value of 3.14 pesos per fanega over the last half of the 1880s,⁶⁸ gross profit-margins in Juriquilla maize rose to 2.88 pesos per fanega of grain produced, more than amply covering the rail costs incurred by the journey.

Such a favourable combination of market opportunities and reduced unit-costs gave Juriquilla every reason to increase its production of maize. Average annual output from the sharecropped sector in 1888-95 came out as a total product of 4166.5 fanegas, an increase on the earlier period of some six hundred per cent. Assuming average yields



MAIZE PRICES PER FANEGA IN QUERETARO AND HINTERLAND 1857-1910

in Juriquilla to be around 720 kg the hectare, these figures give the strong impression that the entire area of temporal in the hacienda, some 693 hectares, was in production during alternate years.

Production costs in the sector were covered by the sale of a mere 300 fanegas, leaving a surplus of more than two thousand, plus four hundred fanegas of beans. Small wonder then that Juriquilla's erstwhile plaintiff ended his days the rich and contented owner of a thriving hacienda.

SAN JOSE EL ALTO: TURNING THE POOREST TEMPORAL TO PROFIT

Compared to Bernabé Loyola, Roman Veraza really did have cause for complaint. Raised in the relatively wet and fertile lands of Ordeña in the northern Spanish province of Vizcaya, don Roman had presumably come to Mexico to seek his fortune. Close to the end of his life he became the owner of San José el Alto in Querétaro. Confronted by the hacienda's 1418 hectares of rough and rocky lands, don Roman may well have rued the day he left the green coasts of northern Spain. The scale of his investment of around 6000 pesos would hardly have been a consolation to him, since many people probably reckoned that it was a risky venture. The lands' single asset was their proximity to the city; otherwise, there were only some 555.5 hectares of shallow temporal soils, assessed as clearly inferior to those of Juriquilla with a value of less than 9 pesos each. Such a valuation signified the most inauspicious of prospects: comparable lands in Apaseo el Alto with the same price were described as "mountainous-but-capable of being worked".⁶⁹

The records left behind, however, suggest a different story and imply that don Roman's efforts were well rewarded.⁷⁰ The key to his success lay in the use of sharecroppers in the temporal sector. Although this practice is not actually mentioned in the accounts, it

is clear that sharecroppers were responsible for the cultivation of maize, beans and barley. All the clues point to this conclusion. The hacienda maintained a herd of some 70 draught oxen, sufficient to cultivate perhaps 175 hectares of San José's inhospitable terrain, and yet the wage profiles show no sudden increase for the intense activity of ploughing and sowing in late March, or May-June. The only recorded costs against these crops are entries for the excise duty charged in the event of a sale. Conclusive proof of the sharecropping system is finally found in the tell-tale introduction of a wage bill during harvest time, and in the subsequent reimbursement of a proportion of these immediately after, as required by the conventions of sharecropping agreements.

Levels of production from this arrangement are harder to gauge, but there are firm indications that the annual share of maize accruing to the hacienda was in the region of 750 fanegas. As suggested earlier, the hacendados' dependence on famine-inflated prices was by now a thing of the past. Market values had risen sufficiently to open up the possibility of 'futures' contracts in grain, where agreements were reached between producer and corn-merchant on the basis of green maize, and advance payments were made on the promise of a specific delivery. By the early years of the Porfiriato these contracts were relatively commonplace. The introduction of sharecropping into maize must have played an important part in this development: with costs of production dramatically reduced hacendados could afford the option of taking their arable produce to market on a regular annual basis during the summer months following the harvest. It should be said, however, that whilst this practice of selling 'green' may have reflected a degree of latitude not previously enjoyed by the hacendado, it was at the same time an option only adopted by the most

vulnerable of production units, or by producers with severe problems of cash or credit shortage. Just such a set of problems confronted the tenant of Barrancas, José Mercado: his contract to sell 2000 fanegas of maize to the dealers Antonio Orozco y Guerrero was designed to raise money needed to "promote the business of his rural properties", but the price he paid was to agree a sale specifically valued at "1 peso the carga less than the market price in the following May."⁷¹ Fairly regular attempts by José Mercado to sell 'green' in this way suggests that such an option was dangerously vulnerable to permanent indebtedness.

Roman Veraza was similarly placed, beset by problems of owning a property hardly attractive to financiers and with no other ready source of credit. The extent to which he survived, and even thrived, can be attributed to the very reduced scale of his enterprise: José Mercado was running a far larger operation, including a substantial sector of wheat where cash requirements were inelastic, but don Roman's needs were minimal thanks to his adoption of sharecropping. Hence, in the summer of 1879 we find him selling maize at 1 peso the fanega, a price which previously might have deterred a sale, but here San José's sharecroppers have allowed don Roman to stay in production with very little cash in circulation and to then reap the rewards of almost 680 pesos profit from a crop of only 760 fanegas.⁷²

With the more favourable market conditions which prevailed in the following year, don Roman was able to accumulate still further, again thanks to the agency of sharecropping. The higher prices for maize, beans and barley provided the hacienda with very healthy returns of up to 2000 pesos, subject only to some 100 pesos deduction for excise. With equipped oxen representing 1377.25 pesos of invested capital and the entire area of temporal generously reckoned

to be worth a further 5000 pesos, the gross profits of 1900 pesos made from this sector in 1880 represents an almost 30% return on capital, an astounding performance for such an unpromising operation.⁷³

Clearly no solitary swallow makes a summer, and we must be wary of drawing general conclusions from a single case. And yet the efforts of don Roman in San José el Alto indicate that by the early Porfiriato even the most meagre temporal lands were capable of yielding a profit from cultivation, thanks to the agency of sharecropping. An additional feature of the system, also an advantage to the hacendado or ranchero, was that it helped to overcome the common problems of cash supply, since the vast amount of the work involved was achieved without any financial transactions. And finally, notwithstanding the hazards of 'futures' contracts in green corn, sharecropping in the temporal lands gave hacendados and rancheros the chance of raising money in advance on the strength of their cultivation, and freed them from an over-dependence on the market windfalls of famine conditions - windfalls which were costly in terms of storage and interim maintenance.

AGUA AZUL 1885-89: THE EXTENSION OF SHARECROPPING AND THE INCREASE OF PROFITS

The same tactical move away from the costlier demesne production can be observed in the hacienda of Agua Azul. This was a property similar to Juriquilla, but situated in the state of Guanajuato near the town of Apaseo el Alto. Details of maize production for the quinquennial 1885-89 still exist, and these show how the hacendado reduced the size of the demesne interest after 1885 and expanded the sharecropped sector instead. This decision may well have been initially prompted by the shortage of equipped oxen on the estate, since there were only 25 experienced beasts and 44 novices available to cope with all the various arable activities, but once the

emphasis had been changed it is clear that the decision took on a separate justification in terms of reduced costs and higher profits.⁷⁴

In any event the area under direct cultivation fell by some 40%, and as a result, overall costs in the temporal maize sector declined by 45%. Disposable produce however, was bolstered by transfers from the sharecropped sector and rose by around 50%. In terms of the costs charged to the hacienda, this change of strategy meant that each fanega of maize available for sale had incurred costs of around 30 cents, instead of the 74 cents charged on the demesne production of 1885. Profits followed suit, increasing on average by 125% on the 1885 level from less than 3000 pesos to more than 6600. And once again there are indications that such a change in strategy produced an improvement in the level of productivity and resilience in the face of the Bajío climate: in each of the five years 1885-89 on record the hacienda of Agua Azul was able to register ample gross revenues from its temporal lands.⁷⁵

THE HACIENDA TRIUMPHANT IN THE TEMPORAL LANDS: CONCLUSION

Earlier on we saw how the hacendado had been plagued by the dilemma of what to do with the hacienda's temporal lands in order to secure an acceptable return on the capital thus invested. Now we have witnessed the way in which success in this sector was achieved.

The quality haciendas

In the first place there were the quality haciendas like San Juanico. Favoured by fertile soils and close proximity to urban markets, these haciendas had already begun to make profits in direct cultivation by the middle of the century. Fragmentary evidence for San Juanico during the Porfiriato suggests that the pattern of production developed in the 1850s remained largely unchanged until

after the Revolution. Just as before, the temporal lands were dominated by direct cultivation: 459 man-days were invested in the sowing stage of 10-15 July 1892, and the figures for the preparation of the land in March were much the same in 1896 (254 man-days per week) as in 1859 (running from 206 to 287).⁷⁶ Output was largely unchanged as well: in 1912 some 2500 fanegas were reckoned to be an average harvest for the temporal lands in San Juanico, compared to the average annual output for 1857-61 of 2130 fanegas.⁷⁷

The essence of success in haciendas like San Juanico had lain in the tilting of the balance between production costs and market-demand in favour of the producer. In the 1850s this tilted balance had secured gross profits of over 1500 pesos a year; by the end of the century the balance had tilted still further in favour of the hacienda. Increases in market-demand had meant higher prices, but in the meantime wages had risen by as little as 6.6% in San Juanico, with daily rates for field workers moving from around 18 3/4 cents to 20. The effects of this improved balance can be appreciated by looking again at the averages reported in 1912: with prices reaching 3.63 pesos the fanega, San Juanico was able to enjoy gross profit margins of 2.93 pesos on each fanega of grain produced, yielding gross revenues of over 7000 pesos for the year. Whilst it is true that these prices were unusually high, there had in any case been an overall rise in maize prices which made levels below 2 pesos the fanega fairly unusual. Under these conditions an anticipated gross profit from San Juanico's temporal maize of more than 3000 pesos was by no means unrealistic.

Mechanization and savings in labour costs

Here it should be stressed that most of these gains were due to the more favourable market conditions. There may have been certain advances in the technology of production, but in general the cultivation of maize had remained beyond the reach of Raso's recommendation to mechanize. By the early years of the twentieth century there were imported seed-drills available, called the 'Nueva Adelphi', which were reputed to be able to sow 6 hectares in a day,⁷⁸ but it is clear from the 1909 inventory of San Juanico that there at least this task was still done by hand - 12 'sembradorcitas para maiz, de mano' were recorded, each worth only a peso.⁷⁹ The ploughs stocked, however, were probably an improvement on those of earlier decades, with various imported products featured in the inventory, including 'Matador', Bradley, Stock, and Oliver of South Bend, Indiana,⁸⁰ some of which were capable of turning a furrow twelve inches deep. Texts for the modernizing agriculturist were full of the advisability and means of reducing labour costs, but in terms of the field tasks there was little in the way of labour-saving devices; the discussion of traction tended to focus on the respective merits of oxen, horses and mules,⁸¹ and it is clear that the power born of steam was never satisfactorily adapted to the task of drawing field implements: the experience suffered by the hacienda Hueyapan in Hidalgo with steam-powered ploughs more than vindicated San Juanico's decision to limit such new technology to the barn.⁸² Some small advantage was gained, however, in the task of shelling the maize cobs after the harvest, although this had always been a somewhat marginal item in terms of production costs. Nonetheless, with the maxim that 'time was money' ringing in their ears, many hacendados had been prepared to try and reduce labour at this stage of production by introducing some form of

mechanization. We know from the letters of José Loyola that there were two machines operating in Juriquilla in 1882, apparently new and performing well, with 300 fanegas of grain shelled daily.⁸³

Of course, such an introduction in Juriquilla bore the hall mark of consummate rationality, since the regime of sharecropping employed there meant that production costs for the hacienda had been reduced to the tasks of harvesting and shelling only, and here was a means of making savings in the latter.

Later on these machines were presumably refined and adapted to the availability of steam power. Such a purchase was made in Hueyapan in 1904, and it is clear from the inventory of San Juanico in 1909 that similar investments had been made there: one item, presumably imported, 'the Cleveland 5B', was in poor repair and yet still valued at 150 pesos, the other El Triunfo was worth 176 pesos.⁸⁴

Sharecropping: the perfect adaptation

So much, then, for the success achieved in the temporal by direct cultivation, impressive perhaps, but nonetheless limited to the quality haciendas. Elsewhere, in haciendas with poorer soils and less well placed for the market, the solution to the problem of the hazardous temporal lands was slower in coming. But when it was finally accomplished, the breakthrough for the landowner was to have the appearance of perfection.

Sharecropping must have been perceived as a heaven-sent answer to so many of the hacienda's problems, such that it is worth emphasising the system's features. The age-old risks of investing labour in a crop so vulnerable to the whims of the Bajío weather were now squarely on the shoulders of the mediero; even in the case of the quintero the measure of risk on the part of the hacendado was limited to the allocation of beasts and ploughs, and in any case, this risk was

mitigated by the promise of an increased share of the product in the event of a successful harvest. In addition, the system reduced production costs by more than half, and by way of the incentives involved for the sharecropper, productivity was significantly increased.⁸⁵ Given the combination of these features, sharecropping offered the hacienda every chance of extending production into lands which had previously been regarded as marginal, of increasing both the rate and the quantity of profit, and of reducing the pressure on the already stretched cash supply.

A last question remains unanswered. We have seen how the practice had first appeared in the last decades of the Colonial period; sporadic appearances have also been noted for the years of depression following the Insurgency, and again in the 1850s.⁸⁶ It is clear from Bazant's work for San Luis Potosí that there were sharecroppers on the haciendas during this decade, but that the major proliferation of the system was delayed until the 1870s.⁸⁷ Other sources suggest an even later emergence.⁸⁸ The question then is why such a perfect solution to the problems of temporal land remained in the wings for so long. There are probably three main reasons for this delay.

The first is that the system could not operate successfully for the hacienda unless it fell within the overall supervision of the demesne interests.⁸⁹ A minimum of control was essential to the successful transfer of the hacienda's share, which is why the administration took responsibility for the actual harvesting of the crop and for the previous stationing of regular vigilantes whilst the maize was ripening. Bazant has shown how damaging the anarchic proliferation of tenancies could be to the hacienda, and how there was considerable resistance to the conversion of parcel tenants to sharecroppers.⁹⁰ This was such a thorny problem that Bazant even suggests that the main function of sharecropping in the hacienda

Bocas was to break the autonomy of the tenants and to subordinate them to the authority of the administration.⁹¹ Although he argues that the economic climate of the time, with rising prices and a decline in real wages, gave sharecroppers the edge over waged labour, it is also clear that the same conditions gave tenants every reason to resist demotion to the status of sharecropper. In any case calculations suggest that the average sharecropper could hardly expect to be left with a substantial surplus once deductions had been made for the hacienda's share and for his family's subsistence.⁹²

All the indications are then that the option was not an attractive one for labour, least of all for tenants. Close control of the system was therefore essential. The probability is that such a regime fitted best with a reduced scale of enterprise where the owner took a close interest in the running of the hacienda, and even better, where the economy of the unit was sufficiently diversified to generate a demand for labour in lines other than maize. In this way the ethos of production did not deteriorate into an impersonal regime of subordination, and at the same time there was scope for sharecroppers to work as waged labourers during the months outside the seasons of maize sowing and harvesting.⁹³ Such models of more developed production had been envisaged by Raso in the 1840s, but their emergence was clearly contingent upon the long-awaited economic revival: given the slow recovery and the subsequent further disruptions of the civil war, it is hardly surprising that the full-blown development of sharecropping only occurred in the second half of the nineteenth century.

Where haciendas were unable to offer labour the combined attractions of fairly regular employment with access to a sharecropped parcel there were problems of a sufficient supply of takers. The proceeds from a sharecropped plot cannot have been a sufficiently

compelling incentive where there were choices open to labour. It is likely therefore that the widest proliferation of the practice awaited conditions of a labour surplus, conditions which again we only find for the second half of the century. Querétaro's economically active population increased by some 86% over the fifty years from 1845 to 1895, and although employment in the rural sector more than trebled from around 21,000 to over 63,000, the registered number of people without work leapt dramatically from less than a thousand to more than 29,000.⁹⁴ Clearly the second half of the century witnessed a growing problem of underemployment, a development noted by the U.S. consul in the area as early as the middle 1880s.⁹⁵ This surplus labour must have provided conditions conducive to a more or less unlimited application of the sharecropping solution.

A final piece needs to be fitted into this pattern. We have seen how the system required close supervision, and how under optimum conditions, this was facilitated by a diversified economy and the overlap of sharecropping with waged employment. As the system became more widespread with the growing surplus of labour, so too must have the problems of supervision. A basic prerequisite would have been a subdued work-force. Such complete subordination was only fully accomplished with the arrival of the Porfiriato's Rurales. In Raso's day Querétaro's public security was maintained by a mere one hundred gendarmes, a quarter of whom were taken up by the needs of the city itself. The Porfiriato's Rurales increased in the late 1870s, and many recruits came from the rising unemployment around Querétaro, with the Bajío in general supplying more than half their number.⁹⁶ By 1886 Querétaro was the headquarters for the 5th Corps, and in later years took on detachments from five other Corps.⁹⁷ Their band was regularly on display in the main plaza of Querétaro, and one detachment of men, recently re-issued with two hundred new Mausers fresh from

the German agent Henry Hüber, had little trouble evicting invading peons from hacienda lands outside the pueblo Colón during the early days of the Revolution.⁹⁸ All of this gives one the firm impression that the strong state of Porfirio Díaz was well in evidence in Querétaro, both in terms of the Rurales and a further thousand-strong garrison of regular army troops,⁹⁹ such that it would have taken a suicidal sharecropper to raise a voice or an arm in protest. Their fate had indeed been sealed, and with it was secured the haciendas' final success on the temporal lands of Querétaro and of the Bajío beyond.

Footnotes to Chapter Three

1. Lesley Byrd Simpson, Many Mexicos (Berkeley and Los Angeles, 1971 edition), p.13.
2. As suggested by the evidence for the León hacienda Sauz de Armenta, see Brading 1978, pp.108-114.
3. Brading 1978, pp.30-34, and Van Young 1981, pp.130-34.
4. Van Young 1981, p.128, 232.
5. Konrad 1980, p.80.
6. Raso 1848, p.43; RPPQ 1, 4-16, 13 January 1881; and ASJ/LC 1857.
7. ANQ/ST 1871-44; ANQ/JME 1883-57; ASJ/D 1861.
8. Raso 1848, p.10.
9. Humboldt (ed. 1966), pp.250-58.
10. Raso 1848, p.37.
11. Raso 1848, p.37, 51.
12. Raso 1848, p.37.
13. ASJ/LC 1857-65; AJ/LC 1887-94; DAQ/files for Calamanda, Juriquilla, and Carretas; oral evidence from Sr. Javier Cevallos and Sr. José Roíz on yields from the Haciendas of Chichimequillas and San Rafael.
14. Raso 1848, p.20.
15. Raso 1848, pp.36-37, 20.
16. Raso 1848, pp.39-40.
17. Raso 1848, p.39, 48.
18. Raso 1848, p.79.
19. Raso 1848, p.47.
20. Raso 1848, pp.41-2.
21. Raso 1848, p.42; Lauro Viadas, El Problema de la Pequeña Propiedad (Fomento Ministerium, Mexico, 1912), pp.183-194; Pedro González, Estudio sobre estadística agrícola del estado de Guanaajuato

- (Guanajuato, 1903), p.5; and oral evidence from Señores Roiz and Urquiza.
22. Raso 1848, p.43.
 23. Raso 1848, p.23.
 24. Raso 1848, p.24.
 25. Raso 1848, p.25.
 26. Daniel Cosío Villegas, Historia Moderna de México, La República Restaurada (Mexico, 1955), pp.355-56.
 27. De la Llata 1976, pp.120-22; AJ/CC 1859.
 28. John Clay Super, Querétaro: Society and Economy in early provincial Querétaro, 1590-1630 (Ph.D. thesis, University of California, 1973), pp.128-29.
 29. ASJ/LC 1858.
 30. ASJ/LC 1857-61.
 31. AJ/CC 1858-59.
 32. AJ/CC 1858-61.
 33. ASJ/D 1861.
 34. AJ/CC 1859-60.
 35. ASJ/D 1859-60.
 36. ASJ/D 1861.
 37. ASJ/D 1861.
 38. John H. Coatsworth, 'Indispensable Railroads in a Backward Economy: the Case of Mexico', Journal of Economic History, 39 (1979), pp.939-60; Capt. G.F. Lyon, Journal of a Residence and Tour in the Republic of Mexico in the year of 1826, 2 vols. (London, 1828), pp.43-104.
 39. AJ/CC 1857-58; mules taking ore from the mine to the hacienda de beneficio carried about 12 to 14 arrobas (138-161 kgs), and their daily journeys added up to between 45 and 56 km a day -

a day consisted of 11 to 12 hours, and sometimes even prolonged to 13 or 14 hours. This information comes from Anales de la Minería mexicana (Guanajuato, 1861) p.281, and refers to Fresnillo in 1856. I am indebted to Margaret Rankine for this reference.

40. AJ/CC 1864-65.
41. Brading 1978, p.112.
42. AJ/CC 1863.
43. AJ/CC 1859-60.
44. AJ/CC 1861.
45. ANQ/ST 1869.
46. ANQ/ST 1869.
47. AJ/CC 1859-60.
48. AJ/CC 1859, 1869.
49. ASJ/LC 1857-63.
50. J.B. De Santisteban, Indicador Particular del Administrador de Hacienda (Puebla, 2nd edition, 1903).
51. S. Cheung, The Theory of Share Tenancy, (Chicago University Press, 1969); J.D. Reid, "Sharecropping as an understandable market response: the post-bellum south", Journal of Economic History 33, pp.106-30
52. ASJ/D 1859.
53. See copies of such contracts in Appendix 5. Also, Jan Bazant, 'Peones, arrendatorios y aparceros en México, 1851-53' in Haciendas, Latifundios y plantaciones en América Latina (ed. Enrique Florescano, 2nd edition, Mexico, 1978), pp.306-26, and Friedrich Katz, La Servidumbre Agraria en México en la época Porfiriana (Mexico, 2nd ed., 1980), pp.33-36.
54. Morin 1979, p.278.
55. Morin 1979, pp.226-29.
56. Brading 1978, pp.37-38.

57. Tannenbaum (1968 ed.), 121-25; Bazant 1975, pp.167-75.
58. AJ/CC 1895.
59. ASJ/LC 1857-62.
60. ASJ/LC 1863.
61. ASJ/LC 1864-65.
62. AJ/CC 1878-82.
63. Friedrich Katz, 'Labour Conditions on Haciendas in Porfirian Mexico: Some Trends and Tendencies', Hispanic American Historical Review, vol.54, Feb. 1974, no.1, pp.24-25.
64. Raso 1848, p.51.
65. Raso 1848, p.38., and La Sombra de Arteaga, 22 Feb. 1891.
66. La Sombra, 29 Feb. 1888.
67. AJ/CC 1884.
68. El Colegio de Mexico, 1961, p.158.
69. ANQ/ST 1876-90; RPPQ 1-39, 10 Feb. 1875.
70. ASJA/LC 1879-1880.
71. ANQ/CA 1891-94.
72. ASJA/LC 1879-1880.
73. ASJA/LC 1879-1880.
74. AAA/LC 1885.
75. AAA/LC 1885-89.
76. ASJ/LR 10-15 July 1892 and March 15-22 1896.
77. ASJ/CC 1912.
78. El Agricultor Mexicano, XIX Mayo de 1805, no.5, p.115.
79. See 1909 Inventory of Estate, Appendix II.
80. Francisco Loria, Nociones de Economia Rural (Mexico, 1911), p.73.
81. Loria 1911, pp.91-93.
82. Edith Boorstein Courturier, Hacienda of Hueyapan: the history of a Mexican social and economic institution (Ph.D. thesis, Columbia University, 1965), pp.158-59.

83. AJ/CC 1882.
84. See Appendix II.
85. Adolfo Dollero, México al día (Paris and Mexico, 1911), p.551.
86. Brading 1978, p.113.
87. Jan Bazant, 'Landlord, labourer, and tenant in San Luis Potosí, Northern Mexico, 1822-1910', in Land and Labour in Latin America, (Cambridge, 1977, eds. K. Duncan and I. Rutledge), pp.59-82.
88. Couturier 1965, p.225, puts the date well into the first decade of the twentieth century.
89. Konrad, 1980, p.78.
90. Bazant 1977, pp.73-79, and Couturier 1965, pp.224-27.
91. Bazant 1975, p.171.
92. See Appendix III.
93. As apparently occurred on the Hacienda Juriquilla - oral evidence of ex-mediero and wage labourer, Hilario Ledesma.
94. Raso 1848, p.86, and El Colegio de Mexico, 1961, p.39, 45.
95. Katz 1974, 38-39, and Paul J. Vanderwood, Disorder and Progress, Bandits, Police, and Mexican Development (Lincoln, Nebraska, 1981) pp.80-81.
96. Vanderwood 1981, p.80, 108.
97. Vanderwood 1981, pp.121-22.
98. La Sombra, June 1891, reported that considerable extensions had been made to Querétaro's jail, and that there had been substantial modifications made to the city's barracks of El Estado and El Carmen (opposite the Alameda on Hidalgo), such that there was space for five hundred men of the cavalry plus their mounts. Work had also started on the construction of a third barracks, La Cruz, which was to house a full brigade.
99. Vanderwood, 1981, p.158.

CHAPTER FOURTHE ALTERNATIVE ROUTE: INVESTMENT AND IRRIGATED WHEAT

How the hacendado overcame the dilemma of the temporal lands is now clear - most importantly there had been no need to make any change or improvement in the actual techniques of production. But we have also seen how this resolution was in many cases delayed until well into the nineteenth century. Other well-endowed haciendas, like San Juanico, had been able to achieve this breakthrough earlier on. This same type of property had also been better placed to overcome the problems of profitability by an alternative course. This strategy has already been referred to; successful production depended upon access to a lucrative market - the growth of an Hispanic population in Mexico was generating a significant demand for non-indigenous produce reminiscent of the home-land, like wheat and chick-peas. Urban growth also created a demand for traditional Mexican crops like chile and sweet-potato. The Hispanic crops required different know-how from the traditional American crops of maize and beans, and different technology; but, more importantly, all of them needed irrigation. The hacendado strategy thus looked perfect in its simplicity: with a virtual monopoly over capital and water sources, it would be comparatively easy to dominate the production of these crops, and thus to secure substantial returns in what would be a relatively undersupplied market-place.

IRRIGATION AND DIVERSIFICATION ON THE MESA CENTRAL 1750-1840

Of course the apparent beauty of this solution had not been lost on the hacendados during the century of greatest pressure, the eighteenth. To break out of the dead-lock of low prices and small-producers' competition in maize production, many colonial haciendas began to turn to the irrigated crops. Mid-way through the century we find the modestly-

sized Cuitzeo de los Naranjos in Guanajuato investing considerable sums in order to cultivate some 85 hectares of irrigated wheat; further to the north, near León, the owners of the hacienda Jalpa were busy transforming the countryside with four large dams and artificial lakes; and later in 1790 to the west of Querétaro towards Irapuato a dam was built by the Marqués de Rayas at an estimated cost of 20,000 pesos. The primary purpose of these considerable investments was to reap the rewards of the wheat market, although there were other instances of chile, saffron, and sweet potato being produced in the Bajío during the last of the Colonial years.¹

Much the same developments had occurred in Querétaro - this much we know from Raso's careful survey of the state's irrigation facilities. There were in the 1840s around 7000 hectares of irrigable lands, over 80 per cent of which were to be found in some 32 of the state's 95 haciendas, all located in the southern districts of Querétaro and San Juan del Río - districts which covered a mere third of the entire state area. All 36 of the wells were also located in this same part, as were three-quarters of the bordos and all but four of the dams.²

Raso put the value of these constructions at a minimum of 700,000 pesos, representing over 9 per cent of the total value of rural property and productive artifacts.³ The detail of many of these works is impressive, and serves to demonstrate the seriousness with which many hacendados had taken up the option of diversified production. The dam of Santa Catarina in Montenegro fed water to two irrigation ducts which measured over 33,500 metres in length - a notable memorial to Francisco de Velasco, a man who had also been nominated for noble title by the ayuntamiento of Querétaro in 1804.⁴ Further to the south, on the other side of the capital, we come across the hacienda Lodecasas: there the Spaniard Feliciano Pando had invested considerable sums by sinking a

bore-hole into a hillside, there to tap the subterranean stream of Huímilpan, and to water four bordos on the hacienda.⁵

These are but two examples of the various ways which had been developed in Querétaro to trap, store, and channel water, all designed to provide the hacienda with the capacity to diversify. Up to the time of Raso's survey the investment had been considerable but its effects were still limited: when he analysed the value of an average year's production, in 1840, he found that almost half was produced on the temporal lands in maize, beans and barley. These accounts excluded livestock products: of the rest, 10% came from rents, 8 1/2% from such marginal resources as charcoal and maguey, and 5 1/2% was raised from fruit and vegetables. Without including this last item, irrigated produce in the main but hardly field crops, roughly a quarter of the total value was accounted for by chick-peas, sweet potato, some few peanuts, chile, but most importantly, wheat.⁶

WHEAT ON THE HACIENDA: PRODUCTION AND FERTILITY

Wheat had come to Mexico with the Conquest. It was a crop which could cope with the altitude of the mesa central, but it produced less grain per unit of land than the indigenous maize, and it did greater damage to the top-soil through its shallower root structure.⁷ It was also less easy to cultivate: maize had been cultivated from time immemorial by hand, but wheat required the plough and this meant draught-power and accessibly flat areas.⁸

Against these disadvantages, however, wheat had a different growing season to maize, and therefore did not conflict at least in terms of cultivation with already-established labour patterns. Maize was essentially a summer crop, sown in May and ripe by November. Wheat was sown in winter, October-November, germinated within ten days, flowered at the beginning of April, and matured ready for harvest in May-June.

With some careful synchronization the two crops could be raised on the hacienda as complements of one another.

From a European perspective Mexican wheat also had the advantage of appearing to be prodigiously high-yielding. This is what had excited Humboldt when he visited the Bajío and Puebla during the last years of the Colony. Many of the wheat fields had impressed him deeply, though none more than those of the plain lands between Querétaro and León. He came away from the visit with the firm impression that yields ran on average between 35 and 40 to 1, and in some places even 50 and 60 to 1. Back in Europe such high figures unsettled his confidence, but he was then further reassured by the Bishop-elect of Michoacán, Manuel Abad y Queipo.

Wheat production in Europe at the time

It should be remembered that these comments were made before the dawn of the new agriculture in Europe. Except in the most untypical of cases, yields of arable crops in Humboldt's Europe were hardly better than those of medieval production.⁹ Dramatic improvements had to await the introduction of the Norfolk rotations in place of the two-year cycle of production and fallow. When Arthur Young toured what was to become the vanguard of the agricultural revolution, the east and midlands of England, in the early 1770s, he found that yields were never higher than 12 to 1.

In many areas of the Continent such low yields as these were to remain the rule until well into the Nineteenth century.¹⁰ Records gathered in England by Cropper Benson and Joseph Sandars reveal that sharp increases only occurred after the widespread introduction of Norfolk rotations, and that these then worked out at about 1500 kg the hectare over the years 1815-40.¹¹ Higher yields were produced in these areas later in the century but only at the cost of an intensified



regime of manuring, both with oilcake-enriched cattle dung and even Peruvian guano.¹² But these were exceptional: even in other progressive areas like the Klundert of the Netherlands yields were of the order of 1500 kg the hectare in the middle of the nineteenth century.¹³ Elsewhere, even with the time-honoured practice of heavy manuring, yields in Europe remained disastrously low.

All of this provides us with a context for the comments made by Humboldt and Raso. Cultivation of the rich valley bottoms had been beyond the New World's coa, leaving them to the arrival of the European plough - the reserves then awaiting them must have been considerable. Variations in the quality of this soil around Querétaro were evened out by way of varying the density of sowing: rich soils were sown with as little as 15 kg the hectare, whilst the less prolific received 40 kg or more. In this way an average crop of around 1500 kg per hectare became the norm - or so Raso and Humboldt would have us believe.

Even if these estimates were a little exaggerated, the point remains that Mexican yields were as good as the very best in Europe, and that, more importantly, these yields were accomplished with relatively little trouble. The poor quality of European soils was such that heavy manuring was essential - well into the nineteenth century the holding of stock was seen as a way of providing manure for the land. The Norfolk rotations may have been progressive, but such intensive methods also increased the high demands for manuring and fertilization.¹⁴ Thus, whilst the most progressive farmers in England were nurturing their soils with every care and attention, the Querétaro hacendado was apparently able to scatter the seed, perhaps manure a little, irrigate a couple of times, and then reap the rewards, and that year after year. Small wonder Humboldt was breathless with awe and carried tales of a New World cornucopia back to Europe.

WHEAT ON THE HACIENDA: PANACEA OR PROBLEMATIC 1770-1845

What evidence is there that the hacendado was able to turn these rich resources to his advantage? We do know that on the western edge of the Bajío, in Guadalajara, markets for wheat were beginning to stir with promise before the end of Colonial years. Demand for wheat flour in the city had increased seven to eight-fold during the last six decades, and wheat had become "the most dynamic component" of the hacienda economy.¹⁵ Such a situation is revealed in the accounts of the hacienda Toluquilla for 1796-97, a well-endowed property situated conveniently near Guadalajara in the direction of Lake Chapala. The records show that on this hacienda wheat had become the single most important source of revenue, accounting for 35% of total income. Toluquilla's profits also worked out at the above-average level of a 7 per cent return on capital - a figure which may have been even higher since the year in question included expenses on tools, equipment, and materials, of an order almost equivalent to the more regular allocations made for labour.¹⁶ In any event, a return of 7 per cent would have been some 2 per cent higher than the average anticipated, and this must be attributed to the hacienda's wheat sector.¹⁷

We get a slightly different picture, however, from the case of the hacienda San Bartolomé near Indaparapeo for the years 1775-78. This was a very considerable property, cultivating up to 3000 hectares of wheat, although of lower yields than some, and Morin has reckoned it to have been "one of the best haciendas" with gross annual incomes of around 25,000 pesos.¹⁸ But according to Morin's calculations of the permanent work-force, annual labour costs may well have reached 17,000 pesos, even without accounting for the seasonal costs of hiring workers for the peak periods of sowing and harvesting. Further to this, San Bartolomé was not conveniently placed like Toluquilla, and it needed to

transport the bulk of its wheat all the way to Mexico City, some 200 kilometres distance.¹⁹

The problem of transport

Here was the snag in the hacendados' scheme - the age-old Mexican bugbear of bad roads and high transport costs. Irrigated crops were not free from this problem; indeed, some of the more perishable products were particularly vulnerable.

Humboldt's enthusiasm for the Bajío soils had in the same way been somewhat countered by his despondency over the troubles of transport. He implied that prices in the hacienda were low, and that transport costs meant that these had more than doubled by the time the produce had reached the main markets in Mexico City. So critical were these problems that he reckoned that, once they were resolved, Mexican wheat would be found in the European grain markets of Bordeaux, Bremen, and Hamburg.

This assessment was to find many an echo during the first years of Independence. At this time many European observers visited Mexico, free-traders eager to plumb the potential of a country so recently liberated from the constraints of Spanish mercantilism. They were of one voice on the untapped treasures of Mexican agriculture, but equally despondent over the actual state of affairs they encountered. Apparently optimum conditions for production were being hamstrung by transport problems. As a result, far from finding markets in Europe, Mexican wheat could barely command the domestic market. With the advantage of water-borne traffic down the Mississippi and across the Gulf, produce from the prairies of the United States could more than compete with Mexican wheat in the Veracruz markets, and this even after the former had been subjected to an exacting tariff.

Small wonder then that Fanny Calderon de la Barca should come across a hacendado in the 1840s complaining that wheat production on his irrigated hacienda was rendered uneconomic by the transport charges involved in marketing it in Mexico City, some 200 kilometres away. The wind had seemed to have set fair for the hacienda, but the passage still looked disturbingly unsettled.

Prices for grain and refined flour

The wheat markets may have been more secure for the hacienda than had been the maize market, but it is clear that it was not without its problems. Provincial supply more or less met the provincial demand, and prices in Mexico City had to compensate for high freight charges. Wheat, too, was apparently susceptible to seasonal fluctuations, such that Eric Van Young refers to them as "characteristically volatile" - as with maize, wheat profits were contingent upon the time of sale.²¹ The secular trend in maize prices over the last decades of the Colony had, however, been sharper than the case for wheat. According to the evidence provided by Humboldt, Van Young, and Morin it looks as though wheat prices fluctuated around a mean of 5 pesos the carga in the Bajío provinces, whilst reaching 10 to 12 pesos in Mexico City.²² These prices were certainly better than those generally prevailing for maize, but against this there were considerations of higher production costs and heavy capital outlay - rents from irrigable lands were four times higher than those charged on the best of the temporal.

The impression given by all this is that wheat did indeed provide the hacienda with profitable prospects, but that it was by no means a panacea. Profits were only forthcoming under certain circumstances, and there are indications that a good portion of its potential lay in the processing, distribution, and bread-baking. The tendency for the best wheat haciendas to have their own mills, and the subsequent proliferation

of these mills in the Bajío and Guadalajara area, suggests that hacendados were under some pressure to move beyond the simple stage of production.²³ An analysis of the process of milling and its products explains why hacendados were drawn to this further investment.

According to Morin, the costs of having wheat ground into flour came to some 3 reals the carga.²⁴ With the going rate for flour more or less double that for the unrefined product the incentives must have been compelling.²⁵ There was of course some degree of waste involved in the process and this should be accounted for. We know that mills of the period had the capacity to grind between 8 and 22 cargas of wheat a day.²⁶ By the end of the nineteenth century such rates had been increased by the improved technology of power, by which time processing entailed a waste factor of some 15-20% of the starting weight in rejects and bran.²⁷ There is no reason to suppose that the earlier reduced scale of milling was any more wasteful, but assuming a slightly inferior performance, it is possible to infer that in the first decades of the century 1 1/4 cargas of wheat grain produced 1 carga of flour. Using Morin's data on milling charges and prices for wheat and flour in 1799,²⁸ the above inferences suggest that 38 cents' outlay on milling converted a carga of wheat worth 3.75 pesos into three-quarters of a carga of flour, worth 5.16 pesos. This means that processing wheat into flour had the effect of increasing the net value of the grain by one peso per carga, or 20 per cent. In circumstances of relatively tight profit margins such a healthy increase must have looked attractive to the hacendado.

MACHINES AND LABOUR IN NINETEENTH CENTURY WHEAT PRODUCTION

Thus far we have followed how hacendados invested money in raising the hacienda's productive capacity through the development of irrigation. It then seems that the combined problems of local supply exceeding demand and high transport costs undermined the potential of this strategy. To

resolve this dilemma efforts were made to increase the profit margins on the crop by moving into milling, but this was limited to the biggest producers and was regarded as only a partial remedy. Finally, a prominent consideration was that wheat production involved higher labour inputs than maize, and as a result, the widespread complaints of the high costs of this factor applied equally to this new venture. By the 1840s Raso's diagnosis of the situation was that poor returns were due to disproportionately high labour costs, and that improvements could only come with mechanization.²⁹

Much has been made of the backwardness of the Mexican hacienda and the way in which it was slow to take up advanced technology. Morin has even suggested that eighteenth century increases in production were entirely due to the further toil and sweat of the supervised peon.³⁰

Harsh conditions and dreadful exploitation were of course the lot of the Mexican peon, just as elsewhere in the eighteenth and nineteenth century countryside. This much we can take for granted, but what is of far greater importance is the degree to which landowners' strategies maximized the effect of this exploitation, and made way for progressive accumulation.³¹ This had been the essence of the strategy to sharecrop maize in the temporal sector, as we saw in the previous part of this work; it is now time to examine the conditions and options facing the hacendado in the wheat sector. This must be preceded by a survey of the general relationships between labour and machinery in the cultivation and production of this crop.

Labour costs and mechanization in Europe and the USA

The last years of the Colony and the first years of Independence in Mexico were times of great technical invention and application in Europe. Such strides forward also coincided with unprecedented high prices for agricultural produce, and a general shortage of labour, the

result of the Napoleonic wars.³² Everything in England had been ripe for a move into mechanization: the new machines promised to compensate for the loss of labour and to provide for the increased production demanded by the market.

Progressive methods thus took off in those areas where these kinds of conditions prevailed, as in England and the prairie lands of the USA.³³ Conditions elsewhere were not conducive to such changes: labour was cheap and abundant in the serf and slave dominated regions of Russia and the Deep South in the USA, and in other parts of Europe the pattern of undercapitalized small-holdings and tenancies retarded the spread of mechanization until well into the nineteenth century.³⁴

The point here is that the theoretical capacity to mechanize always precedes the actual development and application of such capacity: farmers only begin to take an active interest when the factors of labour and capital give them an incentive to do so. Even in the vanguard of new agricultural methods, the east of England, tools used at the end of the eighteenth century were more or less the same as those used by previous generations. Shrewd observers of that period such as the country parson James Woodforde and the agriculturalist William Marshall bear witness to the continued use of the sickle, not even the scythe, in the wheat harvests of Norfolk during the 1770s and 1780s.³⁵

Exact records such as those left by Woodforde and Marshall give us the opportunity of examining the practice and productivity of English labour at that time and under those technical conditions. Such information will provide a context within which to evaluate the complaints made by hacendados that labour in Mexico was too expensive, and the exhortation made by Raso to begin to mechanize production.

The last decades of the eighteenth century in England were good years for agriculture with prices rising sharply and wages lagging far behind. Hardly conditions where we would expect to find the highest

levels of labour productivity, and yet we come across sickle harvesting in Norfolk accomplished at an astounding rate. One hectare of wheat was being harvested within 3 1/2 to 5 man-days, by workers apparently so dedicated that they seemed to "work not as for their masters, but as for themselves".³⁶ By all accounts, however, these men were the cream of the labour force, and their equal was not to be found elsewhere.³⁷ Nonetheless, not dissimilar rates were accomplished by scythe in the United States of 1800,³⁸ and elsewhere in England a team of five, headed by a good man with a scythe, was reportedly well capable of completing a two-acre area in a day.³⁹ Converted into hectares, this means that the harvest of wheat, involving the separate tasks of cutting, gathering, binding, stooking, and raking, entailed the investment of six man-days of labour per hectare.

Such work was done by seasonal labourers, hired by the day, who worked through from the summer dawn to dark, and were paid in the 1790s at the rate of one shilling and six pence a day without board.⁴⁰ Average production by this time in Norfolk had reached 24.75 bushels per acre, or the equivalent 1665 kg the hectare, yields comparable to the Bajío and Querétaro. The average price for wheat was 22 1/2 shillings per coomb of four bushels: this meant that the Norfolk farmer was able to realise a little more than 139 shillings per acre. Under these circumstances labour costs in the harvest amounted to less than 3% of the value of the crop; total labour costs on an arable acre were reported to be on average fourteen shillings and four pence for the 1790s, or only 10 1/4% of the value of the wheat crop there produced.⁴¹

Within fifteen years labour had become considerably more expensive in England, and farmers, replete with the gains made under the earlier favourable conditions of high prices and low wages, began to take an active interest in investing money in labour-saving machinery. The

barnyard tasks of threshing and winnowing were more demanding of labour than anything else in the English work-cycle. The work was done during the winter and as such did not conflict with any other pressing activities. On family-worked small-holdings, the norm in continental Europe, there was little incentive to find ways of reducing the labour component of these processes, but once labour became scarcer and more expensive the larger farms had good reason to take up labour-saving devices. The convergence of prior technical capacity with these incentives and the availability of capital was enough to hasten the development and spread of threshers in early nineteenth century England. By the 1830s the consequent displacement of labour had reached dire proportions and provoked widespread Luddite reaction on the part of the rural unemployed.⁴² For all its effective destruction this reaction had come too late to prevent that perfection of machinery born of prolonged experiment and use: from that time forward the threshing machine was to be a permanent feature of arable agriculture, and hence it comes as no surprise to find it at the centre of Raso's recommendations for Querétaro in 1845.

Labour and machinery in Querétaro: threshing

It is not clear from Raso's text that he made a distinction between the separate processes of threshing and winnowing. He refers to the machinery installed by José Antonio Velasco de la Torre in the hacienda Tequisquiapan in 1821, and implies that costs of between 50 cents and 1 peso per carga of wheat processed had been considerably reduced.⁴³ The size of these costs suggests that he was talking about the joint process of threshing and winnowing, rather than just the latter.

The 1859 wheat harvest in San Juanico was threshed and winnowed from the beginning of June through to the end of the year. 900 cargas of wheat were treated and the cost in labour came to at least 404.75 pesos,

or 45 cents per carga. The larger harvest for the season of 1860-61 cost less to thresh and winnow with a per carga cost coming to 29 cents.⁴⁴

The same activity in Juriquilla in 1859 ran through from the end of June to the second week in November, less time since the crop was smaller. Costs per carga here worked out at 30 cents, whilst for the following years of 1860, 1862, and 1863, the levels were higher, at 51 cents, 54 cents, and 42 cents respectively.⁴⁵

These six costings give us an average of almost 42 cents the carga invested in threshing and winnowing. Wages at this time ran at one and a half reals per day, or 0.1875 pesos. Given this, it is fair to infer that threshing and winnowing in San Juanico and Juriquilla required labour at the rate of about 2 1/4 man-days per carga of wheat. It is difficult to make very much of this information. All we know is that threshing with the traditional flail in England coped with one quarter per day per man, or the equivalent of 0.8 of a man-day per carga of wheat.⁴⁶ If Mexican work rates were to compare with this, winnowing would have to consume considerably more labour time than threshing, indeed almost double. This seems rather unlikely. Such labour investments were also in conflict with demands for sowing and weeding in maize temporal (demesne sector), and for ploughing and sowing for the subsequent wheat crop. Further inferences are harder to make, and we must be content with the observation that such lessons on productivity and crop conflict were possibly not lost on the owners of at least San Juanico: an inventory drawn up in 1870 for the purposes of a lease to Patricia García listed two new machines for winnowing, and one machine for threshing, each valued at 60 pesos although the latter was recorded as broken.⁴⁷ At the same time, however, it does not look as though there had been any great savings, since in the same year unprocessed wheat was costed at 1 peso less the carga than the clean grain.⁴⁸

This is most probably a reflection of the primitive nature of such machines that had arrived in the area. Even in England manual threshing by flail was common until the 1840s, and the first horse-powered threshers were only seven times more efficient in terms of daily output. The really dramatic increases in this daily rate were only to come with the arrival of steam. Then increases were of the order of sixty-fold on manual flailing, but such machines as these were not available even in England until after the mid-century years.⁴⁹

Harvesting on the Querétaro hacienda

Threshing and winnowing, then, were particularly amenable to the process of mechanization. The same was not true for the job of harvesting. Although the most advanced agricultures, such as England and the USA, had produced reapers by the middle of the nineteenth century, like Bell's and McCormick's, progress in this area had been generally slow, and scythes and sickles were not finally eliminated until the beginning of the twentieth century.⁵⁰

Given this slow rate of technical development in the world's most advanced agrarian economies it is unlikely that changes would have occurred any faster in Mexico. The evidence is that the mid-century hacienda was in fact using the same techniques of sickle and scythe, with gathering and stooking, which had prevailed in Norfolk fifty years earlier. Surviving records of these tasks in San Juanico and Juriquilla give us the chance of assessing the lament of low labour productivity by comparing work-rates there with those from Norfolk and the U.S.A.⁵¹

Harvesting took place in San Juanico in 1859 over the five weeks of May, with wages amounting to 754.13 pesos. Daily rates of 1 1/2 reales means that this sum covered a minimum of 4022 man-days. Over 28 1/4 cargas had been sown: at 40 kg a hectare, this would have been sufficient for 116.6 hectares. On this basis each hectare required

34 1/2 man-days' labour. Such an excessive level may be partly explained by the blighted crop of that year, with yields down to 32 to 1 - presumably the state of the crop under such conditions had made far more difficult harvesting conditions. Further consideration might also be made for the possibility that seed densities were considerably lighter, and that all 203 of the hacienda's irrigable hectares had been in production: but even here the labour requirement per hectare of harvesting comes out at 20 man-days, at least three times the number needed in Norfolk and the USA sixty years earlier.

Little better news for labour productivity emerges from the same activity in Juriquilla. There some 65 hectares were sown with wheat, yielding quite well at 21 to 1 since these were inferior soils, and the harvest produced 332 cargas. Wages for the harvest, taking place in May and the first week of June, amounted to 194.40 pesos; the calculation here gives the figure of 1036.8 man-days in total, or 15.95 per hectare. No mention was made of the blight, and the yields indicate that there had been none of this problem in Juriquilla, and yet here again the labour requirements are almost three times higher than those for Norfolk and the USA.

Similar findings emerge from the analysis of other accounts for San Juanico and Juriquilla for the years 1861 and 1862. The figures for San Juanico suggest that labour requirements for these years varied between 20 and 25 man-days per hectare, whilst in the lower yielding lands of Juriquilla the level for 1862 appears to be 20 man-days as opposed to 25 for the same year in San Juanico. A calculation made for the not dissimilar lands of Agua Azul near Apaseo el Alto for 1885 shows a comparable commitment of 18.65 man-days the hectare.

None of this should lead us to infer that Mexican peons were better off than their English equivalents, though it is possible that their

working day, even at 12 hours, was shorter.⁵² Indeed, expressed as a proportion of the value of wheat, wages for seasonal labour in Mexico were lower than those paid to Norfolk labourers in the 1790s: daily rates in the latter case worked out at over 26 1/2% of the value of a bushel of wheat, whereas in Querétaro for the mid-century years the proportion was only a little more than 16 1/4%. These depressed conditions do not however mean that hacendados were commensurately enriched. This is the nub: Mexican working conditions may have been desperately bad, but the efficacy of this system of exploitation was equally defective.

Norfolk farmers in the 1790s may have got away with losing as little as 2 1/4% of the value of their crops as payment for labour in the harvest; Querétaro hacendados in the 1850s and 1860s were likely to forfeit 6% or more. Further analysis is needed before this state of affairs can be fully explained, but it may well be that Morin has a point when he refers to the unsubdued and begrudging nature of the Mexican labour-force as one of the causes behind the hacienda's inefficiency⁵³ - certainly the hacienda peon was unlikely to be working "not as for their masters, but as for themselves" as was the case reported in Norfolk.⁵⁴

Further account might be made for a possibly inferior diet producing less energy and for the conditions of the heat and the terrain in Querétaro - and moreover, for the quality of the tools used by the workers in the harvest. Unfortunately there are no surviving records of the tools held on the haciendas during these early years, but an inventory taken in November 1870 lists two imported scythes as well as two broken reaping machines - the inclusion of such items only ten years later than the original data on wheat harvesting suggests that the technology available was certainly no worse than that used in Norfolk in

the 1790s. At the same time, however, it is clear from the amount of wages paid out that San Juanico may well have had as many as 225 men working on the harvest during the peak period in the middle of May.⁵⁵

The 1870 inventory listed only six sickles, each valued at 2 reales, in addition to the scythes (3.5 pesos each): how such a large number of workers was able to operate with so few tools remains a mystery, even if 80 per cent of them were engaged in the tasks of gathering, binding, raking, stooking and carriage.

None of these considerations can, however, detract from the main inference that labour on the Querétaro hacienda was less productive than had been the case in England and the USA. This had been our impression for maize production earlier, and again for the tasks of threshing and winnowing of wheat; now we have firm evidence of the same state of affairs in hand harvesting.

Notions of blame or responsibility would be totally misplaced in this context. What concerns us here is the hacienda's capacity for accumulation. One aspect of that capacity is to be found in the particular combination of factors concentrated in the activity of work, factors ranging from health and motivation to tool technology. Illiteracy has deprived us of a good part of the explanation which lies behind this apparently low level of labour productivity. In the absence of the peon's story we are left only with an impression of its effect - relatively higher costs of production and tighter profit margins, both conducive to lower rates of accumulation. Such realities are occasionally found refracted in the words of the hacendados, for all their evident bias. One such case is the letter written in January 1865 by the administrator of San Juanico to the hacienda's owner: he referred to the "excpetionally brilliant" wheat season of 1862-3 when 2139 cargas had been produced from only 38 with yields of 56 1/4 to 1.⁵⁶ But the

main point of the letter was to emphasise how such yields could be further improved with better performances from the hacienda's labourers, and to complain that their current methods of harvesting were "wretched" and left "a quarter of the crop behind in the field". The crucial question is how these methods of harvesting, and of other tasks in wheat production, could have been improved: was the technology available to remedy the defects, and if so, were the conditions in the hacienda economy conducive to such a basic change?

WHEAT PRICES AND THE SPEED OF MECHANIZATION ON THE HACIENDA

The context for change: means and motivation

The discussion thus far has shown that the labour component in wheat production was relatively high on the Querétaro hacienda. To judge from the hacendado lament and from Raso's analyses, this had been translated into costs, even if the Mexican peon appeared to be paid at a lower real rate than his English cousin. The major move into mechanization on the progressive English farm had taken place during the first decades of the nineteenth century, times which had been preceded by years of rising prices and relatively stagnant costs: sudden labour shortages had then coincided with healthy accounts and good credit ratings, thus giving the English farmer the means and motivation to invest in machinery. Later on in the century the position was to be reversed. From 1870 through to the years of the First World War, British agriculture suffered from the policies of free trade and the import of cheap grain. The effects were probably not as devastating as has often been thought, since farmers were able to switch their attentions from arable to livestock production.⁵⁷ Nonetheless they were subjected to tighter profit margins, and at the same time the bottom fell out of the grain market: under these conditions the trend towards the progressive refinement and application of machinery was

abruptly retarded, and very little was achieved in this area until the inter-war years.⁵⁸

It is clear then that the strategy to mechanize rested on very particular circumstances. Raso's exhortation to follow the English lead of the early nineteenth century occurred in the midst of a very different set of conditions. Things may have begun to look favourable at the end of the seventeenth century, but the Insurgency and related depression had changed all that. Whilst it may have been true that hacendados needed to reduce the size of their labour costs, it was also the case that they faced real problems in their attempt to do so. The depressed state of the market was one thing; scarcity of cash and credit another. Finally there was the problem of availability - if hacendados wanted to mechanize they had to look beyond the national borders for the machines to do so, and here once again they were hindered by the country's appalling roads.⁵⁹ Small wonder, then, that the famous Tequisquiapan winnower had been built on the hacienda, and that Raso recommended that every measure was taken to inspire domestic invention. Similarly, it is easy to understand the frustration felt on this count and by the same token, the degree of hope which was invested in the arrival of the railways.

Prices and trading in Querétaro wheat

Under these less than favourable circumstances the market assumed crucial importance. If costs were more or less fixed, the only way out of the vicious circle lay in higher prices. All the indications we have from such sources as Humboldt, Morin and Van Young suggest that the wheat trade was no straightforward option in the years before the Insurgency. The impression is that prices tended to cluster around the 5 peso mark, and that profits depended upon seasonal and regional fluctuations.

This picture of anxious producers does not seem to have changed much by the middle of the century. Harvest time in 1859 finds the administrator of San Juanico full of concern over the "serious drop in prices"; things clearly failed to improve over the summer, and by August he is referring to the situation as "a miserable business" and having to agree to prices of 6.50 the carga with a 13% reduction allowed for waste. Things locally were no better in 1863, when the market was apparently "non-existent", and again at the end of 1864 inopportune sales were forced by a shortage of cash. The drift of these comments suggests that prices of around 7 pesos the carga were at least undesirable and only taken up as a last and reluctant resort.⁶⁰

It should also be remembered that the crop was not without its natural hazards: prolonged drought threatened its production, and once planted it was vulnerable to frosts, hail-storms, and the blight Chahuixlte. Resultant fluctuations in the levels of production compounded seasonal and regional price variations, and also jeopardised the hacienda's profit margins. The crop of 1868 in Juriquilla was a case in point: with production plummeting to a mere 130 cargas, the owner was provoked to write that "even if the price had been 25 pesos the carga, there would still have been no profit".⁶¹

Most of the clues available point to the fact that wheat production depended, like maize, upon the hacendado's ability to play the market. The prerequisites were information and transport. When, for instance, the market in Querétaro was apparently "non-existent" in the summer of 1863, word reached San Juanico that prices were soaring in the Capital and had touched 18 pesos the carga. On the basis of this news the administrator wrote to his brother-in-law, José Carmona, a resident of a hacienda close to Mexico City, with the intention of exploiting these prices. Nothing in fact came of this attempt, since the chaos of

civil war and rife banditry had rendered trade too hazardous a risk. Things had, however, improved by the end of 1864 and the same operation was again being contemplated in San Juanico. In January 1865 we find the hacienda's administrator weighing up the respective merits of marketing the wheat locally and in Mexico City. In early December 1864 the hacienda had been forced to sell locally at a low price. A month later values in the Capital were running at 15 pesos the carga, but against this, freight cost a minimum of 3 pesos the carga and more likely, almost 4 pesos. The incentives apparently outweighed the costs and hazards, and within a fortnight we find the hacienda despatching consignments of up to 100 cargas to the Molino de Salvador, the property of Manuel Cuevas. These are maintained throughout the spring, but prices begin to waver and then to fall; freight costs on the other hand start to rise and reach 4 pesos the carga. All of this provokes a restatement from San Juanico's administrator of the old adage that "really solid profits in wheat are presupposed by the hacienda having its own transport", and within a week of this he is to be found wringing his hands over the absence of muleteers whilst prices continue to fall in the Capital.⁶²

All of this shows that there were good prices to be had, but at the cost of storage, risk and transport. At the same time, it looks as though there had been a secular rise in the normal level: prices in Querétaro at the turn of the century had been around 5 pesos the carga, whilst averages in San Juanico for the period 1856-60 were recorded at close to 8 pesos the carga, although the 1870 standard was put at 7.50. With wages unchanged since the colonial years, such price rises meant that the hacienda was out of the post-Inurgency wood; as a result, the increased profits and more promising prospects encouraged hacendados to invest in irrigation and extend their cultivation of wheat.

Crisis and redemption: overproduction and the railways

But this respite was all too brief. The rush to extend production brought the inevitable rejoinder - a saturated market. Within a few short years of the normalization of trade, established some time after the execution of Maximilian and the restoration of the Republic in 1867, the Governor of Querétaro is to be found in a state of public anguish over the surplus in the supply of wheat and the haciendas' bursting granaries. His anxiety is unsurprisingly accompanied by the familiar lament upon the nation's inadequate communications, and in the absence of any alternative, he exhorts the hacendados to turn away from wheat and start afresh with flax.⁶³

Within this context of economic impasse, the arrival of the railways in Querétaro in February 1882 takes on a new and formidable significance. The entire edifice of arable farming was under severe pressure, with profits squeezed by the combined agencies of high production costs and production were promised by the introduction of machinery, but this was contingent upon easier access to its supply and upon healthier hacienda balances. The key to all this lay in the railways: their arrival would open up lucrative markets for the haciendas' surplus arable produce and also help to reduce the costs involved in transport; higher incomes could then facilitate the serious beginnings of mechanization, itself rendered possible by the delivery of machinery from the north and from the coast, all thanks to the railroad.

This, in any event, was the vision, and as such, it comes as no surprise to find the Querétaro hacendados welcoming the railways as though a redeeming new dawn for their fortunes. By the same token it is small wonder that some of their number should have committed both talent and scarce capital to help secure their timely arrival. Even if actual transport costs took a little time to fall below those of

the mule-trains,⁶⁴ this vision turned out to have been close to the truth, and efforts expended on its realisation were soon to be vindicated.

Well before the end of the decade the highly-prized Querétaro wheat had accomplished a local stability of around 10 pesos the carga;⁶⁵ early in the 1890s wheat from Juriquilla was rolling north to the agencies of Ricardo Hornedo in Coahuila and Durango, and local prices were creeping up towards 12 pesos the carga.⁶⁶ With labour costs well below commensurate levels of increase, the 1880s and 1890s must have had all the appearances of a boom period for the hacienda economy. We now need to examine the hacendados disposition and response within this new favourable context.

Hacendado outlook: improvements and investment

Before the arrival of the railways in Querétaro hacendados had been somewhat constrained in what they were able to modernize on the hacienda. As a result the majority of projects undertaken involved a minimum of technical equipment, and tended instead to make the most of the cheapest and most abundant resource - labour.

This is the impression we get from the surviving letters and accounts of the haciendas San Juanico and Juriquilla. On these estates during the mid-century years the main activity in terms of hacienda improvements revolved around construction. Lima was quarried, bricks and tiles were fired, fences were erected, buildings were repaired, and dams and aquaducts constructed. In Juriquilla, for example, the year 1862 saw over 670 pesos spent on labour involved in preparing the foundations to a dam, the equivalent of over 3500 man-days. Similar commitments were made in the subsequent two years, and yet only 25 pesos was spent on materials for this project - significantly on gunpowder and candles, items which suggest that the job underway was no small venture.⁶⁷

The great preoccupation during those years was clearly the extension of irrigation. Information given earlier showed that the efforts in this sphere had been considerable. Such an impression is further supported by the mid-century activities and interests in San Juanico. These even included, in December 1864, the idea of sinking an artesian well on the hacienda: a certain señor Pane was engaged to draw up estimates for the costs involved, and they were duly presented to the hacienda's administrator. However, with tubes costing 1000 pesos and the initial perforation coming to a further 3000 pesos, it was decided to postpone such a venture; after all, these were years of civil chaos and collapsed markets, and it was reckoned that the hacienda's "balance demanded a reduction in expenses". Even so, señor Pane was asked to report back to the hacienda as soon as he had completed his current geological researches in the Bajío.⁶⁸

Investment in machinery was lower, since it was clearly limited by the general problems of availability and freight, and also by the still precarious nature of the hacienda economy. The letters for the years from 1858 to 1867 are rife with the lament of the hazards of agricultural business - the haciendas were plagued by "a multitude of bandits", drained by perpetual and mounting requisitions, hamstrung by the desertion of the best labour for fear of conscription, all of which were compounded by the collapse of the market, the paralysis of trade, and the scarcity of currency. Such adverse conditions were sufficient to provoke regular remarks along the lines of "things couldn't be worse" and the observation that many local haciendas were reduced to running at a loss.

Relative stability returned with the Restoration of the Republic, and the outlook for the hacienda must have improved. There are indications that hacendados felt sufficiently secure to begin to invest

albeit tentatively in machinery. By 1870 there were small machines on San Juanico to thresh wheat, to grind maize, and even to reap. Some ten years later a neighbouring hacienda, Castillo y San Nicolas, inventoried machinery separately and to the value of 1215 pesos, and in 1881 Juriquilla brought in a brand new winnower.⁶⁹

The chances are, however, that these developments were very limited. Probably only the smallest implements were involved. Earlier interest had often been qualified by the stipulation that the equipment was small-scale, as for instance in the case of the maize grinder, trademarked Marshall and Co. from England and advertised in Siglo XIX. These limitations were largely due to the persistent problems of transport. It was difficult enough to move bulky commodities like wheat, but at least they could be bagged up and made amenable to mules. It must have been very hard to do the same for inflexible metal constructions, and in any case cost was still prohibitive - in August 1881 freight to Mexico City was running at 4.50 pesos the carga of wheat. It is very likely that such conditions delayed moves towards mechanization, even though a genuine interest seemed to be underway: in 1881 the owner of Juriquilla ordered the catalogue issued by the retailers Stoddard and Droyer of León, and in the following year we find his son suggesting that a new thresher is purchased, since the old one regularly caused up to 40 mares to miscarry every year.⁷⁰

By this time of course the Querétaro hacendados were able to anticipate the arrival of the railways in their city. The mood of relief and optimism was reflected in the letters of the period: in the midst of this same report on the damaging old thresher, we come across an enthusiastic reference on the imminent arrival of the railroad - which is depicted as heralding a new epoch of progress and prosperity for the agriculturalist.⁷¹

The railroad: boom and mechanization

The opening of the railway gave Querétaro access at first to Mexico City and then later to the north; both routes were to become life-lines for the regional economy. A measure of their importance is reflected by the growth of revenue accumulated by the local station, primarily on account of the business of freight. Opening in 1882, income had reached close to 500,000 pesos a year by 1890, and almost 1,500,000 by 1909.⁷² Market access meant higher profits and their subsequent investment in machinery, now more readily available.

Within two years of the railway's arrival in Querétaro a local tenant called Cirilio Vázquez had brought in a 'Champion Fireproof' steam-engine from Brantford in Canada, and was thus attracting a great deal of interest and emulation.⁷³ Not long afterwards there must have been a similar machine driving the thresher in San Juanico, since there is a record of an engineer or vaporista working alongside 55 peons in the week of 18 July 1892.⁷⁴ An inventory drawn up in the following year for the hacienda Trojes, property of Júlio Obregón, shows that such a purchase had already been made there, and was now valued at 1500 pesos.⁷⁵

Mechanization appears to have been underway. The extent of this process is hard to quantify, but we do have clues of its intensity. Take for instance the comparison of the inventory for San Juanico drawn up in 1870 with that for 1909.⁷⁶ In the first case what little machinery there was on the hacienda was included within the general concept of aperos, or tools and implements: there were only four items classified as mechanical, two of which were valued at 60 pesos each, whilst the others were registered as broken. By 1909 machinery was granted a separate section: 38 different items were listed, the most expensive being the two threshing-machines, trade-marked Robey and Champion, and the total value reaching the substantial sum of 10,226.50 pesos, or over

8% of the value of property as opposed to a mere 1/8% represented in the 1870 inventory.

Further evidence of this process can be gleaned from reports made on the state's agriculture during the period. A case in point is the survey conducted by the hacendado Lic. Manuel de la Peña from neighbouring state of Mexico for the publication La Voz de Querétaro. According to de la Peña progress during the decade 1885-95 had been dramatic and showed that "the sons of Querétaro were far from conservative, but rather dedicated enthusiasts of progress". He concedes that some of the better lands were still worked by the lugubrious oxen and archaic Egyptian plough, but that this was a practice fast giving way to mule-drawn implements of such imported brands as Oliver, and even including a number of the most-up-to-date steam-ploughs with twelve shares. Other modern implements were also in widespread use - seed-drills brand-marked Avery and Osborn; new types of harrows; McCormick balers; Deering reapers; and the virtually universal use of steam-threshers on the flatlands around Querétaro and San Juan del Río.⁷⁷ Clearly it was amongst these most profitable and creditable haciendas, like San Juanico and others mentioned such as La Llave, Tequisquiapan, Balvanera, and El Jacal, which progressed fastest. But others with medium quality resources, like Juriquilla, were eventually able to follow suit - in the 1908 inventory this estate was able to register the possession of a steam-powered thresher valued at 1800 pesos.⁷⁸

All of this had been accomplished within a boom period for local agriculture. Basic improvements had been made in the land itself, marshlands had been reclaimed for the plough, previously rough terrain had been levelled for irrigation, and waters "stolen from the jealously guarded depths" now spread across the landscape in irrigation ditches and lakes. De la Peña's report may sound as though he had been carried

away by his own prose, but there must have been something there to inspire him in the first place - an inference which is confirmed by other accounts in La Sombra de Arteaga, the government weekly bulletin. Such reports should of course be treated with caution, but it is the case that earlier accounts of the state's agriculture had been far less laudatory, and contemporary versions of the textile interests in the area were downright gloomy. We can be sure that such reports contain at least a part of the truth.

Extra evidence can be found elsewhere. Daily transport from the city's commercial houses to the railway station, registering with the municipal treasury, leapt up from 8 to 42 carts during the decade of the 1890s, and by the beginning of the twentieth century there were four newly constructed markets in Querétaro, the largest, Pedro Escobedo, measuring 4000 square metres and built from an iron framework, costing a total of 41,000 pesos.⁷⁹ Banking facilities had also developed, and by this time there were branches of the Banks of London, of San Luis Potosí, of the National, and of Guanajuato all in the city, with Querétaro's own bank about to be inaugurated. Rural properties were in the van of this boom: in 1874 the fiscal value of the Querétaro district's estates had been put at around 1.8 million pesos; by 1897 this figure had more than doubled to almost 3.9, and in 1903 it was reported to be rising still further.⁸⁰ Such rapid increases in property values had also inspired a high rate of turnover: according to the tax on sales of property, transactions during the twelve months from the end of June 1901 to the first of July 1902 involved values almost exceeding one million pesos. All of this is ample evidence that things in Querétaro were indeed flourishing, and that haciendas, at least in the districts of the capital city and of San Juan del Río, were establishing themselves as viable enterprises with solid credit ratings.

SURVIVAL AND PROSPERITY: WHEAT PRODUCTION AND PROFITABILITY 1840-1910

The preceding discussion has attempted to set out a number of themes important to the economic development of the area. The situation on the hacienda had been a confusion of strengths and weaknesses. Predominant amongst the former was the natural bounty of the Bajío soils; set against this asset there were the counter weights of difficult market access and high transport costs. Until the arrival of the railways these conditions were more or less fixed - strategic changes of direction on the part of the hacendado could do little to mitigate their effects. In this way a baleful eye had been turned on the quality of Mexican labour: if profit margins were to be extended, then exploitation of labour would have to be made more effective. This was the essence of Raso's charge and exhortation. And yet, at the same time it was difficult for hacendados to achieve this - we have seen how the process of mechanization anywhere depended upon certain contingencies, and how the hacendado had been impeded by low capital reserves and the virtually insuperable problems of securing a supply of such machinery that was already available elsewhere. Compounding all of these difficulties had been the additional damage inflicted by chronic political instability and the presence of requisitioning armies and subversive banditry.

Within this context we now need to examine the evidence which remains on the component costs of wheat production and the resultant profit margins; we need to assess the effectiveness of the alternative strategy, at first in terms of its contribution to the survival of the hacienda, and latterly in terms of its progressive productivity and its capacity to provide for accumulation.

Wheat in San Juanico 1856-65

During this period there were some 200 hectares of irrigable land on San Juanico, watered by the rivers of Querétaro and Pueblito. These were in fact streams rather than rivers, and they often dried up during the recurrent Bajío droughts. This happened in the summers of both 1859 and 1863: in both cases the land was prepared in the hope of a reprieve in September, but the letters of the period show that conditions of parched bordos and dried river-beds finally forced the hacienda to curtail production. As a result, these two years recorded the lowest quantities of seed sown, with figures well down on the norm.

Given these circumstances, it is clear that even the best endowed haciendas occasionally had trouble raising a full crop of wheat: small wonder then that the possibility of artesian wells attracted such interest. Despite these uncertainties, however, the hacienda could rely on wheat in a way that would have been quite impossible for maize, at least before the introduction of sharecropping. Such relative security of income is borne out by surviving records for production over the years 1856-64. (Table 5.)

These statistics are most revealing. Average annual sowings were of the order of 43 1/4 cargas: at 40 kg the hectare this means that some 178.45 hectares of land were on average cultivated for wheat, or close to 90 per cent of the area so designated in the administrator's notes of March 1861. Average yields worked out at about 32 1/4 to 1, not far short of the Raso estimate of 35-40 to 1, and thus average levels of production amounted to almost 1400 cargas. This figure would have represented average returns per hectare of close to 1300 kg., comparable to levels achieved in progressive areas of the Netherlands at the time.⁸¹

Costs given only included seed and labour. By making a deduction of 260 pesos for the average seed requirement, expenditure on labour

TABLE 5: Wheat Production in San Juanico: Accounts for 1856-64

Year	1 Cgas sown	2 Cgas Harvested	3 Yield	4 Total Costs	5 Sale Value	6 Gross Profits	7 Cost per Cga sown	8 Cost per Cga produced	9 Average price per Cga
1856 ^a	52.68	1,743.00	32.9	\$ 3,232.69	\$ 13,561.84	\$ 10,329.15	\$ 61.37	\$ 1.86	\$ 7.78
1857	32.98	1,393.00	42.21	3,165.66	9,716.78	6,551.12	96.00	2.27	6.98
1858 ^b	28.28	900.00	32.35	3,140.25	6,114.89	2,374.64	132.26	4.16	6.79
1859 ^a	25.00	1,406.00	56.24	2,467.44	11,937.22	9,469.78	98.69	1.76	8.49
1860 ^c	50.78	1,638.58	32.72	3,349.03	14,502.11	11,153.08	65.95	2.04	8.85
1861	64.51	1,521.80	23.59	3,408.62	10,131.31	6,122.69 ^d	52.84	2.24	6.41
1862 ^a	38.10	2,139.00	56.28	3,140.90	24,810.76	21,669.86 ^d	82.44	1.47	10.57
1863	23.57	823.73	34.80	1,762.00	12,377.50	10,615.50 ^d	74.76	2.14	12.80
1864	73.12	1,016.86	13.91	4,295.94	8,387.36	4,091.42 ^d	58.75	4.23	6.96
Totals	389.02	12,581.97	-	28,562.35	111,539.46	82,976.93			
Averages	43.22	1,398.00	32.35	3,173.63	12,393.27	9,219.66	73.42	2.27	8.41

Columns 1 and 2 are in cargas; 4-9 inc. are in pesos and centavos.

a regarded as good years

b year in which wheat was blighted by chahuixtle

c average year improved by maize shortages

d included revenue on sale of straw of \$376.20, \$2191.20, \$1795.75, \$1310.00 respectively

Source: ASJ/LC 1856-1864

worked out at a rate of 2931.61 per year, or 16.43 pesos per hectare. Wages ran at 1 1/2 reals the day, which means that each hectare of wheat required some 87.6 man-days from start to finish. Whilst it is true that these labour requirements were higher than they were elsewhere under similar technical circumstances, it is also the case that wages paid for this labour were generally lower. In any event, as the figures above show, wheat thus produced was able to render the hacienda a considerable profit, on average close to 9,500 pesos.

As mentioned earlier, much of this profit relied upon the astute exploitation of market fluctuations, of season and region. We do not have a detailed breakdown of the times and locations of all sales from San Juanico, but it is clear from the average price earned, 9.82 pesos the carga, that a good proportion of the crop was successfully marketed under the optimum conditions. We do know that 300 cargas were despatched to the firm of Domingo Zelaay Araujo in eight consignments during August, September and October of 1861, thereby fulfilling a contract agreed in April at the price of 11 pesos the carga.⁸²

Raso had reported that a good part of the Querétaro wheat was consumed locally, and that the surplus was then shipped off to Mexico City. We get the same impression from the fragments of information left in the archives of San Juanico. Considerable repairs and improvements had been done to the La Cañada mill of San Antonio by Cayetano Rubio during the 1840s as part and parcel of the development of the famous textile factory Hercules. As a result of these investments the new water-powered San Antonio was able to monopolise the local grain trade, no doubt helped by the power of the Rubio family as the leading financiers in the area. As a consequence, the mill in San Juanico, previously valued at 7385.25 pesos, had fallen into disuse, and the hacienda was having to sell its wheat to the Rubios or in Mexico City.⁸³

There is a fair amount of evidence in the correspondence of the period that the former option was rife with problems, but the alternative of sending wheat to Mexico was also troublesome, given banditry and transport costs.

The compromise appears to have been to do a little of each. The majority of the 1858-59 crop, for example, was sold to Rubio at 6 pesos the carga, whereas at least a quarter of the 1864-65 produce was sent to Mexico City, to be rapidly pursued by a further 530 cargas in 18 consignments from the following year's freshly harvested crop. These lucrative sales have had the effect of distorting the overall appearance of the sector's profitability. The average value for the sale of wheat undoubtedly incorporates the higher capital city prices, but the costs do not include the money spent on transport. In 1861 freight charges were running at 3.64 pesos the carga to Mexico City; by 1864 the rate had apparently slipped slightly to 3.50 pesos; 1865 saw it lift once again to 3.75 pesos, and by May of that year a scarcity of muleteers had pushed prices right up to 4 pesos the carga.⁸⁴ Charges were paid to muleteers half in advance, with the deficit being paid when the consignment was delivered - these latter costs were then debited from the hacienda's account. Thus San Juanico had to pay out over 1000 pesos in cash over the summer months of 1865 as part of the overall transport bill of 2122.52 - no small amount.

All of this is hard to quantify in terms of the eventual net profits for wheat in San Juanico, since we do not know exactly how much of the produce was marketed in Mexico City. It is clear, however, that the balances are less wealthy than they appear to be. The minimum we can be sure of is that unit production costs for seed and labour averaged out at 2.27 pesos the carga for the years 1856-64. With local prices running at 6 and 7 pesos the carga, gross profits were assuredly

substantial; similarly, Mexico City rates of from 11 to 15 pesos provided profit-margins quite large enough to cover the high freight charges and still leave a substantial net revenue.

Here, then, is firm evidence that the better endowed haciendas like San Juanico were well served by demesne wheat production. Raso had suggested that production costs might be held down to 100 pesos per fanega of 5.3488 hectares, 40 for seed and labour, 50 for rent, and 10 for oxen, or 18.69 pesos per hectare.⁸⁵ The data for San Juanico shows that costs for seed and labour alone ran on average at some 73.36 pesos per carga of wheat sown. If we assume that the land was sown at 40 kg the hectare, this figure can be reformulated at 17.78 pesos per hectare, more than 10 pesos above the Raso recommendation. In defence of San Juanico it should be said that Raso does not make it clear if his costs refer to mere cultivation of the land plus harvesting, or to the entire process of winnowing and threshing as well. In any case the calculations below demonstrate that even with such inflated costs as these San Juanico's wheat was able to offer the hacienda a very comfortable return on invested capital. There is every indication that net profits were quite high enough to sustain the hacienda during the lean periods; once other sectors had been brought into line, as for instance the temporal maize under sharecropping, the hacienda capacity for accumulation must have looked considerable.

TABLE 6: Calculated net profits in San Juanico wheat 1856-64

Average annual gross profits.....	9,476.87
Deductions for freight, assuming 1/4 crop moved to Mexico City at 3.75 pesos the carga x 350 cargass.....	1,312.50
Deductions for rent, at 40 pesos the fanega, assuming average annual area to be 180 hectares, or 33.65 fanegas x 40 pesos.....	1,346.10
Deductions for oxen at 10 pesos the fanega, or 33.65 x 10 pesos.....	336.50
Total deductions.....	2,995.10
Balance and net profit...	6,481.77
Inventories value of estate, implements and livestock	\$132,000.00 pesos.
Annual average net profit from wheat as % of this - 4.9%	

Wheat in San Juanico 1892-1918

Thus far we have shown how wheat production secured survival and even promised prosperity for the likes of San Juanico. Others, with less yielding soils and longer journeys to the provincial markets, must have been under greater pressure, and perhaps felt a more urgent need to follow Raso's recommendation to mechanize. This, in any event, happened in San Juanico, as has been mentioned already. Although the evidence is somewhat fragmentary it is possible to put together a part of the picture of production under the new regime of the machine and to gauge the weight of its benefits.

The seasons of 1910-11 and 1911-12 were both below average on San Juanico with yields of only 17 and 24 to 1; shortage of water had meant that half of the area cultivated had been irrigated only once instead of the normal twice. Records of seed sown, of 161 and 150 tercios, suggest that this area had been increased since the mid-nineteenth century, an increase most probably due to the incorporation of a further

annex, La Comunidad. The result was that, even in poor years, the administrator expected crops of 1800 cargas, an increase of some 400 cargas on previous averages.⁸⁶

Remnants of working practices and costs remain. We know that the job of threshing and winnowing was considerably speeded up: whereas in the earlier period this task ran right through to the end of the year and beyond, it was now completed within a couple of months of harvesting. In addition to this there are indications that overall labour costs had been reduced. The calendar year of 1859 had involved work on the wheat fields and harvest of the 1858 sowing, and on the cultivation and planting of the 1859 crop; the former had incurred wages of 1520.15 pesos, the latter 1135.90 pesos, a total for the calendar year of 2656.05. It should be noted that both 'years' involved reduced areas, perhaps of no more than 115 hectares. Areas cultivated during the years of the twentieth century, however, must have been of the order of 300 hectares and more. But total wage bills for the calendar years of 1912 and 1916 were not commensurate with such increases. The year 1912 incurred wage costs of up to 2249.51 pesos by 14 December: 1416.8 cargas of wheat had been produced as opposed to the 900 of 1859, and on top of this there had been some marginal increases in wages - skilled man-power on the steam-engines were paid 31 cents and 25 cents a day as early as 1892, and the general level of unskilled wages had also increased to 20 cents a day.⁸⁷ Increases in wage rates and in the area under cultivation should have been reflected in commensurate increases in overall wage bills: the fact that the year 1912 probably incurred less monetary labour costs than 1859 strongly suggests that the hacienda had achieved considerable savings of labour-power through mechanisation. Such an inference is further supported by the data for the year 1916: entire costs on labour during the year came to 5434.03 pesos, something more than double the 1912 level. Wage-rates had in the meantime, however,

increased by more or less the same proportion: skilled workers were now being paid 74 cents instead of 31 to 37, and unskilled field workers now earned from 30 to 40 cents in place of 20. Inflation in wage-rates would thus more than account for the difference between the 1912 and 1916 labour costs: actual labour employed in the wheat sector looks as though it remained unchanged. Gross revenue from the anticipated 1800 cargas produced in 1912 was put at 27,000 pesos, suggesting gross profits of as much as 24,500 pesos, two and a half times as high as the average for 1856-64.

Here then, is an indication of the hacienda's eventual and consummate breakthrough. Actual labour requirements had been reduced through mechanization such that labour costs had not kept check with wage inflation, itself only a belated development. With the railways opening up distant markets, and prices in any case on an upward surge, the hacienda was surely well placed to yield good profits and to provide for accumulation. A provisional measure of this potential can be had by calculating the rough net return from wheat in San Juanico as a percentage of invested capital. Let us assume that gross profits were of the order of 24,500 pesos on the 1912 crop - prices of 15 pesos the carga were not excessive for the period. According to evidence available for a nearby and comparable hacienda, La Capilla, the rental value of irrigated wheat lands was in the region of 40 pesos the hectare.⁸⁸ Making a generous assumption of 350 hectares of land cultivated in 1911 this translates into a deductible cost to the hacienda of 14,000 pesos. Without further precise evidence on the internal running of the hacienda it is impossible to assess other costs of administration and machine and stock maintenance; to compensate for this the provisional net figure of 10,500 pesos for wheat in 1911-12 is held against the entire inventoried value of estate as assessed in 1909 - 206,500 pesos. The net wheat profits then emerge as a 5% return - a more than ample level when it is appreciated that

wheat interests in San Juanico represented only a third of gross annual revenues.

Wheat production in Juriquilla: 1856-64 and 1887-94

Juriquilla was a very different proposition, as we have already mentioned. Precipitous terrain may have favoured the property with abundant water but this was hardly sufficient compensation for the rough and stoney soils.

During the earlier period Juriquilla was run as an adjunct to San Juanico and was somewhat neglected. As a result its wheat sector was relatively small and undeveloped, with at most only a third of San Juanico's average area under cultivation. With the poorer quality soils demanding higher seed densities it is possible that the area under cultivation in Juriquilla fell below 50 hectares. Yields were also lower than in San Juanico with averages of only 20 to 1. Smaller harvests and more seed per unit of land meant apparently lower costs in Juriquilla than San Juanico (see Table 7 below) - according to the traditional convention of costing production in terms of the seed sown, Juriquilla emerges with a per carga cost of 69.36 pesos, four less than in San Juanico. But in reality labour requirements were higher, as we would expect for poorer soils and less negotiable terrain. Each carga of grain produced in Juruquilla cost 3.46 pesos, 50% up on the San Juanico figure and a significant cut into the hacienda's profit margins. Once again we are made aware of the advantages of the better endowed hacienda.

TABLE 7: Wheat Production in Juriquilla: Accounts for 1858-64

Year	1 Cgas Sown	2 Cgas Produced	3 Yield	4 Total Costs	5 Sale Value	6 Gross Profits	7 Cost per Cga sown	8 Cost per Cga Produced	9 Average Price Per Cga
			1:	\$	\$	\$	\$	\$	\$
1858	15.8	332.2	21.00	1,207.00	1,962.50	755.50	76.39	3.63	5.91
1859	20.31	422.9	21.00	1,456.25	2,245.50	789.25	71.70	3.44	5.31
1860	16.74	466.27	27.85	1,641.23	3,086.50	1,445.17	98.00	3.52	6.62
1861	11.40	259.56	22.77	870.00	1,922.00	1,052.00	76.32	3.35	7.40
1862 ^a	5.27	93.42	17.73	400.00	1,415.50	1,015.50	75.90	4.28	15.15
1863 ^a	8.88	239.45	26.97	731.00	2,603.70	1,872.70	82.32	3.05	10.87
1864	25.6	271.18	10.59	1,262.90	1,949.19	686.29	49.33	4.66	7.19
Totals	104.00	2,084.98		7,568.48	15,184.89	7,616.41			
Averages	14.86	297.85	20.00	1,081.21	2,169.27	1,088.06	72.77 ^b	3.63	7.28

Columns 1 and 2 are in cargas; 4-9 inc. are given in pesos and centavos.

a Scale of production probably reduced on account of collapsed market (BLC).

b Average figure for costs per carga sown probably biased downwards by 1864 combination of high area under cultivation and poor yields: calculation made for 1858-63 only may represent a more typical level, \$6305.58 ÷ 78.4, or \$80.43 rather than \$72.77 (per carga costs (produced), similarly become \$3.48 per cga).

Source: ASJ/LC 1858-64.

Harvests during this early period were naturally small, with annual averages at less than 300 cargas. Most of this grain seems to have been sold in Querétaro, since the overall average price recorded is only 7.41 pesos, but it is clear that some was occasionally sent to Mexico City - as, for instance, in 1865 when 173 cargas were despatched at a freight charge of 3.75 pesos the carga.⁸⁹ Gross profits were thus fairly meagre, averaging only 1176.94 per year, but these would have been subjected to lower costs for transport and rent than had been the case in San Juanico. 10 fanegas de sembradura may have been rented for 300 pesos, and transport into Querétaro, only some 15 kilometres distance, could hardly have cost more than 50 cents the carga. On this basis net profits in Juriquilla fall to a mere 726.94 pesos per year - as a return on the estate's value, plus implements and oxen, around 78,500 pesos, this comes out at less than 1% and a far cry from the position in San Juanico. Small wonder Bernabe Loyola spoke of the hacienda with trepidation when he took it over in 1868 - a year of disaster in wheat, provoking don Bernabé to remark that "even if we'd been paid \$25 the carga, there would still have been no profit".⁹⁰

Figures for the later period (see table 8 below), however, show that he was finally undeterred by Juriquilla's lack of easy promise. In the longer term quite substantial investments were made in machinery - in the 1908 inventory a steam-driven thresher was listed at 1800 pesos - but it looks as though the earlier years were characterised by small-scale mechanization and, primarily, by the clearing and levelling of land for wheat production. As a result, average seed weights moved up from 14.86 for 1856-64 to 39.24 for the later period, a jump of two and two-thirds. The trend during the years 1887-94 suggests that this was the time of early expansion in Juriquilla wheat: 1887, the first year, registered a sowing that was barely higher than the earlier average and

TABLE 8: Wheat Production in Juriquilla: Accounts for 1887-94

Year	1 Cgas Sown	2 Cgas Produced	3 Yield	4 Total Costs	5 Total Sale Value	6 Gross Profits	7 Cost per Cga sown	8 Cost per Cga produced	9 Average price per Cga
				\$	\$	\$	\$	\$	
1887	19.73	252.61	12.80	1,652.78	2,864.01	1,211.23	63.77	6.54	11.34
1888	30.46	413.02	13.56	2,347.11	4,558.63	2,311.52	77.06	5.68	11.28
1889	32.90	981.30	29.83	2,140.02	8,888.86	6,748.84	65.05	2.18	9.06
1890	36.88	629.98	17.00	2,817.95	7,336.62	4,518.67	76.41	4.47	11.65
1891	63.82	656.54	10.29	2,957.75	7,966.73	5,008.98	46.35	4.51	12.13
1892	39.27	572.31	14.57	2,263.81	7,300.24	5,063.43	57.65	3.96	12.76
1893	42.72	1,043.96	24.44	3,517.38	7,030.24	3,512.86	82.34	3.37	6.73
1894	48.12	979.88	20.36	2,616.91	9,882.48	7,265.57	54.38	2.67	10.09
Totals	313.9	5,529.6	-	20,313.71	55,927.81	35,641.10	-	-	-
Averages	39.24	691.2	17.62	2,539.21	6,990.98	4,455.14	64.71	3.67	10.11

Columns 1 and 2 are given in cargas; 4-9 are given in pesos and centavos.

Profit per Cga produced = \$6.45 per Cga sown \$113.54

Source: AJ/CC July 1896.

in fact lower than the specific sowings of 1859 and 1864. Average weights for the later period, 1891-94, however, come close to 48.5 cargas, a figure which suggests that the area under wheat had been increased some threefold or more.

Such a pattern of expansion fits within what we already know of the period. Saturated markets during the late 1870s would have hardly encouraged continued expansion, especially in haciendas of high production costs. The arrival of the railways in 1882, however, must have promised redemption, and the same year José Loyola wrote of the need to extend the irrigable area on Juriquilla.⁹¹ Further references to clearance and levelling during the last two decades of the century indicate that circumstances now favoured expansion, and we know that by 1908 the area under irrigation had in fact reached 245 hectares, even if it was classified as 'mala clase'.⁹² Recorded sales during the early 1890s in both the Capital and the north, in Coahuila and Durango, provide us with further evidence of the hacienda responding to the new favourable conditions.⁹³

Expansion of production there may have been; improvements in the form of that production were probably more limited, at least during the years under consideration here. We know that certain machines were introduced during this period: a new winnower arrived at the hacienda in 1881, and the same year finds José Loyola suggesting the purchase of a new thresher, but it is clear from the letter that this would still have been horse-powered.⁹⁴

It is hard to assess the impact of this limited introduction of machinery. Yields were on average lower during this period than they had been in 1858-64, at only 17.65 to 1 - but this may well reflect the extension of cultivation into more marginal lands, and the fact that one of the years in the second sequence, 1891, was afflicted by the blight

chahuixtle. Average production costs are slightly higher during this second period: each carga of wheat produced in 1858-64 cost 3.46 pesos, now they cost 3.67. Such an increase, however small, implies that labour requirements for the crop had not been reduced, but here we are on uncertain ground since it was during this period that wage-rates became more differentiated and were marginally raised. It is therefore possible that the costs incurred in production conceal slightly higher rates of pay, and thus an actual reduction in the level of labour requirements.

There are far safer inferences to be made in the area of marketing: profits may not have been increased at the expense of labour, but they certainly were at that of the consumer. By the late 1880s Querétaro wheat was gaining a national reputation, challenging the products of Atlixco and San Martín Texmelucan in Puebla and areas in Sonora for national primacy, and local prices had thus risen to around 10 pesos the carga. By the early 1890s these had increased again to around 12 pesos.⁹⁵ Profit-margins per unit of grain produced in Juriquilla enjoyed a commensurate increase: the earlier average price of 7.41 pesos the carga rose to 10.11 pesos for 1887-94, and registered profits per carga increased some 63.5% to 6.46 pesos. Given the rise in the volume of production, these more favourable market conditions gave the hacienda the chance of making considerably larger gross profits from wheat than it had done previously. During the years 1858-64 gross revenues had barely exceeded 1000 pesos - now they were almost seven times that amount, at virtually 7000 pesos, and ample reward for don Bernabé's perseverance.

It is most unfortunate that we do not have information on production during the later years in Juriquilla, since this would have shown the extent to which more progressive mechanization, exemplified by the steam-powered thresher of the 1908 inventory, had affected levels

of labour requirements and profitability. Nonetheless, the case has unmistakable significance, since it shows how investments in land improvements were swiftly vindicated by higher returns from an expanding market, and it equally sets up the importance in this development of the arrival of the railways.

Footnotes to Chapter Four

1. Morin 1979, pp.252-53; Brading, 1978, pp.11, 25, 28-29.
2. Raso 1848, p.33.
3. Raso 1848, p.17, 87.
4. Ladd 1976, pp.178-82.
5. Raso 1848, p.16.
6. Raso 1848, p.38.
7. Slicher van Bath 1963, p.265.
8. Eric Wolf, Sons of the Shaking Earth (Chicago, 1974 ed.), pp.60-64.
9. Slicher van Bath 1963, p.280.
10. Slicher van Bath 1963, pp.332-33.
11. E.L. Jones, Agriculture and the Industrial Revolution (Oxford, 1974), pp.185-89.
12. Jones 1974, p.188.
13. Slicher van Bath 1963, p.282.
14. Slicher van Bath 1963, p.254.
15. Van Young 1981, pp.59, 220.
16. Van Young 1981, p.226-27, footnote 67.
17. Van Young 1981, p.224; Florescano (1979 ed.), pp.102-24; Brading 1978, p.16, 29; and Arnold Bauer, Chilean Rural Society from the Spanish Conquest to 1930 (Cambridge, 1975), p.88, also reckoned that agricultural properties rarely gave a return of more than five per cent during the first half of the Nineteenth century in Chile.
18. Morin 1979, p.223.
19. Morin 1979, pp.221-23.
20. Humboldt (English ed. 1804), pp.481-82.
21. Van Young 1981, p.71.
22. Morin 1979, p.198, 217; Humboldt 1804, pp.480-82; and Van Young 1981, pp.70-74.

23. Morin 1979, 253; Van Young 1981, p.66,71.
24. Morin 1979, p.253.
25. Morin 1979, p.197.
26. Raso 1848, p.15; Morin 1979, pp.253-54.
27. AB/LC 1901.
28. Morin 1979, p.198.
29. Raso 1848, p.43, 54.
30. Morin 1979, p.251.
31. Georges Duby, The Early Growth of the European Economy (London, 1974).
32. Slicher van Bath 1963, p.306.
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34. Slicher van Bath 1963, p.303.
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CHAPTER FIVETHE GOLDEN AGE OF THE HACIENDA AND THE RISE OF MIXED FARMING

LIVESTOCK ON THE HACIENDA: PURPOSES AND PROFITABILITY 1850-1912

During the early years of the Colony agricultural production in the Bajío had been biased towards livestock products, such as meat, leather, and wool.¹ Changes in the population and the economy soon altered this focus. Meat prices may have risen considerably with these trends during the latter part of the eighteenth century, but the overall growth of this market was limited.² Expansion in demand for the cheaper commodities of the popular diet, such as maize and wheat flour, had no limitations of this kind and thus promised to continue growing. In the wake of these changes in market-demand the Bajío hacienda turned increasingly away from livestock production and towards more intensive cultivation; sources for the traditional products shifted northwards to Nueva León and Coahuila. By the end of the Colonial period the region's transformation was more or less complete, and in most cases the primary purpose of hacienda livestock was not to provide direct revenue through production for the market, but rather to act as a means to profits through the provision of traction and transport.³

This shift of production was not, however, all plain sailing. The hacienda had met the increases in demand by extending the area of land under cultivation rather than by raising levels of productivity.⁴ As a result considerably more draught animals were required to do the work, and this entailed investment. More important than this, however, was the fact that increased numbers of animals demanded larger pastures - this at the very time that pastures were being reduced by the extension of cultivation. Given the nature of the Bajío climate such a squeeze on resources was bound to be hazardous for all but the largest of

estates, and there are indications that hacienda pastures were becoming saturated with working livestock and unable to accommodate the periodic years of drought. 1785 is a case in point - during this year of drought one hacienda near Querétaro reported that it had lost over 140 of its 200 oxen, and there is no reason to think that this was a unique experience.⁵

In any event there are firm indications that there was a growing imbalance between stock levels and pasture resources by the middle decades of the nineteenth century, and these latter were, after all, regarded as comparable to the last years of the Colony in terms of economic activity and levels of production. According to a popular adage of the 1780s oxen required pasture at a rate of three times the area that they were able to cultivate.⁶ Each yoke of oxen in the Querétaro area was reckoned to be able to cultivate up to 6 hectares, thus giving us a figure for the area of required pasture per beast of 9 hectares.⁷

Let us now turn to Raso's survey for the state in the 1840s. According to his assessment of the lands held by the Querétaro haciendas there were some 447,000 hectares of pasture available.⁸ At the same time he counted 26,035 oxen as the total number maintained on the haciendas, giving each beast an area of pasture of around 17 hectares. On this basis there would have been no real pressure on the state's pasture stocks, but there were, however, a considerable number of other animals on the haciendas, all of which must have had access to some of these grasslands. Once this number is taken into account the picture is very different. The adult stock alone, all of which played a part in the internal economy of the hacienda, and included horses, bulls, milch-cows, donkeys and mules, amounted to over 85,000 head. On top of this there were some 2624 bullocks tagged for slaughter, and over 260,000 head of sheep and goats, these presumably able to survive on the most

marginal of pastures.⁹ On these estimates the adult working stock alone had to manage on a per-beast pasture ratio of 1 to 5.25 hectares - figures which suggest that conditions were indeed precariously poised.

Livestock in the mid-century: traction, meat and milk

It is clear from Raso's data that the changes in hacienda production had put remaining pasture lands under considerable pressure. In the barren northern parts of the state this was probably of little consequence; but in the southern valleys of Querétaro and San Juan del Río the situation may well have been dangerously stretched. In any event it is unlikely that haciendas in these areas conformed to the general depiction of neglect and wasteful underutilization.

Take the case of San Juanico during these years. From the table below it is clear that some 200 oxen were maintained on the hacienda. We know from the records of the administrator that annual levels of cultivation settled at around 785 hectares. One hundred yoke of oxen could manage only 600 hectares, but it should be remembered that San Juanico cultivated a variety of crops and that the work schedule was thus staggered over the year. The point is that the hacienda's arable sector certainly demanded a herd of at least 200 oxen, and that these would ideally have had access to some 1800 hectares of pasture. In fact the hacienda had only around 535 hectares, and this area had also to provide for the considerable number of other animals held on San Juanico.

Efforts were clearly made to relieve this situation. Fat-stock interests had already been discontinued, and revenue from the sector had been limited to the sale of oxen and cows, presumably as and when age and pasture-stocks demanded, and to the production of milk and cheese. In addition to these measures it is also clear that pastures were supplemented by the production of fodder. Given the system of accounting

TABLE 9: Livestock in San Juanico 1859-68

	Adult cows		Bull calves		Yearling bulls		2 year-old bulls		Mature bulls		Novices and Oxen		Heifer calves		Yearling heifers		2 year old heifers		Total no. sold in year	Total revenue from sales
	s	d	s	d	s	d	s	d	s	d	s	d	s	d	s	d	s	d		
1859	255		76		79		32		10		234		68		75		51			
1860	294				81		68		34		230				68		77			
1861	396	13			64		61		67	3	250	27	58	4	99		62	1	8	\$ 122.55
1862	409	109	53	9	170	18	41	6	84	3	310	45	54	6	160	5	83	3	39	\$ 496.00
1863	295	277	44	1	151	11	35	3	81	8	265	54	48	2	155	7	81	27	290	\$2832.25
1864	129	78	65	2	75	7	25	6	27	5	294	203	55	4	77	4	31	3	169	\$2192.42
1865	91	34	41		30	5	1	1	3		202	51	44		69	2	1	21	98	\$1450.25
1866	154	26									153									
1867	165	89																		
1868	76																			
Total: '61																				
Sold '65	390	\$4150.05			1	\$10			1	\$15	167	\$2528.42			1	\$11.50	44	\$318.50	604	\$7093.47

s Stock on first day of the year: net increases due to births and maturation of stock on the hacienda, or transfers from Juriquilla (114 oxen in total).

d Animals sold, died, lost or requisitioned during the year, but excluding transfers made on account of upgrading within hacienda, eg. from yearling to 2 year olds.

employed on the hacienda the extent of this supplementary feeding is hard to quantify, but we do know that barley was sown every year along with the maize temporal, and that it was occasionally purchased on the open market during the worst periods of drought - as, for example, in June 1862, when 57 fanegas were bought. Again in 1865 we find regular consignments being made over as 'pastures', starting out at a low of 2.65 fanegas per week and rising to a peak in the driest and hottest month of May to 45 fanegas.¹⁰ Maize was also regularly fed to the livestock.

Here, then, is evidence of the attempts made to alleviate the pressures on available pastures in the hacienda. These efforts amount to the beginnings of an integrated system of stock-breeding and arable production, but the records show how even these were often confounded by the Bajío climate. Late in 1858 there was reportedly no grass left on the hacienda as a result of a drought, and that consequently stock was very thin. A mere three years later in 1862 drought struck again, reducing August pastures to the expected poverty of May, and as a result the hacienda lost 62 oxen. The following September things again deteriorated, grasslands were parched and beasts were dying from starvation and disease-prone debilitation.¹¹

All of this gives us the impression that the smaller, well-endowed properties like San Juanico were operating at the limit of their resources, and were consequently particularly vulnerable to the natural hazards of the Bajío rains. Arable profits were such that cultivation was maximised and this occurred at the expense of reserve pastures. The point is further emphasised by referring to the hacienda's transport provision. It will be remembered that San Juanico sent considerable quantities of wheat to Mexico City in 1865 - transport was hired and cost the hacienda dearly. The failure to provide freight from

within the hacienda was not a case of miscalculation or oversight, since the letters of the period emphasise the paramount importance of such self-sufficiency. It rather suggests that San Juanico's capacity to hold further animals had been exhausted, and that mule-trains had been regarded as the least indispensable sector of the stock.

Oxen were of prime necessity since they were essential to the arable production. These were bred on the hacienda, as was the time-honoured practice, and the table shows how some revenue was raised from various sales and set against the considerable costs involved. Milch-cows were on the hacienda primarily for the purpose of breeding bull calves, thereafter destined for castration and the yoke after their fourth year. This prime necessity was then diversified and a separate side-line was developed round the production of milk and cheese to be marketed in Querétaro.

We do not know exactly when San Juanico began to produce milk commercially, but it certainly went back as far as January 1858, when purchases were made of soap and candles for the cowshed.¹² It was from the roof of this building that Bernabé Loyola observed the manœuvres of the Liberal and Conservative armies in the dawn of a November day in 1859. Earlier that year, in March, he had offered a Gabriel Caro the job of taking charge of the milking operation, at 20 pesos a month wages to be supplemented by a weekly ration of half fanega of maize and access to a fanega of land suitable for maize temporal. It is unknown if Caro took up the offer or not, but the accounts show that the enterprise was well underway throughout the year, and that a contract was reached in July with José G. Urrutia. The arrangement was that Urrutia would take the entire supply, from both cows and goats, and that prices would be cheaper during the rainy season from July 15 through to October 15, at 7 cuartillos per real - thereafter, one real would buy

only 6 cuartillos.¹³

On the basis of these prices it is possible to calculate that the 1859 production from San Juanico was in the region of 35,000 litres from a herd of some 255 head. Assuming a milking period of around 300 days per year, daily production per cow comes out at 0.45 of a litre.¹⁴ This takes no account of the contribution made by the goats, so per-head production could have fallen even further. On the other hand it should be remembered that milk was of secondary importance, subordinate to the main activity of breeding, and it is unlikely that all the cows were brought to the dairy for milking - in March 1863, for instance, 77 cows with their suckling calves were dispatched to Salitrillo, a nearby hacienda with more pasture available than San Juanico.¹⁵

In addition to this consideration there is also the fact that the market demand for milk during these years would hardly have justified a more concerted effort. As it was by July 1860 the administrator reported that there was a surfeit of milk in Querétaro and consequently work was started to convert the old tienda on the hacienda into a cheesery. This was not, of course, the first time that the hacienda had produced cheese - there are records of sales from the earliest of the documents available, September 1858 - so we might conclude that this conversion signified a more systematic approach to the whole business of dairy production.¹⁶

Further evidence for this trend is to be found within a couple of years of the conversion, when the hacienda undertook to lay down an area of alfalfa to feed to the dairy stock. Costs of production and maintenance were spread over three years and totalled a little short of 400 pesos. 271 lbs. had been sown in the last week of 1862 after work had been done on manuring and levelling the land appointed for the

production. A further 175 lbs were then sown in 1864, probably to replenish the planted area.¹⁷ There are no details available on the amount of fodder taken from this plot, but there are indications that the experiment was a success. In March of 1865 there is a note of the good condition of the stock, and this is connected with the feeding of alfalfa. Then again, it can be seen from the accounts of milk production that the hacienda received a steady income from it, and that revenues began to rise slightly in 1865 and 1866. Although there is no hard evidence that this rise was due to the feeding of alfalfa, it is perhaps worth noting that the number of milch-cows available for milking on the hacienda, at least in 1865, was considerably down on the earlier numbers (see Table 9).

Milk was highly perishable in the Bajío heat, and was therefore a very difficult product to market successfully. Such hazards were compounded during the years in question by the dangers of banditry and military campaigns - during times such as these the delivery of fresh milk to Querétaro was suspended and cheese was produced instead, selling later at the rate of 1 1/2 reales per pound. Other measures were taken to alleviate this problem of milk's perishability. Most importantly, haciendas appear to have made hard arrangements with retailers in the city, presumably in order to achieve some kind of equilibrium between supply and demand. 1859 appears to have been the first year of regular production in San Juanico, and by July an arrangement had been made with José G. Urrutia. We find the same occurrence ten years later on Juriquilla: a small amount of milk was being produced there in 1869 and almost immediately a contract was taken out with Juan del Campo.¹⁸ Similar arrangements also seem to have operated at the end of the 1870s in San José el Alto, although in this case the agent in question was the Querétaro-based wife of the owner of the hacienda.¹⁹

FROM MEAT TO MILK ON THE HACIENDA 1850-1912

It is clear from the production accounts of San Juanico's milk that it was becoming a profitable enterprise even during the turbulent years of the mid-century. Once the virtues of alfalfa had been appreciated it was a perfect side-line to the main livestock purpose of providing for traction and transport. Further improvements in production methods began to appear during the Porfiriato, such as the stabling of stock and the attempt to improve the genetic quality of the animals. By the 1890s the valley basins of Querétaro and San Juan del Rio were renowned for milk production, and even some of the more remote properties, such as Amascala to the north of the city, were beginning to feature as examples of progressive methods in the government press.²⁰

The option to produce milk was, of course, open to the less well-endowed haciendas as well as those of the quality of San Juanico. All that was needed was stabling and a guaranteed supply of fodder, preferably alfalfa. Even so, as in other aspects of development, it probably took these less favoured properties longer to move into systematic production.

Juriquilla is a case in point. It will be recalled that this hacienda had previously been run as an adjunct to the more prosperous San Juanico complex. Under this regime income had largely been limited to the renting out of land and to the raising of stock. The attempt to sell the estate in January 1860 had claimed that the hacienda had the capacity to hold 800 head of cattle, mules, horses and donkeys, the majority of which would have been cattle. The claim went on to aver that this herd would provide an annual production of 150 head of fat-stock ready for sale at 20 pesos each, yielding revenue of 3000 pesos. Figures for the recorded profits from Juriquilla's livestock for 1859 to 1864 show that average gross returns came to 1763.17 pesos, apparently a reasonable sum. The probability, however, is that this is an illusion

born of the accounting system used at the time. It is not surprising that the claim was made that sales could reach 150 head, since this had indeed occurred in the year in question. Late in 1859, the administrator had recorded that the stock was in fine fettle, and that he was as a result looking for a market for at least 200 head. This proved very difficult, and a contract for the sale of 200 from a local meat merchant at 200 pesos the head was only reluctantly agreed to, and even then not until efforts had been made to find a better price in Mexico City through the agencies of his brother-in-law, José Carmona.²¹

We are left with the impression that this was probably the only major sale of fat-stock during this period. 1860, the year of the sale, stands out as unusually profitable. In addition to this, the schematic accounts for the gross profits recorded for 1859 suggest that the figures reached were largely reflections of the theoretical gains made in the hacienda as a result of births and maturation - less than 200 pesos were labelled as revenue from the sale of meat.²²

All of this suggests that even on the poorer estates, those with wider spaces useless for cultivation, the decline of fat-stock production was well advanced. However, as suggested earlier, a full substitute for this activity was not quick to emerge. Daily production of milk may have been of the order of three-quarters of a barrel a day as early as 1869, but it was clearly some time before milk production on Juriquilla became more than an incidental side-line to the main job of producing work-stock. In September 1880, for instance, there were 110 milch-cows available for dairy production, but the daily flow of milk had fallen as low as 25 litres.²³

As noted earlier, more modern production methods had been introduced amongst the better haciendas during this same decade of the 1880s. Similar steps were not taken in Juriquilla until the opening of the

twentieth century. It was only in March of 1900 that José Loyola took the initial step of separating the better milch-cows, some 25, from the others, and stabling them. The rest were despatched to Solana, a somewhat arid ranch at the edge of the main property. The stabled cows were then fed with alfalfa and given more careful treatment.

These efforts were immediately rewarded: within a week production had more than doubled to 39 litres a day, and by June daily production had reached the point where 35 litres could be put aside for skimming, to make cream and curd cheese. By 6 August it is clear that the efforts have been totally vindicated with daily produce of between 100 and 110 litres, implying perhaps as much as 4 or more litres per cow per day compared to the 0.64 litres recorded at the beginning of the change of regime.²⁴

We do not have information on the sales and profitability in this newly managed sector, which is unfortunate. But is it surely safe to assume that they were an improvement on earlier levels. These, in turn, whatever the inefficiencies of the old system, had not been inconsiderable. Sales in 1892, for instance, had in all probability reached close to 2000 pesos. Costs were limited to wages, ranging from 3.18 to 3.94 pesos weekly, and implying employment of perhaps 3 men, plus occasional purchases for the dairy and of alfalfa, totalling less than 250 pesos for the whole year. Gross profits thus recorded amounted to 1760.40 pesos, a useful complement to the hacienda's burgeoning revenues from the arable sectors. A review of the hacienda's use of the road through neighbouring hacienda Jurica onto the city of Querétaro during the years 1895-7 suggests that a daily delivery was made from the Juriquilla dairy, and so there is every likelihood that revenues were of the same order in subsequent years.²⁵

Further proof that the poorer haciendas were able to profit from what was an apparently growing demand for dairy produce comes from the case of San José el Alto. It will be remembered that this was a most unfortunate estate endowed with shallow, stoney soils and no irrigation. It was however situated close to the city of Querétaro, a boon in terms of marketing and of access to supply of fodder. Ingenuity made up for the rest. In this way Roman Veraza stocked San José el Alto with 55 milch-cows in May 1879 and turned them loose on the sparse pastures of his new property. He also owned a plot in Querétaro which was irrigable - there he grew alfalfa, feed for his cows and for fattening pigs. He also milked goats, presumably more at home on the biblical stoniness of the San José hillsides.

Records remain for the sixty weeks on the hacienda from 13 May 1879 through to 4 July the following year. Milk and cheese were produced regularly, and registered on a monthly basis in the accounts; as mentioned earlier, the entire supply was sent to Roman's wife who presumably acted as a retailer in her own right. Total revenue for cow's milk over this period amounted to 695.50 pesos, and for goats' 172.25, or 867.75 in all. Goat's milk had been valued at 0.02 pesos per litre in Juriquilla in 1881, and was normally priced at about half the value of cows' milk. Assuming the latter was priced at \$0.04, over 19.250 litres were produced over the period at a rough average rate of one litre per day per cow.²⁶ There is no doubt that these yields were poor by comparison with European yields eighty years earlier, but as an ancillary enterprise on an estate as impoverished as San José el Alto it was a source of income not without significance. Above all, it represented the rewards of ingenuity and enterprise rather than idle exploitation of natural bounty.

Meanwhile on the better estates milk production was taking on a new degree of importance. On the eve of the Revolution San Juanico had

reduced its stock of dairy cattle to a mere 69, with 224 goats, but these were of a higher quality. 33 of the cows had been imported and were valued at 120 pesos each, with the total inventory reaching 4860 pesos.²⁷ Production during the week of 8 to 14 December amounted to 2268 litres from the cows and 499 from the goats, rendering average per-head, per-day production of 4.7 litres for cows, and 0.32 for goats. In mid-June 1910 there had been a total of 18 men working on this sector in San Juanico with a daily average wage of 33 cents; six of these were dairymen earning the slightly higher than average wage of 37 cents a day. By 14 December 1912 the year's wage bill in this sector had reached 2669.50 pesos: from this it is possible to calculate that for the total year wages might have come to around 2850 pesos. In April of the same year a report had been made out by the hacienda's administrator, Miguel Sobreya, and this had put the average annual gross income from milk production in San Juanico at 12,000 pesos.²⁸ We can calculate that gross profits, once wages had been deducted, would have been in the region of 9150 pesos. Without making any allowance for the effects of inflation, this figure represents an increase on the 1859-66 average of over 570%. This is certain evidence that milk production had become a crucial element in the hacienda economy, at least amongst those close enough to urban centres to take advantage of growing demand. The fact of this potential fund had not been lost on Miguel Sobreya either, since in his 1912 report he noted that further gains could be made with the introduction of 50 more imported cattle from the USA and of 300 goats, thereby raising the annual revenue to 15,000 pesos.²⁹

Some sixty years earlier milk had started out as a minor side-line to the primary task of providing the hacienda with its required work-stock for arable production. By the eve of the Revolution it had established itself as one of the hacienda's most profitable enterprises.

According to the 1909 inventory San Juanico maintained a total of 1362 head of livestock, including 263 oxen, and valued in total at 33,370.50 pesos. Many of these, the oxen, mules and horses for example, earned income indirectly by working the land or transporting its produce. According to the 1910 wage-bill a total of 40 men were employed to care for this range of stock. A further four men contributed to the successful care of this stock, two as caretakers of the drinking wells, and two as guardians of the alfalfa plots. Based on the wage levels of the times, these 44 men would have cost the hacienda a maximum of 5000 pesos a year. Gross revenue from milk sales in San Juanico, let alone incidental gains from the occasional sale of stock, amounted to some 7000 pesos in excess of this total wage-bill. In other words, milk production in San Juanico had been made so effective that the entire costs of maintaining and caring for all branches of livestock on the hacienda had been more than covered by this one aspect, their utility. Surely this is firm evidence of the emergence, at least in San Juanico, of a fully integrated relationship between the arable and livestock interests within the hacienda economy. Finally, there is no reason for us to regard the case of San Juanico as unique; indeed, in the government surveys of the last two decades before the Revolution, San Juanico was never singled out as a notable case of dairy production, but rather for other aspects of its economy - other estates, such as Jacal, La Llave, and Montenegro, were apparently more remarkable for their modern dairies and systematic breeding for milk production.³⁰

INDIGENOUS CROPS OF HIGH COST AND HIGH RETURNS: CHILE AND CAMOTE

A pattern to the development of the hacienda economy in the eastern Bajío is now beginning to emerge. The way in which the milk production rose to importance in the cases just discussed in fact foreshadowed some of the key elements in the more recent developments of the region's agrarian economy.

Central to all these has been the constraints of nature, the Bajío's limited amount of fertile land and the hazards of its unreliable rainfall. There is no need to reiterate the role played by irrigation in overcoming some of these problems, but it should be remembered that there was a limit to the area amenable to this as long as methods relied on the gathering of rainfall and river waters. The problem of the temporal lands had been largely resolved by the introduction of sharecropping, but profits in wheat depended upon at least a fairly extensive area open to irrigation. The profits made from this crop in San Juanico and Juriquilla came from cultivating more than 200 hectares. This was by no means an inconsiderable area: some haciendas like La Llave in San Juan del Río were able to boast of very much more, but it is worth noting that the average area of irrigable land in the districts of Querétaro and San Juan del Río, the main locations of such facilities, came to less than 60 hectares per hacienda in Raso's day.³¹ By the time of the first post-Revolutionary survey in 1929-30 this figure had risen to some 165 hectares, but we must assume that some of this increase had been accomplished in the decade preceding the survey.³² In any event it is clear that even with sharecropping in maize temporal and the development of profits from irrigated wheat, haciendas without extensive areas of irrigable lands were still somewhat caught up on the horns of the original dilemma.

Milk had provided a glimmer of hope for these haciendas: quite small areas of irrigated lands planted with alfalfa could provide

important supplementary feed for dairy livestock, and given a convenient outlet, the enterprise could be made to be profitable.

Similar prospects were held out to haciendas by two traditional products, chile and camote. Both required irrigation, but both could also yield high per unit-area returns, certainly in excess of those of wheat.

Chile in San Juanico, Juriquilla and Agua Azul

There are many varieties of chile indigenous to Mexico; those most usually grown on the Querétaro haciendas were Pasilla, Mulato, Ancho Colorado, and Trompillo. It was not a straightforward crop to produce: Miguel Sobreyá had commented that it required great care and had many enemies, thus making yields hard to predict, and José Loyola had remarked that successful production depended upon a very intensive working and reworking of soil prior to planting out. Plants were started out from seed in the nursery during November and December - the impression left by the accounts for Agua Azul in 1885 suggests that this was intensive work, with 1160 peon-days invested on behalf of 12 cuartillos of seed.³³ The plants were then transplanted in March, at a time when they were less vulnerable, as for instance to frost - in 1894 the hacienda Mayorazgo lost 800 plants in this way, and Juriquilla only survived the same low temperatures of March 21-22 by virtue of José Loyola's precaution of covering them with protective sacking.³⁴ The next tasks were weeding, which took place in April and June, followed by irrigation in May and late June as required. Harvesting started in August and often ran through September.

All this intensive care made chile an expensive crop to produce; Raso reckoned that it incurred more than 16 times the costs of labour needed for maize, and more than 12 times those of wheat.³⁵ It would be unwise to try and calculate yields and costs on the basis of unit-areas,

since we have little hard evidence to go on, but there are strong indications that one hectare of irrigated land could well have accommodated more than 5000 plants.³⁶ Miguel Sobreyá reckoned that a plantation such as this would produce between 2500 and 3000 arrobas, each one 25 lbs.³⁷ If other haciendas could manage as well as San Juanico such yields would have given them perhaps as much as 75,000 pounds of chile per hectare of land planted out. As with other products, the market value for chile varied, not just according to the quantity of the region's annual harvest but also according to the quality of product - by 1913 chile pasilla produced in San Juanico was being sorted into six different grades.³⁸ But, according to all the evidence at our disposal for the years of the Porfiriato, prices were normally sufficient to justify sale, and, barring disasters such as occurred in Mayorazgo in 1894, our impression is that the crop was progressively more profitable.

Perhaps this had not always been the case. The earliest record for production in San Juanico is 1858 - 1506 plants were raised in the nursery during the last months of 1857 at a cost of 183.75 pesos, or about 12 cents each. Labour costs in working the soil and in tending the growing crop brought the total costs, including the harvest, to 542.16 pesos. The vast majority of the produce was sold green during July and August, the rest being marketed once it had dried during November and December. Total sales yielded some 550.38 pesos, barely sufficient to cover the costs of production, and as a result it looks as though the experiment was discontinued.³⁹ At some later point, however, production was resumed. We do not know when or why, but it is probably safe to assume that it coincided with more stable trading conditions and the development of improved techniques.

Fragments of information suggest that the sector was well established in San Juanico by the 1890s - during the week of 22-28 May -

1892 there had been a total of 474 peon-days committed to the sector at a cost of 88.49 pesos; and in 1896 during the time for planting-out from the nursery, 15-21 March, the labour commitment reached 1210 peon-days, at the cost of 217.96 pesos.⁴⁰

It had been during the 1880s that production had been developed in Juriquilla, although substantial investments were not risked there until the 1890s (see table 10). The evidence is somewhat fragmentary but it looks as though yields were lower in Juriquilla than in San Juanico, something which we would in any case have expected: in the latter hacienda yields per plant were unlikely to fall below 12 1/2 lbs, whereas this may have been the optimum level achieved in Juriquilla. Given an inferior level of performance, it is quite likely that Juriquilla delayed production whilst the fertile San Juanico had picked up considerably earlier.

Such an inference is supported by the evidence we have for the production of chile in Agua Azul, a hacienda near to Apaseo el Alto in Guanajuato. This was a property which fell between the quality differences of San Juanico and Juriquilla, and it is clear from the records left for the hacienda's activities during the years 1885-90 that chile production was an important component of the estate's profitability. Costs there were always higher than the peak year for Juriquilla, and indeed came close to those of San Juanico for 1910 when wages had reached higher levels.

Accounting eccentricities in Agua Azul make it difficult for us to put an exact figure on the profits achieved from chile during the years 1885-90. The two most profitable crops raised on the hacienda were bought up by the more active of the two partners who owned the property. Wheat and chile were thus transferred without precise record of their amounts. In the opening year of the partnership, however, this practice

had not been introduced, and so we are able to glean some idea of chile's profitability.

Costs in chile production for 1886-7 were spread across the months from October 1886 to December 1887, taking in labour commitments from the nursery stage through to the completion of harvesting and packaging. The total sum reached 2014.73 pesos. Some small and insignificant sales were clearly made on the hacienda during the weeks after the harvest, but the huge bulk of the produce was bought outright by the active partner of the enterprise, Alfonso Veraza, on 7 January 1888. He paid 8021.38 pesos for this produce, bringing total revenue to 8197.53, and it may be fair to assume that this amount did not fully reflect the market value of the crop, since it is likely that don Alfonso was reserving at least a part of the marginal value as a reward for his entrepreneurial activities. In any event, the transaction gave the hacienda an ample figure for gross profits from the sector of 6092.80, three times the amount incurred as costs in production. It is unfortunate that we do not have more explicit evidence for the subsequent years' production, since this would put the matter beyond doubt; instead, it must suffice to point to the high profits of the initial year's enterprise, and to reflect that the sustained levels of costs, including those incurred during the harvest season, do not in any way suggest that the hacienda's interest had been blunted by a run of disastrous years or a decline in revenue. And certainly the trading account of our active partner Alfonso Veraza remained brim full and vigorous.

Juriquilla's profits give the appearance of having been more modest. This is to be expected since production had been limited to a more reduced scale. But even here the apparent trend was towards a larger and considerably more lucrative sector, as the statistics for

the years from 1892 demonstrate. During the last two decades before the Revolution the value of chile tended to rise quite sharply;⁴¹ given this stimulus and the confidence born of the three progressive successes in 1892-94, there is good reason to assume that the hacienda's interest in the crop was at least sustained and very likely extended.

TABLE 10: Chile Production in Juriquilla, 1887-94

<u>Year</u>	<u>Costs</u>	<u>Production</u>	<u>Sales</u>	<u>Profit</u>
1887	254.81		100.45	- 154.36
1888	605.35		149.91	- 455.44
1889	444.74		532.93	+ 88.19
1890	387.30	270.00	667.74	+ 280.44
1891	542.28	405.00	973.75	+ 431.47
1892	877.13	780.00	2298.54	+1421.41
1893	1505.09	1206.13	4488.19	+2983.10
1894	1635.44	1287.00	3763.76	+2128.32

Costs, sales and profits are given in pesos and centavos. Production is given in arrobas and pounds.

Source: AJ/CC July 1896.

Events on the other side of the city in San Juanico would have confirmed any optimistic outlook. Data already referred to on wages paid in 1892 and 1896 provide solid indications that the chile sector there was well underway. On the eve of the Revolution, during September to December 1909, considerable consignments of three grades of chile pasilla, colorado, and mulato were made to the company of Angel Pelayo in Querétaro. These suggest that the harvest of 1909 was a bumper one of more than 6000 arrobas. Less substantial but still healthy quantities were delivered to the separate companies of Carlos Ortiz and Florencio Sánchez, both of Mexico City, during the early years of the Revolution, with prices for the best grades of pasilla and trompillo reaching 30 cents

and 90 cents the kilo respectively. Given this flourishing state of production it seems legitimate to take the estimates made by administrator Miguel Sobreyá in 1912 as erring on the side of the conservative. He reckoned a crop production of 2500 arrobas, pricing it at 6 pesos the arroba, the equivalent of an average value of 53 cents the kilo, and therefore registering the sector with gross revenues of 15,000 pesos. Wage lists up to the middle of December 1912 provide us with solid grounds for assuming crop costs to have been at most 3000 pesos; further income of 1500 pesos was to be had from the sale of chile trompillo whilst still green, thus rendering a balance for gross profits in the region of 13,500 pesos.⁴² It is hard to argue with figures as bountiful as these and we are left with the distinct impression that chile had become highly remunerative to the hacienda. On the bases of chile, sharecropped maize, irrigated wheat, and dairy production, the hacienda had emerged as a triumphantly profitable enterprise.

Camote in San Juanico, 1857-65

So far we have examined the way in which the hacienda moved forward over the period from 1840 to the outbreak of the Revolution. Its progress and emergence into a fully-fledged commercial enterprise has thus been linked to a number of different crops and to the method of their production - sharecropped maize temporal, irrigated wheat, alfalfa-supported dairy production, and ultimately, chile of various types. Each of these aspects of the hacienda economy tended to grow in importance, both in terms of output and profitability, over the period in question. There were, however, other products which had a different history. These, like camote, played an important part in their time by contributing profitable returns to the hacienda, but then declined in importance, becoming finally marginal to the overall economy of the hacienda.

Camote, or sweet-potato, was, like chile and maize, indigenous to the New World. It required well-worked and deep, sandy soils with an abundance of water - which possibly explains why it had been cultivated on only a reduced scale during the times of Raso's survey.⁴³ Ploughing and harrowing had to penetrate as deeply as possible, a task done during January and February, and then furrows and ridges were made as in the practice for garden potatoes in England. Seed camotes were then planted along the tops of the furrows in the middle of April. The plot was irrigated and weeded intensively in June and July, and again in August. The tubers were ready for digging by the beginning of October, and sold by the piece, known as 'macho' - according to the little information available to us, the machos varied in price according to size, and in 1865 they were selling for 3, 2 1/2, and 2 reales each.⁴⁴

The table below (Table 11) shows how this line of production was indeed fruitful in its time. It looks as though the initial years from 1857 were tentative, but that the area was increased as the results proved that the crop was profitable. By 1860 the piece cultivated had reached the size of 4 fanegas de sembradura, over 21 hectares of the most valuable land on the hacienda and given the value of 3200 pesos in 1861.

Although the table shows that the crop was indeed profitable, it is also clear that camote was not without its problems. The 1861 crop was a total write-off due to blight, and in 1865 a good part of the harvest was lost owing to flooding - the need to irrigate profusely meant that part of the crop was planted alongside the river Querétaro, and although this was normally an asset, just once in a while it exposed the fields to flood damage. However, despite these occasional hazards, the crop worked well for San Juanico, vindicating the early experiments by returning average gross profits over the nine years in question of more than 1600 pesos.

TABLE 11: Camote (Sweet-Potato) Production in San Juanico 1857-65

Year	Cost of Production	Sale price of produce	Gross Profits
1857	\$ 859.81	\$ 1,274.73	\$ 414.92
1858	\$ 931.53	\$ 2,167.31	\$1235.78
1859	\$1260.41	\$ 3,323.30	\$2062.89
1860	\$1232.82	\$ 2,303.55	\$1070.73
1861	\$ 926.00	\$ 944.95	\$ 18.95
Totals	\$5210.57	\$10,013.84	\$4803.27
Averages	\$1042.11	\$ 2,002.77	\$ 960.65

(9100 'machos')			
1862	\$ 699.69	\$ 2,399.75	\$1700.06
1863	\$ 801.40	\$ 3,127.55	\$2326.15
1864	\$ 764.00	\$ 5,438.59	\$4674.59
1865	\$ 708.76	\$ 1,861.23	\$1152.47
Totals	\$8175.42	\$22,840.96	\$14665.54
Averages	\$ 908.38	\$ 2,537.88	\$ 1629.50

Apart from this monetary contribution to the hacienda camote was also important as a stage in crop rotation. The land used to raise this crop was also used to produce half-irrigated maize. The camote machos were lifted late in one year and the land was then prepared for half-irrigated maize at the beginning of the next. Towards the end of April the land was irrigated and then sown in May. Here there was the advantage that the hacienda did not have to wait for the onset of the rains before planting as was the case in the temporal sector. Weeding was performed in late May and mid-June, and in the case of drought or delayed rains, further irrigation in June. Some of the crop was harvested green as olote at the end of July, and then the main harvest took place at the end of September and the beginning of October. The sale of olote was often lucrative, as in 1865 throughout June, July and

August, when revenue reached more than 1370 pesos, and in general the sector performed well.⁴⁵ There are no exact details of production for the years 1856-60, but we know from comments made by Bernabé Loyola that the crop did well over these years with average costs of 632.63 pesos and profits of 1104.69 pesos.

Fully irrigated maize was by contrast most disappointing. In this case the cycle was embarked upon earlier with irrigation and sowing taking place in February and March. For some reason or other the crop was especially susceptible to blight and as a result the experiment was abandoned early on. It should perhaps be noted in conclusion that the success of half-irrigated maize might have been due in part to the system of rotation with camote and also to the treating of the land concerned with manure from the cowshed, although we have no hard evidence on the extent and regularity of this practice.

THE HACIENDA TRIUMPHANT: PROFITABILITY AND ACCUMULATION

The argument this far has concentrated on the four main products of the emergent hacienda economy - maize, irrigated wheat, chile, and milk and cheese. An attempt has been made to examine each of these within the context of a variety of conditions. The purpose of this design has been to demonstrate how these profitable lines of production were open to a number of hacendados in the region and not just to those for which we have evidence. The time has now come to look at these specific cases in the round, and to assess their individual progress and profitability.

The problem of 'gastos generales'

Systems of accounting during the nineteenth century have made it difficult for us to assess the precise capacity of the hacienda to be profitable and to accumulate. This is because no real distinction was made between the transactions of the hacienda as productive enterprise and those of the hacienda as domestic household. The confusion was invariably focused under the concept of 'gastos generales' or general costs.

In San José el Alto these costs were sometimes listed as specific items, as for instance the shoeing of the household horses, the purchase of hats, the payment of excise duties or alcabalas, and the giving of alms; at other times the entries were of a general nature, such as 'purchases', 'household expenditure' and 'costs of the children'.⁴⁶

A similar practice was to be found at work in the large and profitable hacienda of Chichimequillas, once the property of the Carmelites. The diary for 1904 survives, and this shows a number of specific costs listed against the general concept of 'gastos generales', including the fees paid to the priest and the sacristan for conducting masses, candles for the Church, stamps used in the issue of invoices, notebooks for the office, wages for the household maids, and transport costs on 20 bags of salt delivered by the National rail company - a veritable multitude of petty costs. Other more general entries were more substantial, however, such as 'out-of-pocket expenses of Remigio Noriega' (the hacendado), and 'for various items brought from the tienda for the house'. The most significant of all were the wages and rations covered by this concept on a regular basis, although bimestrial payment of 'contribuciones' exceeded these.⁴⁷

Further examination of the accounts for 'gastos generales' in San Juanico and Juriquilla confirms this general impression. It is

important to appreciate that quite substantial deductions were made from hacienda profits to provide for household routine, since such subtractions tended to conceal the full abstract profitability of the enterprise. But it is also important in a further respect, in that these domestic expenses show that residence on the estate was a more frequent practice than had been previously the case.

Domestic expenses may have biased the image of the hacienda's profitability, but it should be emphasised that a good part of the concept of the 'gastos generales' in fact concerned the hacienda as a productive enterprise. As already mentioned, it contained the important costs involved in transport, and also all payments made as taxes to the state and as interest incurred by mortgages and loans. Nor were the wages, rations and fodder covered by this concept irrelevant to the running of the hacienda economy.

The tendency was to include most permanent staff under this heading. During the 1860s on San Juanico this included the salary of Bernabé Loyola, then the administrator, as well as many other workers employed on an annual basis. As the years progressed and the economy became diversified the number of people listed under 'gastos generales' increased. Reference to a wage-bill drawn up on the eve of the Revolution in San Juanico shows the extent of this increase. By this time they numbered some 27 employees, costing for the week close to 100 pesos in wages alone. The list included the administrator, the book-keeper, the wages-clerk, three majordomos (one in charge of the carts), three watchmen (two for the hacienda's outreaches, one for the barns), two well-keepers, two porters, one night-watchman, six menservants, two carpenters, one crier, one dam-keeper, and three entrusted with the care of the ploughs and harvesting tools. The most highly paid was the administrator with a weekly wage of 20 pesos, followed by the book-keeper

and wages-clerk with 9 and 8 pesos respectively. The majordomos made 6 pesos a week, whilst the rest received considerably less at an average of only 2.27 pesos a week.⁴⁸

Profitability in San Juanico and Juriquilla 1859-66

The more precise data given during these later years helps us to assess the earlier profitability of San Juanico. Wages paid out during the years from 1910 to 1916 under the heading of 'gastos generales', including those of the blacksmiths and saddlers, do not appear to have exceeded 5,500 pesos for the year.⁴⁹ The total sums for 'gastos generales' registered in the accounts for 1858-66 were, however, very much more substantial, as revealed in the table below. On this basis we must assume that labour costs included in the concept during these earlier years accounted for only a proportion of the total deduction. There is no way in which we can discover the full detail of the expenditure charged against the gross revenue yielded by the San Juanico enterprise, and so it is impossible to make an exact assessment of the amount which was extraneous to the actual business of running the hacienda as a productive concern. Even so, a review of the data for San Juanico and Juriquilla, set out below, is enough to suggest that such figures omit a good part of the story.

On the face of it, these figures belie most of what we know of the haciendas concerned. According to these annual net balances, Juriquilla was a more profitable property than San Juanico, with average net profits of over 4250 pesos as against only 2353.54 pesos. Juriquilla also appears to be considerably more reliable - something which we would not expect for a property almost totally dependent on temporal production. Juriquilla registered a net deficit in only one year, the disastrous 1862, whereas San Juanico registered three instances of loss.

TABLE 12: Annual Accounts in San Juanico (SJ) and
Juriquilla (JQ), 1859-66

	Year	Gross Revenues	Total Deductions	Balance
		\$	\$	\$
	SJ 1859	9,835.44	9,631.10	+ 204.34
	JQ 1859	7,085.80	3,552.00	+ 3,553.80
	SJ 1860	16,021.56	9,075.00	+ 6,946.56
	JQ 1860	12,084.23	4,408.95	+ 7,675.28
	SJ 1861	6,590.00	14,061.00	- 7,471.00
	JQ 1861	12,198.47	5,021.38	+ 7,177.09
	SJ 1862	15,843.00	17,381.42	- 1,538.42
	JQ 1862	4,195.75	5,532.30	- 1,336.55
	SJ 1863	10,849.46	16,126.64	- 5,277.18
	JQ 1863	8,042.67	4,863.36	+ 3,179.31
	SJ 1864	39,746.48	29,084.08	+10,672.40
	JQ 1864	6,045.80	5,745.53	+ 300.27
	SJ 1865	22,760.07	12,631.07	+10,129.00
	JQ 1865	11,719.56	2,701.03	+ 9,081.53
	SJ 1866	16,943.56	11,780.97	+ 5,162.59
	JQ 1866	7,768.62	3,284.12	+ 4,484.50
<hr/>				
TOTALS				
	SJ	138,599.57	119,771.28	+18,828.29
	JQ	69,140.90	35,108.67	+34,032.23
<hr/>				
Annual Averages				
	SJ	17,324.95	14,971.41	+ 2,353.54
	JQ	8,642.61	4,388.58	+ 4,254.03

All figures are in pesos.

Source: ASJ/LC 1859-66.

The key to this puzzle is to be found in the figures for the total deductions, which were on average over three times as high in San Juanico as Juriquilla. More importantly, they were also considerably higher than the figures given for San Juanico in the years from 1910 to 1916. Further research into the hacienda's accounts revealed that the enterprise was burdened with substantial costs quite extraneous to the routine functioning of the property. The largest of these were as follows:

1861, family expenses.....	\$ 4,780.00
requisitioned by armies.....	\$ 4,480.00
1862, household expenses.....	\$ 6,624.56
1863, trip to Guanajuato.....	\$ 2,999.06
1864, family expenses.....	\$16,971.67
fire damage to city property..	\$ 4,961.88
<u>Totalling</u>	\$40,817.17 ⁵⁰

There were also many other entries of more trifling sums relating to the steady toll of requisitions inflicted on San Juanico by both the Liberal and the Conservative army. Additional losses were incurred as a result of various attacks made on the hacienda by gangs of bandits. The combination of these attacks and the incursions of both armies eventually forced a reluctant Bernabé Loyola to abandon the casco of San Juanico for the comparative security of the city of Querétaro. There he was compelled to remain from the summer of 1860 to the middle of August 1863. Early on in this exile the casco of San Juanico was badly damaged by either soldiers or bandits, or both, and the subsequent repairs cost the hacienda dear in time and money.⁵¹

It is almost certain that all these various costs were charged to the hacienda. This was a legitimate practice since they were in fact borne by the enterprise, but it does provide us with a distorted view of the hacienda's essential profitability. Extraneous costs over the period 1859-63 were clearly unusually high, both in terms of family expenses and losses due to the political upheavals. Burdensome interest payments on outstanding mortgages had been discontinued after the Liberal Reforms of 1856, and, apart from wages, the only significant cost was that of transport. When trade between Querétaro and Mexico City was resumed towards the end of 1864 this cost was once again

significant - over the months from December 1864 to August 1865 some 830 cargas of wheat were delivered to the capital and cost the hacienda almost 3250 pesos in freight charges.⁵²

All of this gives us a more accurate picture of San Juanico's profitability. The combined total of the wages of the permanent workers, the costs of transport and excise taxes, and the domestic budget, carefully managed, was probably less than ten thousand pesos a year.⁵³ On the basis of this estimate San Juanico would have provided a regular net profit of around 7,500 pesos. In 1861 the value of the capital assets of the hacienda was put at 87,814.75 pesos⁵⁴ - this rate of profit thus represented a return of some 8 1/2% on the capital invested, a figure which fits with don Bernabé's comment at the time that "agricultural properties did not in general yield more than 10%".⁵⁵

Much of this reasoning remains unfortunately impressionistic, but there does seem to be the basis for assuming that at least some haciendas were emerging as sound commercial enterprises with the capacity to offer investors attractive rates of return on capital. Even the less well-endowed Juriquilla managed to present a facade of profitability. According to the recorded net profits for the period 1859-66 the average expectation was in the region of 4250 pesos. The value of the hacienda's land, buildings, and stock did not exceed 80,000 pesos at this time, and the rate of return thus came to over 5%.⁵⁶

Profitability during the Porfiriato

We do not have such detailed figures for the later period, but there is every indication that the conditions of production became increasingly favourable for the hacienda. Markets increased for both traditional and new products, whilst costs lagged behind, especially in the sphere of wages. Given this background and the successful introduction of sharecropping into the maize temporal sector, there is

every reason to believe that hacienda profitability increased with the years up to the Revolution.

According to the information remaining for 1892 (regarded as a disastrous year for agricultural production), Juriquilla was making substantial profits from sharecropped maize, irrigated wheat, dairy produce and chile. Other less remunerative interests made further contributions whilst losses and general costs barely exceeded 2000 pesos. The net profit accruing to the hacienda that year came to 11,789.85.⁵⁷ It is difficult to assess this figure as a percentage return on capital since we have no updated record of the hacienda's value. The figures cited in the 1908 will of Bernabé Loyola, however, serve to give us some idea of the hacienda's restructured potential. The land and buildings were probably undervalued, as was the practice at the time, and assessed at some thirty four thousand pesos; livestock, machinery, farm implements, and office and chapel furnishings combined to give some eleven thousand pesos more - the total value of the estate thus came to around forty-five thousand pesos.⁵⁸ On this estimate the 1892 profits represent an excellent return on capital of more than twenty-five per cent. Even if some consideration is made for the underestimate of the hacienda's basic value we are still left with the impression that Juriquilla was a flourishing and highly profitable enterprise.⁵⁹

We can be more accurate in the case of San Juanico. In 1912 the administrator Miguel Sobreyra drew up a careful assessment of the hacienda's production, costs, sales, and profits. By this time San Juanico had developed a number of different interests - wheat, chile, maize, beans, tomatoes, sweet-potato, marrows, lentils, melon, vegetables and milk. By far the most important of these were wheat, chile, maize and milk - together they accounted for close to ninety per cent of the total revenues of 76,740 pesos. Deductions for wages and taxes came to

some 30,000 pesos, leaving a net profit of about 46,740 pesos.⁶⁰ The Sobreyra assessment thus represented a rate of return on capital invested of more than 22 1/2%. We are unlikely to come across a more resounding proof of the hacienda's final triumph over its earlier hazards and shortcomings.

Footnotes to Chapter Five

1. Super 1973, pp.39-47, 94-101.
2. Van Young 1981, pp.44-46.
3. Van Young 1981, pp.207-20, 193; Brading 1978, p.20.
4. Morin 1979, pp.243-251.
5. Morin 1979, p.246.
6. Morin 1979, p.245.
7. Morin 1979, p.245; oral confirmation from Señores Roiz, Urquiza, and Cevallos.
8. Raso 1848, p.40.
9. Raso 1848, p.40.
10. ASJ/LC 1865.
11. ASJ/CC 1858-62.
12. ASJ/D 1858.
13. ASJ/CC 1859.
14. ASJ/D 1859.
15. ASJ/CC 1863.
16. ASJ/CC 1858-60.
17. ASJ/LC 1862-64.
18. AJ/CC 1869.
19. ASJA/LC 1869-70.
20. La Sombra, January 1890.
21. ASJ/CC 1859-60.
22. ASJ/LC 1859-60.
23. AJ/CC 1880.
24. AJ/CC 1900.
25. AJ/CC 1892, 1895-97.
26. ASJA/LC 1879-80.
27. 1909 Inventory of San Juanico, see Appendix II.

28. ASJ/LC, CC, LR 1910-12.
29. ASJ/CC 1912.
30. La Sombra, 16 June 1891.
31. Raso 1848, p.34.
32. Censo Agrícola Ganadero, Estado de Querétaro (Mexico, 1930), p.14.
33. AAA/LC 1885.
34. AJ/CC 1894.
35. Raso 1848, p.43.
36. Carlos Gajon Sánchez, Horticultura Moderna (Mexico, 1927), pp.72-74.
37. ASJ/CC 1912.
38. ASJ/LC 1913.
39. ASJ/LC 1858.
40. ASJ/LR May 22-28, 1892; March 15-21, 1896.
41. El Colegio de México 1961, p.66.
42. ASJ/LC, LR, CC 1909-12.
43. Raso 1848, p.43.
44. ASJ/LC 1865.
45. ASJ/D 1861, LC 1858-65.
46. ASJA/LC 1879-80.
47. AC/D 1904.
48. ASJ/LC 1860-65.
49. ASJ/LR 1910-16.
50. ASJ/LC 1861-64.
51. ASJ/CC 1860-63.
52. ASJ/CC 1864-65.
53. In 1861 Bernabé Loyola made a careful assessment of the household budget since it was shared by himself and the owner of the estate, Timoteo Fernández de Juárezgui. There were seven members in the household, don Bernabé was responsible for two of them, himself and

his wife, Catalina Fernández de Juárezgui; the other five were the responsibility of don Timoteo. The amount spent during the year came to 4780.52 pesos, or around 680 pesos a head. Inflated amounts for other years included the more considerable costs of travelling - on one occasion to León and Guanajuato, and on another to Europe.

54. ASJ/D 1861.

55. ASJ/CC 1860.

56. ASJ/D 1861. It should be emphasised here that Juriquilla in the 1850s and 1860s was run very much as second string to San Juanico. As a result it was seriously undercapitalized and could not achieve its potential. Subsequent years of a very different regime, in the hands of Bernabé Loyola, were to show the extent to which it could be run at a profit.

57. AJ/LC 1892.

58. AJ/Inventory of estate 1908.

59. It is worth emphasising here that Juriquilla was far from an exceptional property - in many respects it was inferior to most of the haciendas located on the plains between San Juan del Río and Querétaro, and it certainly did not feature very prominently in the glowing accounts of the area's thriving agriculture which appeared in La Sombra de Arteaga and elsewhere during the last two decades of the Porfiriato. Given this, it is fair to assume that there were many other haciendas more profitable, and that its success was in part the result of judicious management.

60. ASJ/CC 1912.

61. ASJ/Inventory of Estate, 1909.

CHAPTER SIXCLASSES, SOCIAL TENSIONS, AND THE REVOLUTION

THE HACIENDA AND IMPROVING INVESTMENT

When Raso reviewed the prospects for the hacienda in the 1840s he identified three areas of crucial importance, the high costs of labour, the paucity of capital investment, and the poor quality of hacendado management.

The preceding chapters have demonstrated how the hacienda finally triumphed. Markets expanded and a revitalized hacienda met the higher demands. In Juriquilla maize production leapt up sevenfold between the 1860s and 1890s. We discovered similar increases for wheat in San Juanico and Agua Azul, and also uncovered the beginnings of lucrative lines in chile and milk. Figures for the state of Querétaro confirm this trend: between the 1840s and the 1880s wheat production rose by over 500%, beans by 300%, and chile by more than 160%.¹ Such increases doubtless continued during the last two decades prior to the outbreak of the Revolution in 1910.

These increases had followed a general rise in prices. The most sustained trend picked up from the beginning of the 1870s. Rural property values doubled between 1874 and 1900, and increased a further 86% by 1910;² only some of this was due to investments in buildings and irrigation. Maize meanwhile more or less trebled in price, and wheat came close to doubling. All other commodities followed this upward trend, with the singular exception of labour.³

This had been the key to the hacienda's success. Some progress had probably been made in the reduction of labour costs through the introduction of more efficient and mechanized methods, but by far the most important source of profits was the sustained decline in real labour costs.⁴ On the one hand daily rates had remained much the same

for over a hundred years, from the 1770s to the 1890s, and on the other, the hacienda had made great savings through the introduction of share-cropping in maize temporal.

With markets booming and labour costs depressed, the triumph of the hacienda was assured. Profit margins increased and investment in the hacienda became both possible and attractive. Some of this occurred in the immediate train of the growth in market demand. Increases in wheat output, for example, could only occur after lands had been levelled and irrigation extended. Quite significant amounts of money were thus spent relatively early on: 12,000 pesos for instance in San Juanico between 1846 and 1860, and over 4,500 pesos in the construction of a dam in Juriquilla during the turbulent years of 1859-63.⁵

Nearly all of the money invested in these kinds of improvements, including the construction of hacienda buildings and fences, came from labour costs. Outlay on materials was insignificant, and quite often the hacienda could provide for itself, as for timber and masonry. Elaborate schemes to extend the area's irrigation continued into the twentieth century, as in the cases of the valley projects of Tequisquiapan and San Juan del Río.⁶ A further example was that of Batán in the district of Pueblito. Records of this project have survived to give us an idea of the investment involved. Over the first year of the work, from February 1905 to February 1906, almost 2500 metres of aqueduct were completed, one metre in width and seventy centimetres in depth. The work force varied in composition but it seldom comprised less than 15 masons and 100 helpers. Total costs over the year reached some 18,721.52 pesos, a very considerable sum to spend on a property of only 1240 hectares even if it did include a flour and paper mill.⁷

The other main point of investment, as we have already seen in San Juanico, Juriquilla and others, was in the purchase of more up to date

machinery. Much of this came from abroad, Europe and the United States. Within this context the hacienda's renaissance appears less healthy. The overall increases in profitability had not been significantly undermined by price inflation in Mexico itself, but the global picture was rather different.

Credit and devaluation of the peso

Up to around 1872 the purchasing capacity of the Mexican peso was fairly sound, but after this date its value began to decline along with the world depreciation of silver. The peso thus suffered a devaluation as an international currency, and over the years 1870-1912 it fell at least 60% against the dollar.⁸ Haciendas producing crops for the export market of course benefitted somewhat from this devaluation, but the arable enterprises of the mesa central received no such consolation. The effects may, on the contrary, have been adverse and far reaching, especially to those hacendados most inclined to modernize their properties, since the imports they required in machinery and livestock thereby cost them more.

The situation was not eased by Mexico's chronic inability to provide ready agrarian credit. An efficient banking system was slow to develop, and even then it was heavily biased towards investments in Mexico City, and some considerable distance behind, towards the northern states.⁹ It is reckoned that only a very limited number of enterprises had access to sufficient long-term credit to be able to embark upon a radical course of technical development.¹⁰ The majority were left to get by on the traditional sources of public foundation and private short-term loans.

By this late stage, of course, the most available traditional source had been put out of the running - the Church and the lay orders. All mortgages and loans from this source had been effectively redeemed by the liberal measures of the Reforma in 1856. These were notoriously

substantial - according to Raso, more than 20% of Querétaro's agricultural properties, by value, were thus encumbered; by the mid-1850s this proportion had no doubt increased.¹¹

The weight of these debts had undoubtedly taken their toll of hacienda profitability.¹² Even more burdensome had been the demands of the Church tithes, which Raso had put at two and a half times as high as the interest repayments accruing from mortgages and loans.¹³ The spread of these burdens was probably uneven, with some properties considerably laden and others relatively free. This is borne out by what we know of San Juanico and Juriquilla. The former was heavily indebted to both the Convent of Santa Clara - with which the hacienda had an ancient connection - and the Congregación de Nuestra Señora de Guadalupe. These two debts amounted to 48,569.75 pesos, with interest payments at 5% coming to 2428.49 pesos, whilst outstanding debts on Juriquilla were only of the order of some 6,000 pesos, owing to the Colegio de Santa Rosa. The San Juanico accounts of these loans and their subsequent redemption by way of the Ley Lerdo are somewhat confused, and so it is difficult to assess their precise effect on routine profitability. There are, however, strong indications that a good part of the interest payments had not been paid, perhaps to the tune of up to 9405.66 pesos. In any event it is clear that San Juanico's position was considerably helped by the cancellation of these debts, and that the way was now open for the hacienda to develop into a fully commercial enterprise.¹⁴

Within a couple of decades the hacienda economy was, as we have already documented, on the threshold of a period of expansion and diversification. Recent improvements in overall profitability had provided for some latitude for investment, but there have been suggestions that the hacienda was once again becoming heavily indebted. The evidence for this state of affairs in Querétaro is inconclusive.

The compiled list of recorded mortgages is undoubtedly incomplete but it does not suggest that the hacienda was becoming crippled by a further outbreak of mortgaging.¹⁵

In the first place the size of the loans accumulated during the last decades of the nineteenth century do not appear to be excessive, especially within the context of the overall rise in rural property values. Secondly, despite the increase in the rate of interest charged on these loans, and the shorter duration of a good number of them, there is evidence that many were successfully redeemed.¹⁶ There is also the suggestion that a fair proportion of them emerged as a result of a property transaction - either through inheritance or by way of a sale on the open market. There was nothing new about this, but what is significant is that these rarely ended in legal proceedings or bankruptcy.

Chichimequillas: Feliú bankruptcy and Noriega's fortune

The single most obvious case of catastrophic indebtedness is that of Ramón Feliú's ownership of the ex-Carmelite property of Chichimequillas. The Feliú family were Chilean and based in Mexico City. Ramón's father, Hermenegildo, bought the hacienda in 1872 and by 1876 it was reported to be encumbered by a mortgage of 75,000 pesos - repayable over 5 years at an interest rate of 8% per year.¹⁷ By this time Ramón was in charge of the hacienda's administration, something which turned out to be somewhat disastrous.¹⁸ In May 1877 the government press reported "serious differences between the owner and the workers on Chichimequillas", and by May 1882 José Loyola was writing of the "poor administration of Chichimequillas", and reported that it had gone from bad to worse under the regime of Ramón Feliú, such that the whole property was teetering on the edge of breakdown and enforced fragmentation.¹⁹ The same year a case was brought to court by the hacienda's sharecroppers, protesting

against a breach of contract instigated by the owner Ramón Feliú and enacted by his administrators, Francisco Correa and Marcelino Muñoz.²⁰ Feliú survived these threatening times, but was still in difficulties during the late 1880s, forcing him to auction off the annexe Hacienda de San Vicente for 35,000 pesos. By the beginning of the 1890s the crisis had forced Feliú into the courts in Mexico City. Initially this simply entailed the cession of certain rights to one of the family's largest creditors, Trinidad Rivera. But this merely postponed the final dissolution - by 1893 the level of debts and demands had reached the sum of 231,600 pesos, and as a result of a legal adjudication in Mexico City, the family's hold on Chichimequillas was ceded to its creditors, headed by one Joaquín J. de Arauz.²¹

The subsequent history of this hacienda suggests that this sorry tale of disaster was due almost exclusively to the labour policies and mismanagement of Ramón Feliú and his administrators. In 1898 Chichimequillas was sold to Remigio Noriega for 250,000 pesos, 150,000 cash down, and the balance by way of a loan from the National Bank, repayable over only four years at 6%.²² In fact Noriega managed to renegotiate the terms of the loan, and then transferred it in 1909 to the Caja de Prestamos para las Obras de Irrigación y Fomento de la Agricultura. The outstanding mortgage on Chichimequillas then stood at 200,000 pesos, repayable over 15 years at 6%. In 1912 this was further increased to amount to half a million pesos, and the duration extended to 25 years.²³

Chichimequillas then remained in the hands of the Noriega family until the impact of the Agrarian Reform programme. A digest of the hacienda's performance was produced by the family in 1927, giving a breakdown of the property's range of products, their costs, and the resultant levels of average profitability. Prices given for such

commodities as maize, wheat and beans do not differ markedly from those current at the time of the second increase in the mortgage, undertaken in 1912. It is also clear that the depiction of the hacienda's economy drawn up in 1927 falls within the duration of the loan's period of repayment. It is thus legitimate to use this depiction as a measure of the hacienda's capacity to withstand the weight of this huge mortgage, by far the largest on record for the state of Querétaro.

According to the data presented by the 1927 review of the hacienda, annual net income came to the princely sum of 238,000 pesos, predominantly the result of arable products, but also of fat-stock production, pulque, and the leasing of pasture lands. Interest at 6% on half a million pesos would have cost Chichimequillas an annual charge of 30,000. 208,000 pesos would then have remained. The size of this surplus would suggest that the hacienda did indeed possess the capacity to support such a mammoth mortgage and probably to pay it off within the period conceded.²⁴

The hacienda's capacity to pay

Two other cases of apparently high indebtedness fall in line with these inferences. By 1912 San Juanico and La Comunidad were owned by the de Mota family, having been purchased by Juan de Dios de Mota in 1888. It was valued at 260,000 pesos and declared to be mortgaged to the tune of 130,000 pesos. We know from the accounts drawn up by the administrator Miguel Sobreyá that an average year's net income came to 46,740 pesos. Interest at 6% on the outstanding debt would have cut this amount by 7,800 pesos, thereby leaving a surplus of 38,940 pesos. As in the previous case of Chichimequillas, we are left with the distinct impression that the hacienda had by no means over-reached itself and was clearly not crippled by debts.²⁵

El Cerrito had been part of the San Juanico complex during the years of Bernabé Loyola's administration. During the early 1890s it was run within a partnership between the owner Timoteo Fernández de Juárez and one Andrés Arias. In November 1895 Arias bought the property for 44,000 pesos, 30,000 of which remained outstanding. In 1906 the hacienda bore a debt of 45,000 pesos, extended a further 5000 in 1910 by the Banco de Londres.²⁶ We have no direct evidence of the property's profits during these years, but we do have evidence of the gross returns on the hacienda's wheat harvest in 1898. Some 242 tons were produced and sold to the flouring mill of Batán at an average price of some 9 pesos the carga. Gross receipts thus came to 13,360.57 pesos.²⁷ Unless the hacienda's management failed to keep production costs down to the levels prevalent in neighbouring San Juanico at the time, annual profits should have exceeded 10,000 pesos. Here we enter the realm of speculation and should be extremely tentative in our inferences. Even so, the impression is that El Cerrito's mortgage fell within the productive capacity of the property. 8% on 50,000 pesos cost the hacienda 4,000 pesos a year; with estimated profits at around 10,000 Andrés Arias should have been left with a comfortable surplus. Support for this contention comes from the condition of his estate when it was divided in 1918: its total value exceeded 250,000 pesos, 155,000 of these were attributed to El Cerrito, and there was a marked absence of any remaining mortgages.²⁸

This has been a schematic review of the hacienda's later tendencies to become indebted. The evidence is therefore hardly conclusive. Nonetheless it seems enough to lend support to the hypothesis that properties were by no means excessively burdened with mortgages, and that a large proportion of the capital thus raised in Querétaro came from private rather than banking sources. It would be premature to comment

on whether or not these sources were sufficient to meet the demand for credit and capitalization.

BOURGEOIS MANAGEMENT AND HACIENDA PROFITABILITY

The sorry case of Chichimequillas' bankruptcy under the regime of Ramón Feliú and its apparent success in the subsequent hands of Remigio Noriega serves to highlight the last of Raso's key factors of hacienda profitability - management.

The image of the Mexican hacendado as absentee seigneur has had many subscribers, both before and after the publication of its most strident depiction in Andrés Molina Enríquez's Los Grandes Problemas Nacionales. Management practices, such as the proclivity to maximize self-sufficiency and the introduction of sharecropping in maize temporal, have thus been interpreted within the same mould and designated anachronistic or 'feudal'. Recent research has challenged this long-standing assumption, even if it has also served to emphasise the crucial importance of management within the hacienda economy - hence the responsibility assigned to hacendado neglect in the explanation of the hacienda's failures found in Morin's account of eighteenth century Greater Michoacán.²⁹

Mexico's immense regional diversity, in terms of history, culture, and natural environment, has always made it difficult and hazardous to talk in generalities. It is now becoming clear that this problem was further compounded by the importance and great variety of hacienda management.³⁰ Once-successful enterprises were ruined in the hands of an incompetent, whilst, as in the case of Chichimequillas, a period of disaster and bankruptcy could be reversed by a regime of efficient and enterprising management. Studies of Jesuit properties have helped to demonstrate the value of systematic supervision as well as the advantages of easier access to capital and a nationwide network for the purposes of marketing.³¹

This factor of management was probably particularly crucial when the hacienda was beset by extreme difficulties. Such was the case for the León hacienda Duarte, which was kept going throughout the turbulent years of the Insurgency, whilst others, like the adjacent Otates and the nearby Sauz, buckled under the impact and only operated at well below capacity.³² The dislocation of the mid-century years was less profound, but even then there were casualties. The haciendas of Jacal Grande and Lodecasas were both amongst the better endowed properties of the district of Querétaro. They had been bought during the 1840s by Estevan de la Madrid from the heirs of General Julian Juvera, with part of the purchase price remaining outstanding as a loan from the vendors. Apparently de la Madrid defaulted on the payments "as a result of the deprivations of the war and the Empire". Once peace had been restored the creditors applied for the outstanding remittances, de la Madrid failed to raise them, and the property was duly seized and auctioned.³³

The case of San Marcos in southern Jalisco

We cannot surmise that this failure was due to poor management. There are, however, cases where hacendados survived this difficult period intact, and even succeeded in expanding their production. One of these involved the Querétaro family of Figueroa, although the property in question, San Marcos, was situated far to the west of the state, on the borders of Jalisco and Colima. Within the context of this discussion of management, however, the case is instructive.³⁴

San Marcos was predominantly a sugar-producing hacienda. Yields from its cane-fields were as good as those of the more renowned areas of Morelos and Veracruz, but its location in respect of markets was far less favourable. The best that could be said for it was that it straddled the road linking the Pacific port of Manzanillo with the regional capital of Guadalajara. But even here there were problems: as

we have already noted, Mexican roads were in general very bad, and the one in question was not raised to the minimal standard of a main trunk road (camino troncal) until the end of the 1860s. Poor surfaces were compounded by problems of distance between San Marcos and the most accessible urban markets, as demonstrated by the table below.

TABLE 13

Urban centre	Distance from San Marcos	Population
Colima	30 km.	30,000
Zapotlan	75 km.	15,000
Guadalajara	200 km.	73,000
Guanajuato	450 km.	69,000
Aguascalientes	475 km.	41,000
Zacatecas	600 km.	22,500

Source: Simon Miller: "Social Dislocation and Bourgeois Production on the Mexican Hacienda: Querétaro and Jalisco" Bulletin of Latin American Research, Vol.2, no.1, October 1982.

The problems of these distances were in turn accentuated by the period's lawlessness and military campaigns. The letters of the owner, Pres. José Francisco Figueroa are full of references to these hazards, with especially bitter complaints directed at the Indian risings in the area in 1852 and 1857, and at the sweeping deprivations of the infamous soldier-brigand Colonel Rojas.³⁵

All of this adds up to an inauspicious set of circumstances for San Marcos. And yet the record of the period's administration belies this. The hacienda had been part of the estate of Colonel José Francisco Figueroa, a native and once Governor of the state of Querétaro. At his death in 1850 the property had passed to his children - the eldest, the ordained José Francisco, then began to administer the hacienda on behalf of himself and his four sisters. His first act was

to abandon the relatively civilized environment of the city of Querétaro and to install himself in the casco of San Marcos. There he remained, taking direct responsibility for the direction of the enterprise, and only left to deal with related concerns in other places. In every aspect of his business regime Pres. Figueroa showed great meticulousness, regularly soliciting accounts from his employees, consistently pursuing tardy debtors - including relatives, and even writing business letters on Christmas Day.³⁶

The record of his regime fully vindicated his efforts. Over the period from 1850 to 1863 he managed to sustain and even increase levels of output of sugar and aguardiente. In marketing these products he was no less enterprising. The case of 1856 shows how the problems of San Marcos' remoteness were to some extent mitigated.

Production in 1856 was around 18,000 arrobas of sugar and some 850 barrels of aguardiente. 10% of the sugar and almost 30% of the aguardiente was sold on the hacienda premises. A further 45% of both products was transferred to a subsidiary agency in Zapotlán el Grande - this was then retailed by an employee called José Dolores Perez. The remaining amounts of sugar and aguardiente were then transported considerable distances to be marketed through commissioned agencies. The wide distribution of these latter sales points up the enterprising nature of Figueroa's system: 13% of the sugar sales took place in Colima, 63% travelled some 200 km. up the road to Guadalajara, and the remainder was taken to the port of Manzanillo and shipped north to Mazatlán, some 650 km. away. Of the aguardiente, 112 barrels were sold in Colima, 10 in Guadalajara, and 80 followed the sea route to Mazatlán, from there to Zacatecas beyond; a further 130 even ended up in far-off Guanajuato, which Figueroa had already reckoned to be within the marketing compass of the Morelos producers.³⁷

Freight charges during this period would have rendered such distances uneconomic, or would certainly have given Figueroa second thoughts. These in the event were not necessary since San Marcos was able to provide for its own transport. The 1851 inventory shows that the hacienda had no less than 196 mules equipped for transport and spread over six teams. Each team was supplied with supplementary beasts, saddled for riders and ready to carry fodder, such that the total number of animals involved in this sector of the enterprise came to 264 with an inventoried value of 7250 pesos. Given that each transport mule carried a load of 300 lbs., and covered a maximum distance every day of 30 km., it is possible to calculate that San Marcos' stock was able to provide for the wide compass of its marketing - a conclusion supported by the occasional entry for the hiring out of its mules to less well stocked haciendas. The hacienda made an allowance for freight of around 1.50 pesos per load carried over 75 km, and this was included in the retail price current in Zapotlán. Such pricing levels coincide with the rates paid by San Juanico during the 1860s, and so we can safely assume their accuracy. Under these conditions freight charges for San Marcos, in even a low year, would have exceeded 3,500 pesos, a sum which is close to half of the total capital value of the mule trains - sure proof of the virtues of self-sufficiency.³⁸

Here, then, is an example of sustained production and enterprising marketing during times of commercial dislocation and widespread lawlessness. Such policies were more than vindicated by the levels of profits - in 1856 these amounted to 35,000 pesos and represented a 22 1/2% return on the 1851 capital value.³⁹ Part of this successful performance must be attributed to the management and direction of the owner, José Francisco Figueroa. Not only did he take care to supervise the running of San Marcos from day to day, but he also had an eye for innovation and rationalization. The marketing successes are proof enough of this,

but more importantly, he was also engaged in attempting to raise profit-margins by way of improved production. During the years of his administration irrigation facilities were extended to make way for greater areas of cane-fields, and measures were also taken to reduce the levels of field-labour required. In addition to these efforts Figueroa also demonstrated his commitment to the project by introducing more efficient means of extraction and refining, by way of machinery imported from the United States in 1852 and worth over 30,000 pesos. Between 1851 and 1863 the inventoried value of San Marcos increased by 90%.⁴⁰

San Marcos was sold in December 1869 to a neighbouring hacendado called Mauricio Gomez for 203,000 pesos, 87,661 pesos of which were credited to two of the unmarried Figueroa sisters at 6% per annum.⁴¹ The very substantial fortune of the Figueroa family then accompanied its members back to Querétaro, there to reappear as such attractive prospects were snapped up in matrimony.

Bernabé Loyola: aspirant farmer and entrepreneur

A further case in point is that of Bernabé Loyola, once administrator of San Juanico and later owner of Juriquilla. His origins are obscure. All we know is that he was born in Tlalpujahuá in Michoacán, and may well have been illegitimate, since he made no mention of his parentage in his will. He had a sister, Margarita, who was married to a José Carmona, briefly administrator of Juriquilla during don Bernabé's days in San Juanico. His first work seems to have been with Antonio Mendez and Company of Mexico City, apparently some kind of import agency, since in 1849-50 Bernabé was in Paris and London buying up Copeland china and Daguerotypes.⁴² All the indications are that the family was impoverished - Margarita was lodged with a Señora Ignacia Suarez de Sanchez, and Bernabé wrote from Paris in November 1849 that he had "nothing in the world other than his little sister". This may well have

been sentimental rhetoric, a lonely Mexican voice in the metropolitan capital of France, but it probably reflected Bernabé's material existence as well. By 1852 he was back in Mexico and returned to his native Michoacán in an attempt to start up as a tenant farmer. He leased a small property near Zinapecauro but within a year or so he had been forced to abandon it - apparently for lack of sufficient workers. From this setback he went to administer the hacienda Enyega near Zamora, and then in September 1857 took up the post of administrator for Timoteo Fernández de Juárez in San Juanico.⁴³

We have already seen how his years in San Juanico were successful. Towards the end of his time there, in January 1865, he wrote a letter to his employer-cum-partner and reflected on the previous years' experience. He started out by dwelling whimsically on his own earlier failures and then remarked that he had turned out to be "no bad prophet" when predicting "a brilliant future" for San Juanico. With no false show of modesty he averred that it had been a wise move putting him in charge of the business, and pointed to the healthy state of the hacienda's accounts, even after years of "the most adverse of political circumstances".⁴⁴

Don Bernabé had in fact exhibited all the characteristics of an efficient and modernizing agriculturalist. He lived on the hacienda and only left with great reluctance when the contending armies and endemic banditry forced him into the city of Querétaro towards the end of 1859. Throughout the troublesome years of mid-century Bernabé maintained production in San Juanico, and showed great enterprise and determination in his policies of investment and diversification.

This enterprise also reached his private life, since in January 1859 he made the astute move of marrying don Timoteo's eldest daughter Catalina. His success in San Juanico had probably given him some savings, but here was a chance to gain eventual access to his wife's

maternal inheritance, the hacienda Juriquilla. As noted earlier, this was no San Juanico, something don Bernabé was fully aware of. Within a few weeks of his arrival there in 1869 he wrote to his patron, General Felipe Berriobazal, and described Juriquilla as having "malas tierras". Even so, he remained optimistic, and went on to point to the hacienda's asset of abundant water - given this, he reckoned that "(he) would be able to make enough to support (his) family and even to improve (his) position little by little". This was contingent, however, upon their living with great economy, and as a result don Bernabé did not feel able to invite the General to visit, as he would have liked.⁴⁵

This thrifty attitude had emerged earlier in the correspondence between don Timoteo and Bernabé. There were a number of occasions when Bernabé had chided his senior partner on his excessive spending, and on one occasion even made the firm suggestion that Timoteo's daily expenses in Europe be limited to 5 pesos.⁴⁶ This thriftiness probably served him well since there were real problems in making ends meet over the first years of his ownership of Juriquilla - in the early 1870s the property was running at a loss and don Bernabé was tempted to give it all up.⁴⁷

Within a few years of his arrival in Juriquilla Bernabé's first wife died. In January 1877 he married her considerably younger sister, Dolores Fernández de Juárezgui. This was another astute move since it gave Bernabé access to a second part of the inheritance left by his wives' mother, Dolores Septien. In this case the property was the adjacent hacienda, Santa Rosa de la Solana, valued in 1877 at slightly under 30,000 pesos. This date probably marked the beginnings of easier times for don Bernabé and Juriquilla, and we know from the accounts that things had really taken a turn for the better by the end of the 1880s. By the time of his death in March 1908 Bernabé Loyola had helped various

of his sons establish themselves in agriculture, on such properties as La Era and La Providencia in Querétaro, and Santa Rosa Jaripeo in Michoacán. Quite apart from these, his own inventoried estate totalled more than 150,000 pesos, and profits recorded over the years 1877-1908 amounted to no less than 105,445.75 pesos.⁴⁸

A large part of this success was due to the favourable circumstances of the times - of the rising demand and depressed labour costs, as already emphasised. But Bernabé's regime of enterprise and economy also played an important part. The whole regional trend towards more intensive and diversified production had entailed a different brand of management. Successful sharecropping depended upon close supervision; the other lucrative products of milk, chile, and wheat all required greater care and attention. Strategies of rotation and irrigation demanded that the owner took a close interest in the affairs of the hacienda.

All of these emergent conditions show up in the letters of Bernabé and his sons. The hacienda office in Juriquilla was full of books on relevant themes - technology, veterinary medicine, forestry, topography, irrigation, as well as several more general texts on agriculture and estate management. And as early as 1881 don Bernabé had written to the Director of the National School of Agriculture, Gustavo Ruiz Sandoval, to ask for a complete set of the school's journals, and also to offer Juriquilla's lands as a testing-ground for various new crops and strains.⁴⁹

These new measures worked more efficiently with the active cooperation of labour. How the haciendas' labour force responded to the wider variety of tasks is hard to gauge, but there are a few indications that the Loyola regime took some account of these considerations. As far back as the 1860s, when he was still in San Juanico, Bernabé had advised his brother-in-law, José Carmona, to treat his workers with firmness,

but also with honour; he also advocated that the hacienda store sell only the basic essentials, never pulque or other alcohol, and that the workers' wives receive a part of the wages.⁵⁰ The letters of this period and of those written by José Francisco Figueroa from San Marcos are full of references to the problems of finding weekly cash supplies to pay the workers - and they also stress the essential need that these payments were made on time.⁵¹

Other practices may also have contributed to the more efficient use of hacienda labour. Bernabé and his sons were clearly not office-bound, let alone absentee seigneurs. Don Bernabé had observed the 1859 battle of La Estancia from the dairy roof at dawn, and there are a number of other references to one or the other of the Loyolas rising in the early hours to be alongside the workers in the dairy, or in the fields, or in the lime quarries and kilns. The virtues of such close and active supervision were not lost on the Loyolas - in August 1882 José wrote that he had kept in close contact with the ploughmen working in the wheat fields, and that as a result the standard of work was much improved - he ended the letter with an enthusiastic prediction that the harvest would make them "thousands of pesos".⁵²

A side effect of these practices was that the hacendado became more familiar with his workers, or at least knew their names. In San Juanico and Juriquilla workers received advances to cover the costs of important church occasions like marriage and burial. There is also evidence that hacendados were prepared to act on behalf of the workers - as, for instance, in the case of Bernabé's defence of a quintero Ireneo Oldalde who was in some kind of trouble with the local priest after a minor premarital misdemeanour with his novia. Don Bernabé vouched for the man's good character and gave his word that the sharecropper would marry the girl as soon as the maize harvest had been gathered in.⁵³

All of this provides the backcloth to a theme of limited upward mobility. In the case of Bernabé Loyola, a combination of astute marriages with progressive management supported a move from impoverishment to comfortable wealth. There are numerous other cases of similar mobility. The key may well have been the owner's commitment to the development of his property. Amado de Mota, for example, lived on his hacienda of El Lobo throughout his life, from around 1810 to 1885. The last few years were the most profitable, as the previous analysis would suggest. Increased profits were invested in other properties - before his death Amado had bought and improved the hacienda Miranda, and made a surplus on it of 34,000 pesos. His only heir was an illegitimate son, amusingly called Juan de Dios. His son's efforts were no less prodigious, and when it came to divide his estate in 1907, it numbered no less than six haciendas, including San Juanico, Santa María Magdalena, and La Comunidad, and was valued at 528,868.56 pesos.⁵⁴

Haciendas and social mobility: the Veraza family

A further case has already been touched upon - that of Roman Veraza and his forbidding property of San José el Alto. He had been married to one Juana Dominguez, and they had started their life together with no capital. By 1876 their estate was still modest, but it did include the hacienda of San José el Alto and two irrigated plots in Querétaro producing alfalfa. After Roman's death San José el Alto was held intact and run by the eldest of his eight children, Alfonso. It formed the cornerstone of the family's enterprise and was only sold in February 1912 to Rafael Morales for 30,000 pesos, five times what it had cost don Roman in 1872.⁵⁵

Alfonso was clearly no less enterprising than Bernabé Loyola. Within a few years of his father's death he had entered a partnership with Porfirio Navarrete, who was representing his young daughter Maria

Navarrete Muñoz Ledo. She was the owner of the Apaseo hacienda of Agua Azul, which we have already mentioned. On the basis of credit raised from the Hospital in Querétaro and from a Manuel Mesa, Alfonso Veraza bought himself a half-share in the hacienda, and then, in 1885, began to set it on its feet. To help this 20,000 pesos were loaned from the Junta Vergara in Querétaro, and within a short space of time there were thriving sectors of wheat, chile, and sharecropped maize.⁵⁶ In 1890 Alfonso completed the project by buying out the minor Maria Navarrete. Four years later he sold up to Francisco Urquiza for 160,000 pesos, only 35,000 of which were earmarked for the redemption of outstanding mortgages. Don Alfonso left Urquiza with a mortgage of 100,000 pesos, to be paid off over a nine year period at an interest rate of 6%. Within a year 30,000 pesos had been redeemed, and the remainder was guaranteed by the profitable hacienda of Jurica, since 1877 the property of Dolores Figueroa, beneficiary of the San Marcos estate and also wife of Francisco Urquiza.⁵⁷

Alfonso's career never looked back. He maintained his interest in agriculture, making handsome profits from the wheat-producing hacienda of Capilla, leased from 1904 to 1916, and plunging considerable sums into the development of the water resources of the hacienda Batán from 1905. He also ran a thriving business from this same hacienda in grinding wheat flour, and was involved in a number of other commercial ventures.⁵⁸

The Veraza story followed the same lines as that of Bernabé Loyola. Success had come as a result of favourable economic conditions, and enterprising flair for their exploitation, and an astute marriage. In the midst of this it is possible to appreciate the extent to which the Querétaro oligarchy both cohered and renewed itself by way of marriage.

One of the most powerful families in Querétaro had been that of Cayetano Rubio, owner of one of the most advanced textile plants in Mexico, called Hercules, and also leading financier, whose clients had included the Imperial Government of Maximilian. Cayetano's Querétaro interests included another textile mill and also one for grinding flour. Various brothers assisted him with these operations, two of whom, Manuel and José María, also owned the nearby hacienda of Castillo. Each of these had consolidated his fortune by marrying a daughter of Colonel José Francisco Figueroa, Manuel to Carlota and José María to Carmen.

José María and Carmen had four children, the second of whom was called Emilia.⁶⁰ It was this well-connected heiress that Alfonso Veraza married some time before his partnership in the running of Agua Azul. When he sold this hacienda in 1894 the man who bought it, Francisco Urquiza, was married to his wife's aunt. The case reveals a pattern of consolidation and regeneration. The established wealth of the Rubios, the Figueroas, and the Septién-Fernández de Juárez, to name but three of the Querétaro dynasties, was maintained by intermarriage, but the families also opened the door to the energy and enterprise of such new arrivals as the Loyolas, the Verazas, and the Urquizas.

A case of decline: Bravo and the Acevedos

There were of course other contrasting cases of decline and dissipation, or at least of the disappearance of certain families as established landowners. Perhaps the most dramatic instance of this was of the family Acevedo. The Acevedos were one of the apparently few families to transcend the impact of the Insurgencia.⁶¹ The man responsible for their preeminence was a Colonel Pedro Antonio Acevedo. He had owned the unusually extensive haciendas of Bravo and San Joaquín de la Cueva, adjacent properties lying to the south of Querétaro in the districts of Pueblito and Amealco. Bravo measured over 20,000 hectares

and La Cueva almost 7,000. The former at least was owned by the Colonel in the 1760s, since we know that he was in dispute with the Jesuits, owners of the adjacent hacienda of La Barranca. By the beginning of the nineteenth century he owned both and in 1804 was a nominee of the city's Ayuntamiento for noble title.⁶²

By the time of his death in the early 1840s Colonel Acevedo had gathered up a number of other properties in the state of Querétaro. These were then distributed amongst the children of his marriage. José received Colorado, but he spent most of his time in Mexico City and was content to lease the property at the rate of about 1,500 pesos a year - he died intestate and apparently childless in the mid-1870s and the hacienda was sold off by his executor and sister Ana Acevedo de Barazorda.⁶³ This sister had been bequeathed the smaller property, also adjacent to Bravo, of San Bartolomé de Apapataro - Ana had married the General Panfilo Barazorda, and they seemed to have spent most of their time in Mexico City, with the hacienda leased out at about 750 pesos a year, at least from as early as the 1860s. Ana died in Mexico City in the early 1890s and Apapataro passed into the hands of her son Adrian who then sold it in the September of 1899. Two other daughters, Guadalupe and María de Jesus, were left the hacienda of La Cueva - we know little of what happened to this property other than the fact that it was sold off in 1883 to Agustín González de Cosío for 50,000 pesos; at this time the hacienda was mortgaged to a total of almost 42,500 pesos, and its business was handled by Guadalupe's attorney Felipe Hernández.⁶⁵ Guadalupe had married a Victor Covarrubías who seems to have been a Mexico City lawyer. The emergent impression is that La Cueva was granted precious little attention from its owner.

The only Acevedo who seems to have taken an interest in the estates of their father Colonel Pedro Antonio was the first-born, Manuel. He

had inherited both Bravo and also Casa Blanca, and although he seems to have died in Mexico City he clearly spent much of his time in Querétaro. His estate was also consolidated by his marriage to Concepción Figueroa, another of the heiresses of San Marcos. This connection gives us an insight into his business, since he was in regular communication with our old friend the Presbiterio José Francisco Figueroa. The latter's correspondence is full of references to Manuel's difficulties and disasters in Bravo, and although his brother-in-law was suitably sympathetic to these tribulations he was also firmly insistent that Manuel met certain outstanding debts - one of over 10,000 pesos for oxen delivered to Bravo.⁶⁶

Manuel died in 1975. Unfortunately we have no details as to the condition of his estate at that time, other than the fact of an outstanding mortgage of 10,000 pesos on Bravo and in the name of his brother-in-law Figueroa. He was survived by his widow Concepción, and their eight children, seven of whom were boys. Manuel's property was maintained intact and run on behalf of his heirs, but in 1884 the company showed the signs of strain. Casa Blanca was sold off to the hacienda's mortgagee, Trinidad Rivera, for 22,000 pesos, and Bravo was split into three properties, La Ceja del Bravo, La Tinaja and San Rafael. A property owned since 1878 by the widow, called San José de la Sabanilla in Jerecuaro, and leased from Mexico City in 1880, was also now sold to the tenants, the Rivas brothers. The third son, Luís, was then given the task of administering the family's properties, but this seemed to make little difference - after only three years Luís reported that things were going from bad to worse, and that accumulated losses over this period already amounted to \$16,787.84.⁶⁷

By the opening of the 1890s the business was in a state of disarray. The more viable fraction, San Rafael, was in the hands of the eldest

Acevedo, Pedro, but within two years this was encumbered by a loan advanced by Tomás Gómez of 8,000 pesos at an interest rate of one per cent per month. The following year, 1893, Pedro abandoned all efforts to administer the property himself and handed it over to Gregorio Matagon - the contract was to run for two years, Gregorio was to receive a monthly salary of 50 pesos and also 2% of all profits on arable produce.⁶⁸ Once this period was up Pedro leased San Rafael to Eugenio Tovar. The nature of this contract suggests that the Acevedo business was still in poor shape. The lease took in the hacienda's livestock - 50 oxen and 10 mules - a quantity which indicates that San Rafael had been run at below capacity. More to the point were the financial arrangements: the rent was set at 5,000 pesos per year, but this was reduced to 3,000 pesos on the condition that Tovar undertook to pay off Acevedo's 12,000 pesos debt to Tomás Gómez. The following year Acevedo raised 40,000 pesos by mortgaging his property to the tenant Tovar and his partner Ildefonso Berriolope, with the interest at 6% being discounted from the rent. What then became of Pedro is confused but we do know that he never returned to take an active hand in administering San Rafael, and that it remained leased out until the division of the property after his death in 1913.⁶⁹

Fortune seemed to shine no more favourably on the other parts of Colonel Acevedo's inheritance. The second son, Agustín, took over where Luís had failed, in the administration of La Ceja, and by 1892 he had started to preside over the partition and sale of the property in small lots of between 50 and 700 hectares.⁷⁰ What remained, some 8,000 hectares, was transferred to Pedro at a cost of 71,610 pesos. It is unclear what befell this last remnant of the Acevedo legacy, but all the indicators suggest that it was not successful. Sometime around 1907-08 Pedro raised a mortgage of 170,000 on the properties from the

Banco Internacional e Hipotecario de México, and this was still outstanding at the time of his death. Not long after a further 3,000 and more hectares were sold to Concepción Borja de Pérez. Pedro's heir and youngest brother, Rafael, then soldiered on with what was left, two fractions covering some 4,000 hectares and called La Ceja and Salitrillo, but disaster was in store for him as well. Mortgaged to the limit, Rafael was forced into a futures contract in wheat with Antonio Posada y Hermanos - the crop failed and his property was embargoed, with the subsequent sale to Baldomero Pérez paying off the outstanding debts and mortgages. As a result of this catalogue of failures and enforced sales the Acevedo estates had been dissipated and the family's descendents were thus left with little to defend during the years of agrarian reform which followed the Revolution.⁷¹

LANDOWNERSHIP IN THE PORFIRIATO AND THE BREAK-UP OF THE GREAT ESTATE

The Acevedo story is important not only because it provides us with a contrast to the successful emergence of new families like the Loyolas, Verazas, and Urquizas, but also because of its case of hacienda fragmentation. The prevailing image of land ownership during the Porfiriato is still one of the encroaching hacienda and increasing concentration. The evidence from Querétaro offers us a different perspective.

We have already noted the cases of Bravo and Chichimequillas - both histories show how hacendados under pressure began to sell off pieces of their estate. Even earlier on the same fate had befallen the large complexes of Atongo, Esperanza, and Jofre. And then during the 1880s and 1890s other properties followed the same course - Balvanera, Batan, Bolancos, Carranza, Griega, Tlacote el Alto, Menchaca and Pozo. Some were broken up because of financial difficulties, some to accommodate the consequences of a divided inheritance, and others by way of a

rationalization. The diversity of these reasons is perhaps less important than the effects of such fragmentation.

In the first place it is clear that the trend in land holding was away from concentration rather than towards it. Quite apart from the mass of small units carved out of the communal lands after the Reforma,⁷² there was an increasing number of modest-sized properties on the market. According to data given in 1874 the district of Querétaro itself contained 75 properties, 53 haciendas and 22 ranchos.⁷³ A provisional search of the records for only about half of this district in the years up to the Revolution revealed no less than 130 separate units. Detailed examination of some 61 of these showed how the majority of landholdings were in fact of fairly modest dimensions - 84% of those examined were less than 1500 hectares.⁷⁴

The other important effect of this trend was that it appears to have opened up space for the development of a larger group of small producers. Evidence for this is as yet inconclusive, but there are good reasons for doubting the validity of the standard image of the Porfiriato as a polarized society composed of a handful of great landowners and a mass of landless countryfolk, at least in Querétaro and nearby Apaseo.

In the first place there was the fact of hacienda fragmentation - the small size of many of the fragments made land available to people of quite humble origin. The 1892 fragmentation of Bravo is a case in point. Close to 3,000 hectares were sold off to 14 separate buyers - over 14,500 pesos changed hands, the majority at the time of sale, and what remained on credit was duly paid off within a year. The appearance of the purchasers is also significant - all of them lived in the small town nearby, called Huímilpan, and all of them were illiterate.⁷⁵

There are other snippets of evidence to support this impression. Quite apart from the growing possibility of buying small areas of land, it is also clear that the practice of leasing out was again widely employed. This seems to have benefitted two separate strata of practical agriculturalists. Large sections or entire properties were rented by a number of enterprising new arrivals who were backed by established figures or solid guarantees. We have already noted the case of Alfonso Veraza and his very successful lease of the hacienda Capilla during the first and second decades of the twentieth century. There were others who survived the squeeze of the events following the Revolution, and will therefore appear again - Alejandro and Isidro Fernández, Alberto Villasante, and the families of Roíz, Cevallos and Soto. All of these were to become men of some significance and wealth.

The other strata of tenants show up less clearly. These were people of more humble origin, similar to the purchasers of the Bravo fractions. Evidence of their existence is thus more impressionistic. Nonetheless the signs are there. The notarial records for the years after 1870 reveal an increasing number of cases of modestly self-made men. A clutch of wills appears - all of which depict the gradual advancement and accumulation achieved by unremitting sweat and toil. The typical case is of an illiterate couple starting out married life with next to nothing, perhaps a few pesos and a yoke of oxen; the last testament then reflects on a life of worthy effort with just rewards - fragments of land have been bought or rented, crops have been raised on a sharecropping basis, and at no time have the precious fruits of such dedication been squandered. The death-bed is embued with a certain reflective satisfaction, and there is pride expressed in the ownership of a house in the city and in the proxy signature of a literate son.⁷⁶

A last witness of these efforts and of the people who expended them can be found in the surviving records of the flouring mill on the hacienda of Batán. These run from December 1899 through to the middle of June 1902 and record all the consignments of wheat received by the mill during these years. A handful of large suppliers dominate the overall quantity of grain delivered and ground - such as Andrés Arias from El Cerrito, Ildefonso Berriolope, the tenant of San Rafael, and Orozco and Veraza of Capilla and other properties, but what is significant is the high incidence of relatively small consignments from less than 100 kg up to 2 tons. These entries imply that there was a considerable number of small-producing clients dealing with the Batán mill, probably raising wheat on plots from garden size up to 2.5 hectares.⁷⁷

BYSTANDERS IN THE MEXICAN REVOLUTION - QUERETARO IN 1910

All of this leaves us with the impression of a class structure with more flexibility than has previously been imagined. Clearly the main division between landowners and landless labour dominated the countryside,⁷⁸ but there is now evidence of the slight confusion of this polarity by the existence of tenants, large and small, and of small-holding peasantry or rancheros. The effects of this confusion and flexibility may in turn contribute to our understanding of what seemed to have happened in Querétaro at the time of the Mexican Revolution.

A recent assessment of the Revolution has it "barely spluttering to a start" in November 1910.⁷⁹ It seems that it even failed to do this much in Querétaro. Early signs that there was something amiss were limited to a show of force outside the Hercules textile mill, where there had been trouble with labour disputes and strikes since the 1890s, and to the sporadic violence and cries of "mueran los Españoles" in the midst of the elections held in 1911.⁸⁰ Perhaps as a result of this and of the news of risings elsewhere to the south and the north the

Querétaro government took fright - in any event in 1912 the Cuerpo Rural was rearmed with 200 new Mausers freshly imported from Germany by an agent called Enrique Hauber.⁸¹ According to the reports available to us these were put to precious little use - although somewhat later in 1917 an expedition was necessary to cut off the advance of a so-called revolutionary column under Nuñez in the area of Chichimequillas. Witnesses recalling those distant days remembered the encampment of Carranza's armies in San Juanico in 1916, but in terms of casualties their only recollections were those of the epidemic of Spanish flu which swept through the state in 1918.⁸²

This will not come as news to most readers. It is now well known that the revolutionary outbursts were sporadic and localised, and that in many cases hacienda labour showed no inclination to rise up against the owners.⁸³ We have a fairly clear idea of why the peasantry rose behind Zapata in the region of Morelos⁸⁴ and also of the background to the disturbances in the north.⁸⁵ In a move to complete the picture it would be worthwhile to make a brief examination of the apparent state of passivity in Querétaro - to explain in effect why it was that the campesinos there remained bystanders to an event which was to be so crucial to the destiny of the Mexican state and its people. Some of the ground relevant to this question has already been covered. Querétaro's campesinos had certainly not experienced a widespread encroachment of their communal lands by the hacienda.⁸⁶ But they had, nonetheless, seen the hacendados grow rich whilst their own standards of living were at best stagnating and at worst in decline.⁸⁷

Agrarian discontent and radical ideology in nineteenth-century Querétaro

It has been correctly observed that the peasantry always have grounds for rebellion, but that what is crucial is the degree to which these are collectively perceived and acted upon.⁸⁸ Whilst it is perhaps an economic distortion to refer to the agricultural labour force in nineteenth-century Querétaro as the peasantry, it is quite legitimate to do so in terms of the prevailing culture and consciousness. There can be no doubt that the labour processes which prevailed in the countryside of the Bajío had done little to erode sentimental attachments to the land, or that the labour force was still disposed to dream of life in terms of some peasant arcadia.

We know that, in general, the numerous peasant rebellions of the nineteenth century expressed widespread Indian grievances over lost lands and the attempt to have it restored. The importance in these rebellions of the peasantry's relative cultural and economic autonomy has been rightly emphasised, and finds parallels further afield than the Zapata rising in Morelos. But, as we have already noted, the Bajío had been an essentially frontier society with an ever decreasing imprint of Indian distinction and autonomy. Small wonder, then, that the agrarian discontent mentioned earlier which broke out there and further north towards San Luis Potosí from the middle of the nineteenth century came to be expressed in the more secular terms of agrarian justice, demanding the redistribution of hacienda lands, and reflecting more an ideological lineage with the French Revolution than with a pre-Columbian restoration.

In this way it can be seen that the peasantry of Querétaro were by no means insulated from the acknowledgedly crucial influence of a radicalizing ideology.⁸⁹ Quite apart from the widespread influence of the liberal critique of the hacienda as an economic and social

anachronism, late nineteenth-century Querétaro must have resounded with the more radical sentiments of the nearby Sierra Gorda with its Plan de la Barranca, and of the not-so-distant Chalco.⁹⁰ Even if the anarchic brigandage of the 1860s showed no signs of 'social banditry', it seems legitimate to assume that the stubborn persistence of mule traffic around the region would have provided for the steady percolation of these radical ideas.

Such an assumption is supported by a careful reading of the government journals for the period, revealing, as they do, an insistent repudiation of reports, published in the "working class press", of inhuman working conditions on the state's haciendas and of the maltreatment of their peons, mixed with stern warnings against strikes and communism. A further indication of the spread of such ideas, and of the government's disposition to identify such tendencies, is to be found in the arrest in March 1881 of a group of eleven self-titled 'socialists' in the Querétaro congregación of La Punta, conspiring to "commit crimes against persons and property".⁹¹

Agrarian agitation and land redistribution in Querétaro

The echoing of ideological militancy from the Sierra and elsewhere clearly both worried the state government and gave encouragement to localised discontent. The municipal authorities of a number of pueblos provided the necessary vehicle for dissent and agitation, such that over the years 1878-82 land grants were made to Santa Rosa, Tequisquiapan, Tolimán, Peñamiller, Cadereyta and Soriano.⁹²

There is no doubt that the focus of agrarian tension and subsequent agitation was to be found between the haciendas and the pueblos. This had previously been manifest in disputes over access to water and firewood as well as to land. A careful reading of the government press suggests that the first years of the Porfiriato, perhaps as a reaction

to the reckoned betrayal of the promises undertaken at Tuxtepec, witnessed widespread struggles of an "alarming character", thereby threatening "once again to plunge the country into a state of degeneration". Reports in 1879 refer to instances of unavoidable bloodshed in neighbouring states as having been provoked by the insistent encroachment onto hacienda lands by "pueblos de indígenas" who lamentably "believe(d) that all the land within sight of their homes must be theirs".⁹³

Whatever the ideological context for these agitations, the state government in Querétaro was clearly rattled, and hasty measures were taken to encourage the offended hacendados to make the necessary concessions. These did not incorporate the actual disputed areas, but, to the accompaniment of ringing official tribute to the honour and generosity of the hacendados, lands were made over to the pueblos in larger dimensions than those petitioned for. Such was their benevolence that one of the number, the appropriately named Benigno Cabrera, donated a stream as well as land to the pueblo of San Pedro Tolimán.

The entire negotiations and settlement had been conducted within the context of illegitimate claims being treated with beneficent paternalism. But whatever the context and motivation, the effect of these measures was undoubtedly to take the steam out of the agrarian agitation and restore the regime of calm and stability. Once accomplished, the state government was able to extend their paternalism to other neighbouring states, where disputes had apparently not been preempted so effectively.

The land concessions described above reflect the culture of paternalism which prevailed in Querétaro during the nineteenth century. Although in this case the culture extended to relations between the hacendados and the pueblos, the ethos was, strictly speaking, an

integral dimension of the hacienda itself. Whereas the correspondence of Bernabé Loyola is occasionally sharpened with references to the thefts and inconveniences perpetrated by the inhabitants of the pueblo Santa Rosa, as for instance, when he demands severe and deterring sentences to be meted out to those guilty of stealing firewood from Juriquilla, his attitudes to his own employees display altogether a different and more tolerant quality. Such attitudes are to be found in examples already mentioned - as for instance in the moving advocacy made to the priest of Santa Rosa on the part of sharecropper Ireneo Oldalde, who had apparently committed misdemeanours with his novia Maria....don Bernabé pleaded his case and gave testimony to Ireneo's love for Maria and his firm intention to marry her once the harvest had provided him with the wherewithall. There are other such instances: the underwriting of the Church bill for workers' baptisms and marriages, amounting to \$162 for 1871, and the advice given to his brother-in-law, José Carmona, that the hacienda store should only stock the essentials for life and that wages should be seen to reach the peons' wives.⁹⁴

The detailed expression of this ethos, sanctioned and encouraged by the Church in Querétaro,⁹⁵ in effect constituted a more rational use of labour rather than some generalized change of heart on the behalf of the hacendados, and coincides with that most predominant trend of the nineteenth century, the move away from absentee rentier incomes towards the direct and more personalised system of demesne cultivation. All of this must have contributed to the relative peace and stability which prevailed in Querétaro during the years of the Mexican Revolution.

Footnotes to Chapter Six

1. La Sombra, 15 June 1891.
2. Raso 1848, p.87; La Sombra, 1910, p.304.
3. El Colegio de Mexico 1961, pp.65-70, 147-154.
4. A very similar path to success had been followed by English farmers at the turn of the eighteenth century - wheat prices rose whilst wages remained stagnant. Norfolk workers petitioned in 1795 to have wages fixed in accordance with the price of wheat, and in 1810 William Cobbett bitterly contrasted the wealth of a gathering of farmers, worth between five and ten thousand pounds a head, with the miserable condition of their labourers, half-starved adults and children clothed in mere rags. Riches 1937, p.142.
5. ASJ/LC 1858-63; ASJ/D 1861.
6. La Sombra, 23 April 1904.
7. AB/LC 1905-06.
8. Cosío Villegas 1965, pp.866-67; Ciro Cardoso (ed.), México en el Siglo XIX (Mexico, 1980), p.421.
9. Cardoso 1980, p.420.
10. Cardoso 1980, pp.333-34.
11. Raso 1848, p.45.
12. Brading 1978, pp.34-37; Van Young 1981, p.123.
13. Raso 1848, p.45.
14. ASJ/D 1861.
15. See Appendix IV.
16. See Appendix IV.
17. RPPQ, 1890-91, 10, p.105.

18. He was almost immediately in dispute with his neighbour in the hacienda of El Lobo, Amado de la Mota, by all accounts an honourable and respected elder of the area's hacendados - see ANQ/ST 1873-238.
19. La Sombra, May 1877, and AJ/CC 1882.
20. ANQ/ST 1882-14.
21. RPPQ, 1893, 1-12, p.53.
22. RPPQ, 1898, 1-12, p.53.
23. RPPQ, 1909, 1-12, p.53.
24. AC/Digest of Production and Accounts.
25. RPPQ, 1-11, p.16, and ANQ/JME 1900-89 give details of the life of Juan de Díos de Mota. He married a Dominga Ugalde and on the death of his father, Amado de Mota, inherited two properties well to the north of Querétaro towards the pueblo of Colón, called El Lobo and Zamorano. Amado de Mota had lived most of his life on the haciendas and had improved them considerably, including the rebuilding of the house on El Lobo (ANQ/SR 1883-apd.). Juan de Díos, an illegitimate and adopted son of the otherwise childless Amado, pursued the same line and succeeded in buying up the more fertile haciendas near Querétaro of San Juanico, Santa María Magdalena, La Comunidad, and Alfajayucan. As a result, the years of his marriage to Dominga Ugalde, which ran from around 1870 to 1891, yielded almost 140,000 pesos in profits.
26. RPPQ, 1-13, p.83.
27. AB/LC 1898-99.
28. ANQ/JME 1918-19.
29. Morin 1979, p.252.
30. Brading 1978, pp.108-10. Van Young 1981, pp.118-23, 295, 309; Konrad 1980, pp.103-05, 117; Courturier 1965, p.137; Percy F. Martin, Mexico of the Twentieth Century (London, 1907), vol. II, pp.175-78;

David A. Wells, A Study of Mexico (New York, 1887), p.127; Betty Kirk, Covering the Mexican Front...(Norman, 1942), pp.115-18; Henry George Ward, Mexico in 1827 (London, 1828), Vol. II, pp. 296-98. All of these, amongst others, point to the importance of management in the successful running of the Mexican cereal-producing hacienda. For a similar theme in England, see David Spring, The English Landed Estate in the Nineteenth Century: Its Administration (Baltimore, 1963), pp.97-134.

31. Konrad 1980, pp.102-117.
32. Brading 1979, pp.95-114.
33. RPPQ, 1975-3, p.8.
34. Simon Miller, 'Social Dislocation and Bourgeois Production on the Mexican Hacienda: Querétaro and Jalisco', Bulletin of Latin American Research, vol. II, no.1, October 1982, pp.67-79.
35. ASM/CC 1852-63.
36. ASM/CC 1852-63.
37. ASM/LC 1856.
38. ASM/LC 1851, 1856.
39. ASM/LC 1851, 1856.
40. ASM/LC 1851-63.
41. ASM/CC 1868-69.
42. AJ/CC 1849-50.
43. AJ/CC 1859-57.
44. ASJ/CC 1865.
45. AJ/CC 1869.
46. ASJ/CC 1863. On other occasions he appeared to be equally severe with his partner and father-in-law: at the end of 1864 he noted that the hacienda had suffered considerable deductions through high family expenses, but fortunately these had been covered by the

year's profits; on another occasion Don Bernabé complained to his father-in-law that he was having to arrange a loan of three thousand pesos as a result of don Timoteo's excessive spending in Guanajuato (ASJ/CC 1862-65).

47. AJ/CC 1872.
48. AJ/CC 1877-92, Inventory of Estate 1908.
49. AJ/CC 1880-1892.
50. ASJ/CC 1863.
51. ASM/CC 1854-63.
52. AJ/CC 1882.
53. AJ/CC 1879.
54. ANQ/CA 1891, October 23.
55. RPPQ, 1875, 1-1, p.21; RPPQ, 1912, 1-18, p.158.
56. AAA/LC 1885-90.
57. ANQ/CA 1894-199.
58. AB/LC 1899-1905; Accounts of Capilla 1906-08.
59. In 1884 the hacienda was valued at over 72,000 pesos - ANQ/JME 1884.
60. RPPQ, 1884, LH-5 - the profits made by José María and Carmen over the years of their marriage was reported to be in excess of 150,000 pesos.
61. Celia Wu Brading, The Population of the City of Querétaro in 1791, M.Phil. thesis (Cambridge, 1981), p.16.
62. Ladd 1976, p.178.
63. ANQ/ST 1871-346; RPPQ, 1875, LH-1.
64. RPPQ, 15, p.174.
65. RPPQ, 6, p.86.
66. ASM/CC 1857.
67. RPPQ, 35, p.102.
68. ANQ/CA 1893-215.

69. RPPQ, 17, p.212.
70. ANQ/CA 1892-58.
71. RPPQ, 69, p.22.
72. La Sombra, 1877, reported the existence of over 4,000 such properties.
73. La Sombra, 26 March 1877.
74. See Appendix V.
75. ANQ/CA 1893 - various.
76. See Appendix VI.
77. AB/1899-1902, see Appendix VII.
78. Dollero 1911, p.106.
79. Vanderwood 1981, p.159.
80. La Sombra, 1911.
81. Memoria del Estado de Querétaro, 1912, September 16.
82. La Sombra, 1924, p.408.
83. Katz 1974, pp.44-45.
84. See Womack 1968, Warman 1976, de la Peña 1982, and Roberto Melville, Crecimiento y Rebelión: El desarrollo económico de las haciendas azucareras en Morelos (1880-1910), (Mexico, 1979).
85. See essays by Friedrich Katz and Alan Knight in David Brading, Caudillo and Peasant in the Mexican Revolution (Cambridge 1980), pp.17-75.
86. Otomí settlement in the Querétaro area had been badly disrupted by incursions from the Chichimecas - in 1582 there were only eighteen settlements, seven of which had been abandoned. Spanish attempts at pacification and colonization were obstructed by the Chichimecas and the area remained insecure until the turn of the century. Thereafter the Otomi and Spanish populations increased, as did those of the mestizo and the mulatto. By 1778 there were 47,430 Indians, 15,421 Spaniards, 11,185 mestizos, and 12,382 Negroes and mulattoes.

- (Peter Gerhard, A Guide to the Historical Geography of New Spain (Cambridge, 1972), pp.224-26). By 1845 the Spanish population had reached 36,032, the mestizo 54,049, and the Indian 90,080 (Raso, 1848).
87. The importance of the decline in real wages suffered by the rural workers has been exaggerated by the use of the year 1876 as a baseline for agricultural production (Katz 1974, p.24; El Colegio de Mexico, 1961, p.67, 69). Coatsworth has shown how domestic food production during the Porfiriato did not in fact decline in absolute terms but rather kept up with the rise in population. (John H. Coatsworth, 'Anotaciones sobre la producción de alimentos durante el Porfiriato', Historia Mexicana (1976), 26, pp.167-187.
88. Theda Skolpol, States and Social Revolutions (Cambridge and New York, 1979), pp.112-26.
89. Alan Knight, Peasant and Caudillo in Revolutionary Mexico, 1910-17. in David Brading, Caudillo and Peasant in the Mexican Revolution (Cambridge, 1980), pp.17-58.
90. Leticia Reina, Las Rebeliones Campesinas en México (1819-1906), (Mexico, 1980), pp.61-85, 291-312.
91. Reina 1980, p.312 quoted from El Hijo de Trabajo, 27 March 1881.
92. Memoria del Estado de Querétaro 1918, pp.31-48.
93. La Sombra, February 1879.
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CHAPTER SEVENTHE REVOLUTION AND AGRARIAN REFORM: THE BOURGEOISIE IN RETREAT

Querétaro may have been more or less untouched by the armed upheavals of the Revolution, but it was not immune to the effects which followed.

Early on in the Revolutionary decade the area was dominated by the Carrancistas. This was then disrupted by Villa's sweep to Mexico City during 1914, forcing General Pablo Gonzalez to abandon Querétaro for Pachuca.¹ Villa's domination was short-lived, coming to grief in the battle with Obregón outside Celaya in the summer of 1915. Villa's subsequent retreat to his northern stronghold left the centre of Mexico under the control of Obregón's army and within the political domain of the First Chief Carranza. True to his flair for symbolic splendour Carranza seized this opportunity to embark upon a triumphal tour of his new-found domain. From Veracruz he went north to Tampico and beyond to Torreón, where he was joined by the victorious soldier Obregón. From there he travelled further north to cross the border, before turning south, via Nuevo Laredo, Matamoros, and San Luís Potosí. The object of the trip was to consolidate the impression of his exclusive control over Mexico. Reception in San Luís Potosí was at best cool, causing Carranza to curtail his visit and hurry on to Querétaro. He arrived there on 30 December 1915 and had originally planned to stay only a few days. Presumably the First Chief found the atmosphere in Querétaro amenable and supportive since he remained there for six weeks and made it his temporary capital.²

CARRANZA AND THE CONSTITUTIONAL CONVENTION IN QUERÉTARO

It must be remembered that Carranza was a figure from the Porfirian mould. He had held public office under Porfirio Diaz and was a hacendado of some standing, owning an estate of 80,000 hectares in Coahuila. His opposition to any major structural changes in the agrarian economy was well known. All of this must have made him a welcome and reassuring guest amongst the hacendados of Querétaro.

Just prior to Carranza's arrival the state had witnessed the first rumblings of agrarian discontent. The centrally situated pueblo of Pedro Escobedo had raised a petition for a land grant against the haciendas of Ahorcado, San Clemente, Sauz, Lira and the rancho Arroyo Seco.³ The reactions of the respective owners suggest that the hacendados were in no mood to make any concessions; at the same time it is possible to detect a certain insecurity in their uncompromising truculence. Quite apart from the standard arguments that any expropriation would damage the regional economy and disrupt a time-honoured pattern of irrigation, the indignant hacendados also threatened to take vindictive measures against the pueblo - by denying its people a water supply, derived from a source on their properties, and by refusing to give work to any of the petitioning beneficiaries.⁴

Other petitions followed from other pueblos. In the midst of all this Carranza chose to make Querétaro the stage for the Constitutional Convention of 1916-17, charged with the responsibility of drawing up a new Revolutionary constitution. Part of the reasons for this choice was Carranza's desire to stress the continuity of this initiative with the Liberal constitution of 1857. It was also the place in which he had conducted much of his governmental affairs. In any event the location of the Convention in Querétaro was of some importance to the climate of opinion in the area.

Delegates to the Convention were to be elected on the basis of qualified universal manhood suffrage, introduced by Carranza at the same time as the initiative to hold the constitutional assembly. Whether or not these measures were successful in convening a body representative of the Mexican people has, of course, been since debated and doubted. It was, however, clear within days of the delegates' arrival that the spectrum of opinion represented was indeed broad. Even Zapata had his champion, Colonel Luis T. Narro of Puebla,⁵ and the faction opposed to the power of the hacienda had a formidable leader in Francisco J. Múgica - although not a delegate, Andrés Molina Enríquez also attended the Convention and was an influential party to the drafting of the agrarian Article 127.⁶

The status quo retains power in Querétaro - under protest

Querétaro had three delegates in the Convention. None of them could be described as members of the ancien regime, but they were equally unsympathetic to the radical wing of the assembly. Juan Frias came from a landowning family in the state and was a follower of Madero. He had served in the Madrista Twenty-sixth Congress from September 1912 to October 1913 and was an old-fashioned constitutional liberal, espousing the cause of Liberty and its guarantee by the rule of law and order.⁷

Less is known about the background of Ernesto Perusquia. It is possible that he was not really from Querétaro but had come as an official closely associated with Carranza. He may, however, have had relations in the area: there were a number of small landowners of the same name (around Apaseo and Celaya). He worked in the department of Finance and in 1917 attracted a lot of critical attention on account of his sudden wealth.⁸ He was clearly a member of Carranza's inner circle. His aspirations to become the elected Governor of Querétaro in the

summer of 1917 were threatened by the scandal surrounding his unexplained and recent wealth. Carranza intervened on his behalf by installing a nephew, General Emilio Salinas, as interim governor - by way of Salinas' good offices Perusquia's success was assured, and by early 1918 he had achieved his ambition to become elected Governor.

Querétaro's third delegate was Lic. José María Truchuelo. He was a young lawyer from the state and had served as a member of various of the state's administrations since 1911. One such early regime had been headed by Carlos María Loyola, son of don Bernabé. He served as Third Secretary to the Convention and was well-known as a strong advocate of judicial reform.⁹ By the end of the Revolutionary decade he had become an established figure in Querétaro politics and succeeded Perusquia as Governor in 1921.¹⁰

All of this is designed to highlight the political mood of Querétaro during the last years of the Revolution. The area was clearly behind Carranza and his men were maintained in power. At the same time the radical voice of the agraristas could not be totally muffled, especially during the lively months of the Constitutional Convention. Its presence in Querétaro provided a legitimate forum for the radicals from outside of Querétaro itself, and also for some from within - the opening session of the Convention was delayed by the appearance of a delegation of textile workers welcoming the convention as "revolutionary" and depicting their own wretchedness as the result of "the greed of evil Mexican capitalists";¹¹ these were followed by a local representative of the Liberal Party who evoked the name of Madero and denounced "the hydra of the priest, the latifundistas, the cacique, and militarism" which had oppressed the people and "entombed the nation".¹²

Querétaro had always been regarded as a centre of Mexican conservatism, along with the states of Mexico and Puebla, but it was

also used to being close to the nation's political pulse.¹³ Its oligarchy was closely connected with the capital and was generally well informed. The years after the outbreak of the Revolution would have been no different, especially given Carranza's choice to use the city as the seat of his temporary government and of the Constitutional Convention. The absence of any concerted uprising in Querétaro had allowed the old interests to hold onto power in the state but this did not mean that they were naïve or complacent about their long-term position.

As in the previous era of agrarian conflict the main threat came from the state's pueblos. The initial petition from Pedro Escobedo had been followed by others from Pueblito, which was rejected on the grounds that the land titles were forged, and from the pueblos of Amealco, the centre of Otomí population in the state - the villa Amealco itself, and San Juan Dehedo, San Miguel Tlaxcaltepec, Santiago Mexquititlan, and San Ildefonso Tultepec.¹⁴

The old interests gave little away - by 1920 only four land grants had been conceded, affecting a mere eight haciendas, whilst eight applications had been rejected.¹⁵ During the three years which followed, 1921-23, absolutely no land grants were made in Querétaro. The governments of Perusquia and Truchuelo were meantime taking measures to reduce the blatantly privileged status of land ownership. From 1918 on modest moves were taken against the hacienda, but primarily as a way to raise revenue for the state exchequer. Land taxes were raised to a 1% rating, and property values were considerably revised - the combined value of the haciendas La Llave, Balvanera, and Montenegro, for example, were raised by half a million pesos.¹⁶ These measures do not appear to have been pursued with any great seriousness, however, since it is clear that the hacendados concerned achieved a considerable

degree of success in reversing the revaluations - by 1924, 163 petitions had been raised against these increases, only 28 of which were not accepted.¹⁷

Land was also made subject to a graduated tax designed to support public security, and its produce was taxed to provide funds for public education. In the latter case each of the hacienda's main crops - wheat, chickpeas, lentils, beans, maize, barley and chile - was subject to a tax of varying amounts - wheat, for instance, was charged at the rate of 50 cents per carga of 161 kilos, maize at 20 cents per carga of 140 kilos, and chile at 5 cents per 11.5 kilos.¹⁸

AGRARIAN THREAT AND BOURGEOIS REACTION

These measures were clearly no threat to the existence of the hacienda - they were, after all, fashioned by people from the same class as the hacendados. Even so, Querétaro's landowners remained alert to the possibility of future problems. As early as the autumn of 1921 a caucus of the state's landowners came together to establish the Sindicato de Agricultura de Querétaro, an organization affiliated to the Sindicato Nacional de Agricultura, and dedicated to the "effective defence of the right to hold property". There were 37 initial signatories to the sindicato's founding charter, and another 18 joined by proxy. The first general meeting was held later that same year, on the 10th of November, in the house of the secretary, Manuel Legarreta - a noble colonial edifice on Hidalgo. Twenty-eight of the original signatories attended this meeting as well as seven others new to the organization - themselves representing a further six proxy members. The total number thus committed to the Sindicato reached 68.¹⁹

The President of the sindicato was Emilio Valdelamar, the owner of a modest property called Tejada in Pueblito which he had acquired through his marriage to Maria Prado. Manuel Legarreta on the other

hand came from a distinguished lineage, owners of the expansive haciendas of Montenegro, Jofre and Buenavista, stretching north to the Guanajuato border from the pueblo of Santa Rosa. The pattern of the membership appears to have reflected this same duality of the sindicato's officials - Querétaro's largest landowning family, the prominent Porfirians González de Cosío,²⁰ were represented by two members, the spinster Dolores and her nephew Carlos, whilst others, like Refugio Barron, Anselmo Tejeida and Juan Hernandez, were more rancheros than hacendados, and some others were only tenants.

Querétaro's landowners were thus organizing to defend their interests, initiatives which revealed a collective nervousness about the future of the hacienda. The solidarity forged within the meetings of the Sindicato must have provided some reassurance. There were other organizations which complemented the function of the Sindicato. The Cámara Agrícola Nacional de Querétaro still organized and drew together much the same interests as the Sindicato, although its public façade appears to have been less stridently biased towards the state's landowners - in 1924, for example, it promoted a project to improve the trunk road from Querétaro to Mexico City as far as San Juan del Río.

A similar awareness of the new political exigencies can be found in another organization established during those years - the Asociación Regional de Ganaderos. This was formed early in 1924 and drew together the state's most enterprising stock-breeders. Members were charged a fee of one peso a month and had the right to elect a governing council of eight. The council's responsibilities included the publication of a journal, 'El Ganadero', the promotion of a state show and various fairs, and the purchase of a suitable small-holding for the purposes of raising pedigree breeding stock. The whole tenor of the asociación's charter was biased towards notions of the common good and of development

through cooperation - the staging of the first grand show, *Exposición Regional de Ganadería*, in Querétaro, was billed as a project of "true patriotism".²¹

The law of 'pequeña propiedad'

Similar interests controlled the State's executive and legislature. The regimes of Perusquia and Truchuelo showed scant sympathy for the wretched condition of many of the pueblos, and were clearly bent on accelerating the process of agricultural modernization. True to their Liberal outlook they regarded the key to this development to be the 'small-holder'. Legislation on the use of idle lands was drawn up in the majority of the states during the early twenties: of all of these, Querétaro was the least concerned with the issue of size, specifying only that contracts should be issued on areas not larger than the amount the petitioner could cultivate - there was no reference to the way in which this cultivation should proceed.²² In a similar way the Querétaro government sought to encourage the active use of the best lands by imposing a doubled rate of tax on irrigable land which had been left idle.

By far the most obvious expression of the legislature's inclinations is to be found in the state's Agrarian Law, drafted and approved in 1923. As elsewhere in Mexico, this legislation followed the constitutional precepts of Article 27. Its specified objectives included the establishment of rules for the break-up of large properties, the fixing of legal maximums for individual properties, and the general promotion of the 'pequeña propiedad'. To give clarity to these specifications it was first necessary to classify lands according to type. These were five: irrigable by means of running water or springs; irrigable by means of machinery (such as pumps) or the periodic control of waters contained by dams; arable lands without irrigation or temporal; as yet

uncultivated lands but with the capacity for arable production; and hillside lands, useful only for the grazing of livestock.

The law then specified the maximum area that any single individual might legally own. Five separate models were laid down to correspond with the five categories of land types - in this way it was legal to own areas of any one of the following:

- 250 hectares of irrigable (natural)
- 1,000 hectares of irrigable (mechanical)
- 2,000 hectares of temporal
- 2,500 hectares of potential temporal
- 12,500 hectares of hillside pastures

Excluded from these dimensions were various items crucial to successful agricultural production, such as farm buildings, dams and reservoirs, irrigation channels, tracks and roads, woodland, fruit orchards and plantations. Further evidence of the bias towards the progressive agriculturalist was expressed in the stipulation that any lands improved, and thereby changing status - from temporal to irrigable (mechanical) for instance - would remain the legal property of the improving party for a period of twenty years. Artesian wells had been sunk in Querétaro during the last years of the Porfiriato but their full development was to be delayed until later. Nonetheless the potential this facility promised to the state's landowners was already clear - it is obvious that this last legal stipulation was drafted with such a promising prospect in mind. In effect, the 1923 Agrarian Law in Querétaro attempted to guarantee landowners the legal right to hold up to 2000 hectares of irrigable land, more even than the prosperous hacienda of Chichimequillas.²³ Only in the spacious northern states of Chihuahua and Coahuila did a state legislature attempt to allow the individual to hold a larger arable property than this.²⁴

Lic. José María Truchuelo was followed as governor of Querétaro by another lawyer of an established family, Lic. Constantino Llaca. With relatives holding lands in the area of San Juan del Río the new governor was no keener to accelerate the pace of agrarian reform than his predecessors.²⁵ After the total suspension of land grants during the years 1921-24, a slow start was once again initiated in 1925. Even so, progress remained incredibly lethargic - by the end of 1928 only 19 ejidos were in existence, encompassing only 41,091 hectares of land. Almost as many petitions for land had been rejected on one legal ground or another.²⁶

Insecurity and the collapse of confidence

In spite of this general reassuring context, the twenties were unsettling times for the Querétaro landowners. There are various indications that they had lost faith in the security of the future for the hacienda. Family businesses and family properties began to break up. The old Querétaro family of Samaniego, owners of the adjacent haciendas of Carretas and Callejas since before the Insurgency, had continued their management as a corporate enterprise since 1898. In 1921 the constituent siblings dissolved the company and sold the haciendas in lots.²⁷ The extensive properties of the widow Paula Escoto Vda. de Vicente had already been broken up in 1917, as had La Cueva and Los Cues. Other properties, such as Montenegro and Laborcilla, followed suit in the mid-twenties.²⁸

Even the solid stock of the Loyolas were rattled. Don Bernabé's first family had been set up in business on the small properties of La Era and La Providencia. From the middle of June 1894 these lands had been run as a single integrated unit within the corporate guidance of C.M. Loyola y Hermanos - by 1926 the brothers were clearly unsettled by events on the Mexican stage and had dissolved the company and

divided up the lands between them. Perhaps this move had something to do with the experiences of one of the brothers, Alvaro, during the previous year. The Loyolas had also owned a property called Santa Rosa Jaripeo situated just across the border in Michoacán, close to Ciudad Hidalgo. Santa Rosa had been troubled during the years of the Revolution and the agricultural year of 1923-24 had registered losses of almost 1500 pesos. A nearby pueblo San Lorenzo was also clamouring for lands, and had the sympathetic ear of the state's governor, Francisco Múgica - the radical delegate to the 1917 Convention who cannot have failed to have left an impression on the astute Loyolas. Various attempts were made to sell the hacienda and it is clear that Alvaro Loyola was desperately engaged in reducing the costs of running the property. In February 1923 he wrote to the resident administrator informing him that he had contracted a land surveyor to draw up plans for fragmentation. Later the same year he noted that the irrigable land had deteriorated to such an extent that the sharecroppers preferred to cultivate maize instead of wheat. By May 1925 he had instructed the administrator to turn over the entire hacienda to sharecropping in an attempt to make some profit from it.²⁹

This was a trend which was found elsewhere. With confidence ebbing on all sides more and more hacendados resorted to wholesale use of sharecropping. Whereas previously the practice had been limited to only the poorer lands and the least profitable demesne crops - maize and beans - now it was introduced into the most fertile lands and the most remunerative products. In 1923, for example, sharecroppers were producing wheat and tomatoes on the once-profitable demesne lands of the hacienda Carrillo.³⁰

The mood of uncertainty had been compounded by a worse than average spell of weather in Querétaro. From 1921 to 1930 only one year

could be classified as 'good' with more than 600 mm of rainfall. Three others were average, but the other six were bad, two total disasters with barely a drop of rain falling in the entire year.³¹ The effects of these conditions show up in various ways. In the summer of 1923, for example, the government press reported that sharecroppers were losing their temporal crops "year after year" on account of the poor rains, and that the sector was suffering a "profound economic crisis".³² Similar misfortune had also overtaken the company of Maciel, Orozco and Garcillita. This company had been formed in 1920 for the duration of ten years; each of the four partners had invested five thousand pesos, six thousand of which was to be spent on new agricultural equipment and the rest on the rent of a hacienda in nearby Guanajuato. According to the outline of the contract the partners anticipated making annual profits in the region of 30,000 pesos. Things did not, however, go according to plan - by 1925 the partners reported that "on account of the preceding bad years (they) had not been able to make any profit, but rather had recorded losses of considerable amounts".³³ The company was prematurely dissolved.

Not everyone abandoned direct cultivation in favour of sharecropping. Alvaro Loyola continued producing wheat, tomatoes and chickpeas on his rancho La Venta outside San Juan del Rio throughout the mid-twenties, with the tomatoes already finding an industrial market in the Clemente Jacques canning plant.³⁴

The same state of affairs could be found on the hacienda of Chichimequillas under the enterprising regime of Remigio Noriega, but here again it is possible to detect a sign of the times. As mentioned earlier, Chichimequillas was a large and well-endowed property. It was situated well to the north of Querétaro away from the fertile basins of the capital and San Juan del Rio, but it enjoyed the benefit

of a deep and flat-bottomed canyon. These fertile soils were watered by a reservoir called Nuestra Señora del Carmen, itself gathering rainfall from the heights of Pinal de Zamorano and Natanzas on the borderlands of Querétaro and Guanajuato. The reservoir had a capacity of more than six and a half million cubic metres, sufficient to irrigate the 1500 hectares of accessible land on the hacienda.

Disaster struck Chichimequillas on Christmas Eve 1925. The reasons were unknown - hypotheses included the combination of high rainfall and a minor earth tremor - but the effects were devastating: the dam of Nuestra Señora del Carmen burst open and was washed away. Chichimequillas' productive capacity was severely affected and profits were almost cut by half; meanwhile it was reckoned repairs to the dam would cost in the region of a hundred and twenty thousand pesos.

The significance of these events lay in the aftermath. The regime of Noriega, previously so enterprising, made the decision to sell rather than to repair. Furthermore, comments made in a digest of the production towards the end of the decade pointed to the ready possibility of reducing wage levels and increasing profits through the introduction of machinery. The fact that the hitherto innovative Noriega had not himself made such investments implies that the general uncertainty in the future had damaged the rate of investment in modernization.³⁵

THE END OF AN EPOCH: THE CRISTIADA AND THE RISE OF OSORNIA

There were other reasons for the mood of uncertainty which prevailed during the later twenties. Prominent amongst these was the influence of the Cristero rising of 1926-29. While the main focus of this was further to the west, beyond and including Jalisco and Michoacán, the whole of the Bajío was seriously affected. It was a confusing period for the Querétaro landowners, since they shared certain things with the

Cristeros. Both groups were fervently religious, and both were fiercely opposed to the agraristas.³⁶

Despite this apparent overlap of interests an alliance between the Cristeros and the area's hacendados was never forged. The Cristeros were in the main men of far humbler origin, a class difference which was not conducive to collaboration, and in any case they recognized the fact that there was indeed an 'agrarian problem'.³⁷ In addition to this the Church hierarchy had never been committed to the armed struggle, especially in Querétaro under the rule of the moderate bishop Banegas. Given that Querétaro had always been a centre of privileged religiosity, there was a natural overlap of kin between Church and land ownership, and this compounded the division between the hacendado and the Cristero.

The effect of the rebellion on the hacendado was nonetheless unsettling. On one level it caused upset and inconvenience to the pious - the Churches were closed by the State and mass had to be heard secretly in improvised chapels in cascos or town houses.³⁸ But beyond this there was a more important effect. The substance of this lay in the Mexican government's ambiguous commitment to widespread agrarian reform. Porfirio Diaz's departure had left a vacuum at the centre of Mexico's polity which in the Twenties was still only precariously filled.³⁹ The men who had achieved this precarious hold were from the north-west, Obregón and Calles. This was a region of very distinctive composition where the notion of the ejido was predominantly foreign.⁴⁰ As a result the regime developed only a negative view of this institution, regarding it as a merely transitional stage with no real economic role to play. The ejido would just provide the backward peasantry with an opportunity to learn the discipline so crucial to successful agriculture, and would then aspire to the status of enterprising small-holder.⁴¹

The other side to this was the Sonorenses' support for the "campesinos de la clase media", the class reckoned by Calles to possess the dynamism and enterprise so crucial to agrarian development.⁴²

What agrarian reform there was to be should thus be turned to the advantage of this aspiring bourgeoisie. Herein was the dilemma facing Calles. He had no conviction in widespread agrarian reform or in the creation of a multitude of ejidatarios, but his hold on state power was still tenuous. The Cristero rebellion aggravated this state of affairs, and in subduing it Calles came to rely upon the support of a great number of landless peasants or agraristas. 25,000 of them fought alongside the Federal soldiers, thereby earning the vehement enmity of the Cristeros, men who were in most respects indistinguishable from themselves.⁴³ Ravaged and shattered by the experience of such a conflict they would have made a dangerously resentful and anomic gathering in peacetime.

The fact of this uncomfortable dilemma had not been missed by the most astute of the Querétaro agriculturalists. They were able to detect Calles' favourable disposition towards the dynamic enterprises they had come to regard as their own creation. For this reason above all others they had no basis to make a common cause with the Cristeros. Many of the most enterprising were openly hostile to the rebellion, and one in particular, Manuel Urquiza of Obrajuelo, was singled out as a dedicated and active enemy of the cause.⁴⁴

All of this turned out to be a vain and rearguard rally on the part of the hacendado. The political exigencies born of the agrarista support during the Cristero rebellion left Calles with little room for manoeuvre. If the new state was to consolidate its hold on Mexico, concessions to principle had to be made, and its support had to be broadened at the base.⁴⁵ The upshot of this was a return to the process

of agrarian reform, with a rapid acceleration during the rule of Emilio Portes Gil.

By the late Twenties, therefore, the morale of the Querétaro landowners had reached a low ebb. Their uncertainties were confirmed by the spurt of land redistribution which took place during 1929 - over 50,000 hectares were expropriated and 22 petitions had been conceded.⁴⁶ Only three petitions had been successfully resisted, a failure rate due to an amendment to the Agrarian Law introduced by Portes Gil. The effect of this had been to extend the basis of a legitimate claim for land - previously such a right had depended upon a petition of proven restitution and upon a limited series of residential political statuses. All that was now required was that petitioners were in need of land, without which they were liable to impoverishment and destitution.

Hopes may have been momentarily rekindled after Calles had managed to displace the populist Portes Gil with Ortiz Rubio, and had declared himself in opposition to any further agrarian reform on account of "the damage it was inflicting on the national economy".⁴⁷ But in Querétaro these were short-lived, since by the summer of 1931 it was clear that the new state governor would be Saturnino Osornio.

Osornio had had connections with the Liga Nacional Campesina,⁴⁸ and later became the leader of the more moderate faction which split away to form the Liga Central de Comunidades Agrarias.⁴⁹ He was thus a prominent member of that core group which came to champion the presidential candidature of Lázaro Cárdenas, and supported it by mobilizing the peasantry behind the newly-formed banner of the relatively moderate Confederación Campesina Mexicana. The group included Portes Gil, the leader of the CCM - Graciano Sánchez, and the powerful caudillo of San Luis Potosí, General Saturnino Cedillo.⁵⁰

Osornio's successful election to the governorship of Querétaro was secured by the intervention of Cedillo and his followers,⁵¹ a debt

which he promptly acknowledged by the staging of the second congress of the CCM in Querétaro. With the CCM in control of the state apparatus and a committed agrarista about to assume the Presidency, the days of the Querétaro hacienda were fatally numbered. By April 1935 the number of ejidos had been increased to 120 with grants of over 175,000 hectares.⁵² The pace of redistribution did not ease and in 1936 almost 16,000 hectares were affected at the behest of the state authorities, with a further 27,000 and more discharged by Cardenas' national officials.⁵³

Footnotes to Chapter Seven

1. Berta Ulloa, La Revolución Escindida, Vol. 4 of Historia de la Revolución Mexicana (ed. Luis González), (Mexico, 1979), p.43.
Hereafter abbreviated to HRM.
2. Charles C. Cumberland, Mexican Revolution, the Constitutionalist Years (Texas, 1972), pp.323-34.
3. La Sombra, 1915.
4. La Sombra, 1915.
5. Cumberland 1972, p.332, fn.32.
6. E.V. Niemeyer Jnr, Revolution at Querétaro (Texas, 1974), p.65;
Luis González, Los Artifices del Cardenismo, HRM vol. 14 (Mexico, 1979), p.129.
7. Niemeyer 1974, p.44, 228.
8. Cumberland 1972, p.365, fn.11.
9. Niemeyer 1974, p.54.
10. La Sombra, 1921.
11. From the Diario de los Debates I, 29, quoted by Niemeyer 1974, p.44.
12. Quoted in Niemeyer 1974, p.44.
13. Bazant 1975, p.77.
14. Memoria del Estado de Querétaro, 1918.
15. Censo Ejidal, El Estado de Querétaro, 1935 (Mexico, 1937), pp.13-14.
16. La Sombra, 1920.
17. Memoria del Estado de Querétaro, 1924.
18. La Sombra, 31 July 1918.
19. ANQ/CME 1921-158. An interesting comparison may be made with a similar organization in Chile, which was also formed with the explicit intention of resisting moves towards agrarian reform - see Thomas C. Wright, Landowners and Reform in Chile, the Sociedad Nacional de Agricultura 1919-40 (Champaign, 1982).

20. The family of González de Cosío was of recent origin in Querétaro. The evidence suggests that initial purchases of land in the state and also in San Luis Potosí to the north were made by one José Gonzalez de Cosio during the first years of Independence - or perhaps more likely, that these properties came into the family by way of José's marriage to one Trinidad Arauz. In any event, the family had the right political connections - Manuel González de Cosío was a General in the Mexican army which was defeated by the French in Puebla in 1863. Fighting alongside him was none other than Porfirio Díaz. Díaz escaped the French with another Querétaro connection, General Felipe Berriobazal, who was later to be useful to Bernabé Loyola and to serve in Porfirio's cabinet. Manuel González de Cosío was not so fortunate and was imprisoned by the French in France - he was about to volunteer for service in the United States army when word reached him of Porfirio Díaz's rise to prominence. He returned to Mexico to become a long-term member of the cabinet and the inner circle of the Porfiriato's elite. Manuel's cousin, Francisco, who had been educated as an engineer, had meanwhile taken the governorship of Querétaro, a post he was to dominate through much of the Porfiriato. (J. Creelman, Díaz, Master of Mexico (New York, 1911), pp.166-67.)
21. La Sombra, 18 August 1924; ANQ/CME 1924-33.
22. Tannenbaum 1968 ed., pp.262-70.
23. La Sombra, 1923, pp.155 ff; Enrique Krauze, La Reconstrucción Económica, HRM vol. 10 (Mexico, 1977) pp.110-14.
24. Tannenbaum 1968 ed., pp.433-34.
25. The establishment of hacendados in the posts of state governorships became a pattern during the years of Calles' presidency and influence. Thus Llaca was succeeded by General Severino Ayala, the owner of the hacienda Santa Rita in San Juan del Río (Krauze 1977, p.120).

26. Censo Ejidal 1937, pp.11-15.
27. ANQ/CME 1921-98.
28. ANQ/CME 1917-66, 1921-145.
29. AJ/CC 1923-26.
30. ANQ/CME 1923-29.
31. Data available in Secretaría de Agricultura y los Recursos Hidráulicos, Querétaro.
32. La Sombra, July 1923.
33. ANQ/CME 1925-155.
34. AJ/CC 1925.
35. AC/1927 Digest of production and accounts.
36. Jean Meyer, The Cristero Rebellion: the Mexican People between Church and State 1926-29 (Cambridge, 1976), pp.105-13.
37. Meyer 1976, pp.106-07.
38. Oral evidence from Manuel de la Llata and Señora Dolores Herrera de Campos. See also Heath Bowman and Stirling Dickinson, Mexican Odyssey (Chicago, 1935), pp.223-27.
39. Brading 1980, pp.1-16.
40. Hector Aguilar Camín, La Frontera Nómada: Sonora y la Revolución Mexicana (Mexico, 1977); Steven E. Sanderson, Agrarian Populism and the Mexican State (Berkeley, 1981); Linda B. Hall, Alvaro Obregón: Power and Revolution in Mexico, 1911-20, (Texas, 1981).
41. It should be emphasised that this view of the ejido was not limited to the north-west, but was shared by such prominent advocates of agrarian reform as Andrés Molina Enríquez - Arnaldo Córdova, La Ideología de la Revolución Mexicana (Mexico, 1973) pp.276-87, 331-46.
42. Lorenzo Meyer, El Conflicto Social y los Gobiernos del Maximato (Mexico, 1978), HRM vol. 13, pp.211-12.
43. J. Meyer 1976, p.106.

44. J. Meyer 1976, p.103.
45. Krauze 1977, pp.110-133.
46. Censo Ejidal 1937, pp.11-15.
47. L. Meyer 1978, pp.89-90.
48. Heather Fowler Salamini, Agrarian Radicalism in Veracruz 1920-38
(Lincoln and London, 1978 ed.), p.52, 109.
49. L. Meyer 1978, pp.313-15.
50. L. Meyer 1978, pp.248-50.
51. L. Meyer 1978, p.313.
52. Censo Ejidal 1937, pp.18-22.
53. Computation of proceedings reported in La Sombra, 1936.

CHAPTER EIGHTTHE RISE AND FALL OF CARDENISMO

THE AGRARIAN REFORM PROGRAMME

Lázaro Cárdenas had committed himself to the project of agrarian reform during his electoral campaign for the Presidency - he had promised that, if elected, "nothing would stop (him) until the peasantry had received the best land and the state had provided all the financial, moral and material aid possible".¹ His previous wide experience in politics and the army, including the Revolution itself and the struggle to subdue the Cristeros, had given him a comprehensive knowledge of the Mexican campesinos.² His ambition was to reshape Mexico such that the lives of these ordinary people were transformed. This was to be achieved by way of a blend of national autonomy and widespread agrarian reform, in which there was to be a reconciliation between land and factory somewhat reminiscent of Robert Owen.³

His candidacy was declared on the first of May 1933. During the first week of December the Segunda Convención Ordinaria of the PNR was staged in Querétaro.⁴ There the first Six-year Plan, including the proposed drive for agrarian reform, was approved and Cárdenas was designated the party's official candidate. Once again the landed class of Querétaro had acted as the involuntary host to a threatening drama.⁵

Once President, Cárdenas spent as much time touring the Mexican countryside as he did ensconced in the presidential offices. Land redistribution was immediately speeded up, peaking during the years of 1936 and 1937⁶ - almost eighteen million hectares were redistributed during his term of office. This process, combined with related social projects, cost the Mexican exchequer dear. Even the more forbidding targets, such as the Laguna cotton estates and the Mexican oil interests,

all financed by foreign capital, did not deter Cárdenas. Business confidence took a further turn for the worse and there followed the inevitable flight of capital, domestic and foreign.⁷ Cárdenas' project came to depend increasingly upon deficit financing, and with dwindling external support, this entailed an increase in money circulation and subsequent inflation.⁸ The rate of inflation first picked up in 1936, and sharpened up considerably during 1937. Over the period 1936-39 the general price index rose 26.6%, an annual average of 8.8%. Basic essentials were particularly affected - staple foods increased by over 25%, clothing by almost 30%, and household goods by more than 33%.⁹ These trends had been partly caused by a serious fall in the production of staple grains over the years 1936-38.¹⁰ Calles, then in exile in the United States, blamed this decline on the ill effects of the Agrarian Reform and on the inefficiencies of the collectivized ejidos introduced by Cárdenas. Cardenistas in reply blamed the weather - which certainly in Querétaro had not been good - 1936 had been better than average with 680 mm of rainfall, but the subsequent two years were both poor, with 378 mm and 445 mm respectively.¹¹

INFLATION AND POLITICAL SUCCESSION

Whatever the actual causes the effects were devastating, particularly for the urban middle and working classes. By 1938-39 the level of discontent amongst these groups had reached alarming proportions, with wildcat strikes occurring regularly, and more coordinated stoppages threatened in such key areas as the railways, petrol and electricity. Mining was also affected in Guanajuato and Chihuahua, teachers went on strike in Veracruz and Nuevo León, workers left the textile mills in Puebla, and engineers threatened to do the same in Veracruz.¹²

Cárdenas was thus under siege from the urban population. He was also under a great deal of political pressure from the right. On the

agrarian front there was the Confederación de Cámaras Nacionales de Comercio e Industria arguing that the reform was inflicting considerable damage on the agricultural economy as a whole, thereby creating shortages in basic staples; it was also argued that ejidatarios were no better off as beneficiaries of the reform than they had been as peones employed on the old haciendas.¹³ More disturbing was the growth of support for fascism in Mexico, sinarquismo and Acción Nacional. This was sufficiently threatening to persuade influential members of the left, such as the Communist leader of the CTM, Vicente Lombardo Toledano, not to struggle for a continuation of the Cardenista policies.¹⁴

The combination of all these pressures and disturbances had precipitated a serious crisis in Mexico by the middle of 1938. The recently amalgamated components of the PRM were in a state of disarray over the questions of future policies and the successor to Cárdenas. The party was composed of four basic groupings, although each of these had their own internal divisions and heterogeneity - the military, industrial labour, the peasantry, and a grouping of more individualistic interests including some of the least powerful middle class. The impact of declining agricultural production, of urban dissidence born of rising inflation, and of competing political pressures to both the left and the right combined to throw the PRM into a profound crisis. Conflicting interests and indecision threatened to shatter the precarious amalgam. This was then aggravated by the premature emergence of contenders for the party's nomination, including General Manuel Avila Camacho, the conciliator, and General Francisco Múgica, radical agrarista and legitimate heir to the traditions of Cardenismo.

Camacho had declared his candidacy in July 1938, almost two and a half years before the incumbent Cárdenas was due to step down. He had the backing of the military and was known to be loyal to Cárdenas, but

little was known about his position on the pressing questions of labour and agrarian reform. This obscurity was his greatest asset - his main opponent, Múgica, was an established radical from as far back as the Querétaro Convention of 1917 and could hardly match Camacho's pretensions as a conciliator. With this advantage he was able to secure the support of a powerful caucus of governors and senators, and of the crucial Lombardo Toledano, who was more concerned about the threat from the fascist right. The CNC, beneficiary of the agrarian reforms under Cárdenas, was less independent of the PNR establishment, and as soon as it was clear which way the wind was blowing, the leadership under Graciano Sánchez duly backed the candidature of Camacho.

The National Convention of the CNC had met to endorse this nomination in late February 1939. Within little more than two months Camacho had showed his hand on the agrarian question in a speech delivered in Pachuca, Hidalgo. His objective would be to take up "the battle of increased production".¹⁵ In connection to this struggle he emphasised the urgent need to clarify the status of the pequeña propiedad, or small-holding, and to give private landownership security of tenure. He even went so far as to suggest that the much maligned collective ejidos would be more efficient if divided up into individually run parcels.

Although this latter aspect of Camacho's electoral programme was somewhat modified over the subsequent months, it was clear that the incumbent Cárdenas was in retreat. It was supposed that his own preference had always been for fellow agrarista Francisco Múgica, and that he had been restrained from declaring it for fear of the divisive consequences. Camacho connived in this façade of unity and made the symbolic gesture of forming a balanced commission to draw up the Second Six-year Plan, with three radicals and five moderates, but it

was clear that the weight of official opinion had shifted in favour of private landownership as opposed to the ejido.¹⁶ By 1940 this shift was so marked that President Cárdenas was obliged to preside over his own defeat, and in September of that year he introduced amendments to the Agrarian Code which gave legal immunity to specified sizes of privately held lands, called Certificades de Inafectabilidad. These measures were to be ironically amongst Cárdenas' last acts as President of Mexico before he stepped down on the 29th of November 1940.

PRESIDENT AVILA CAMACHO AND BOURGEOIS REVIVAL

Within ten days of the succession Avila Camacho had embarked upon a course which would reverse the trend of the previous sexenio. He immediately decreed measures to individualize the ejidos and began to curb the pace of land redistribution - most of the land made over to the peasantry during Camacho's regime in fact came from provisional procedures initiated during the Cárdenas years.¹⁷ Attention was redirected onto the problems of production and as to how the rural sector could be made to take advantage of the improving external conditions - the outbreak of World War Two had created a demand in the USA and beyond which could not be satisfied domestically, and there were thus great opportunities for the export sector in Mexico.

Camacho's policies reflected this new concern, "the battle for increased production" as he called it. Various mechanisms were designed to foster improved productivity. Large state financing went into the construction of dams and irrigation channels, thereby absorbing over 90% of the national allocation to agriculture. The problem of communications, still a prominent factor in the Mexican economy, was given priority over all other considerations and took more than half of the budget for public investment.¹⁸ In addition to these financial aids the agrarian sector was also favoured by certain tax exemptions, export subsidies, and the incentives of guaranteed high prices.

It was clear that this context had been created to encourage production in the private sector. In conjunction with these financial measures Avila Camacho set out to woo the besieged remnants of the old landowning class and especially to increase their number through the sale of newly developed lands to aspirant entrepreneurs rather than to hopeful ejidatarios. In April 1942 he moved to reassure producers for the export sector by raising the legal maximum for landholding of 'plantation' crops to 300 hectares.¹⁹ He also attempted to restore confidence to the private sector by granting legal immunity to a great number of holdings: the pace of concessions made to the ejido sector was drastically retarded over the Camacho years, but the number of Certificades de Inafectabilidad issued during the same time reached 8,000, with a further 200 and more in the category of ganadería. The land affected by these concessions came close to three million hectares.²⁰

Political reorganization of the party was also undertaken to favour the interests of private enterprise. The voicepiece of the Mexican campesinos, the CNC, was increasingly shackled to the office of the Presidency, and a firm supporter of Camacho was given the post of leader in place of the old Cardenista Graciano Sánchez.²¹ In contrast, the Presidential ear was granted more readily to the party's organ of the middle class, the CNOP, and later on, in 1945, the country's private landowners were given official party status with the formation of the Confederación Nacional de la Pequeña Propiedad Agrícola. In tune with this official party status, the CNPPA adopted a conciliatory line vis-a-vis the ejido and declared that both sectors could work hand in hand for the national interest. This tone reflected the strength of their hand in relation to government policy, as did their demands for an increase in the number of guaranteed tenures and

for aid in the areas of credit and mechanization.²²

Prospects for the campesinos were not so favourable. The Camacho regime had done nothing to halt the rate of inflation - with prices indexed at 100 in 1934, ten years later they were at 310 and in the countryside, at 432.4.²³ The new class of ejidatarios may well have been better fed than previously, but in general terms the agricultural sector was failing to meet the national demand for staples. The wholesale price of food rose over the period 1929-48 by 175%. Particularly affected were the basics, maize and wheat: these were in such short supply that prices doubled over 1942-44, and trebled over the longer period 1942-50. A disastrous harvest in 1943 brought discontent in the countryside to the point of rioting, and the government was forced to take short-term solutions in importing grain from the USA. Over the years 1941-43 an average annual amount of thirty-five million pesos was spent on imported wheat: this may not have compared badly with other Latin American countries of the time but it had a damaging effect on the Camacho policies of domestic industrialization - hard-earned dollars earmarked for the import of capital goods were draining away on the basic task of feeding the nation.²⁴

Avila Camacho and his successor Miguel Alemán assigned the responsibility for this task increasingly to the private sector. The whole drift of government expenditure on irrigation projects and the opening of new lands reflected this orientation. So, too, did the attempt to improve crop productivity through the domestic production of fertilizers and the establishment of Rockefeller research institutions for improved seed strains, particularly for maize and wheat. An American agronomist, Norman Borlaug, headed this research effort and arrived in Mexico in 1944. His initial impression of wheat production in the country reflected the parlous state of Mexican agriculture at the time. Seed

varieties used were totally unimproved and critically vulnerable to common stem and leaf diseases; production was archaic and mechanization almost non-existent; soils were impoverished and unfertilized, and yields were down to a national average of 750 kg per hectare.²⁵

The exception to this picture was the Pacific North-west, Sonora and Sinaloa - there methods were more modern and yields were double the national average. To a large extent this exceptional performance reflected the unusual history of the area. As we have already noted, men from this area dominated the presidency during the early years after the Revolution. As a result much of the state investment made at that time ended up in the North-west, in the form of vast irrigation schemes. In addition to this advantage there was the asset of the land itself, virtually uncolonized and therefore naturally bountiful. The plains of Sonora, Hermosillo and the Yaqui valley, later to become the archetype of Mexican capitalist agriculture, were virtually deserted until the 1890s. Government projects, like the huge Angostura dam across the Yaqui valley opened in 1941, created vast new areas of arable lands, most of which was destined for the private sector.²⁶

Many of the beneficiaries of this ample government patronage had no long-standing ties with the land: there was no traditional hacendado class in the region and most of the new landowners were parvenues from the Revolution, men with political connections such as the son of the President Plutarco Calles, or urban businessmen with an astute eye for the land's commercial prospects. It is worth noting that there was a minority amongst them who were exiles of the Agrarian Reform in the Laguna and the Bajío - ex-hacendados who had lost their land and were attempting to re-establish themselves in a different region. These men were described as "knowing their business" and have since been characterized as "among the best farmers of the nation".²⁷ One of these

was Pedro Loyola, who had left Querétaro with his son Enrique and three of his medieros including Pedro Pérez during the 1930s.²⁸

In this way the North-west flourished. By stark comparison, the traditional bread-basket of Mexico, the mesa central and in particular the Bajío, suffered a protracted decline. In this area government expenditure on irrigation was relatively insignificant and delayed until later years. Over the period 1941-70 the three states of the Pacific North-west took almost 37% of the state's expenditure on irrigation; during the same time the vastly more populous states of the centre-north relevant to this study, Guanajuato, Querétaro, Jalisco and Michoacán, were allocated between them a mere 1 1/2%.²⁹ These realities of the uncolonized frontier and higher state capitalization were dramatically registered in rates of growth; the North-west boomed and between 1949-51 and 1960-62 recorded annual average increases of almost 8% - by contrast, the Centre grew at the slowest rate of less than 2 1/2%.³⁰

AGRARIAN DECLINE IN THE BAJIO

None of this should have surprised those who had witnessed the course of events in the Bajío since the Revolutionary decade. As we saw earlier, the accelerated break-up of the haciendas during the years of Saturnino Osornio and President Cárdenas had finally fulfilled the fears of the hacendado, fears conceived some twenty years earlier at the time of the Revolutionary Convention. The coup de grâce may have been delivered by this duo, but surely mortal damage had already been done to the hacienda economy by the long years of lingering doubts and debilitating disruption.

Evidence of this profound debilitation is manifold. We have seen how improvements in agricultural productivity had been accomplished during the years of the Restored Republic and the subsequent Porfiriato.

A good part of this had been due to the successes of the new patterns of management. Closer and more informed supervision had provided the progressive hacendado with ample opportunity to exploit the market benefits of cheap labour and remunerative produce. The subsequent increase in profitability had made the hacienda attractive to capital even though these were arable producers for the domestic market. The virtues of the new regime were not missed by the landowners and secure in the knowledge of sufficient returns they began to reinvest at least a portion of their profits in modernizing their properties. Compared to the most advanced sectors in Europe and the USA this development towards mechanization may not have been that impressive but the trend was nonetheless on the move.

For all the reasons discussed above, disruption and disillusion, the years after the Revolution witnessed the abrupt halt to these developments. Anxious about the future of substantial land-holdings hacendados adopted measures to disguise the extent of their properties and to reduce the measures of risk and investment involved in production. Sharecropping was introduced into the production of even the demesne crops, previously integrated units of production were broken up, and there was a generalized withdrawal of interest and commitment to the hacienda.

This is the picture which also emerges from the state census drawn up in 1929-30. The trend towards owner-management prevalent during the Porfiriato had clearly been reversed. The census shows that there were some 78 haciendas and 216 ranchos in the prosperous south-east, which included the fertile basins of Querétaro and San Juan del Río. All of these were larger than 50 hectares. At the same time there were no fewer than 256 administrators at work in the area as well as 26 tenant farmers. These figures indicate that the number of landowners directly

involved in production had fallen to a very insignificant level.³¹

The already-detected trend towards sharecropping and decapitalization also finds an echo in the 1929-30 census: according to this document there were only 31 trucks and 46 tractors in the entire state of Querétaro.³² The fact that these figures signify a drastic slowing-up in the process of mechanization is important for its own sake, but in addition to this there are also firm indications that this was a most inappropriate moment to withhold such investments.

This was because the bonanza of the Bajío's natural fertility was coming to an end, as already implied by the area's poor performance in comparison with the Pacific North-west. A close analysis of the data available suggests that the soils were already demanding greater attention at the time of the departure of Porfirio Díaz. The hacienda accounts for San Juanico show that wheat yields in the twentieth century were considerably down on those of fifty years earlier, perhaps by as much as 40%. We also know from the letters of José Loyola that the soils of Juriquilla were being dressed with cattle manure during the 1890s. Further evidence of this declining fertility can be gleaned from the 1924 report drawn up for the Comisión Nacional Agraria on a petition from the barrio of El Retablo which bordered the hacienda of San Juanico. Later on in the 1920s similar findings were recorded in reports on the comparable properties of Casa Blanca, Jacal, and San Isidro de los Olveras: in this case the reporting agronomist, Ing. Gonzalo Araiza, enthused over the efficiency of an electric pump for irrigating the land but added that frequent cropping without fertilization was doing considerable damage to the soil.

All of this fits within what we know of the general decline of production in the area. According to an American report ominously titled "Mexico's Capacity to Pay", published in Washington in 1929,

Querétaro's production of beans was declining rapidly during the late twenties.³³ Production of every crop except maize in Querétaro had fallen to levels well below those recorded during the early years of the Porfiriato.

TABLE 14: Agricultural Production in Querétaro:
the 1880s and 1925-31 compared

	1880s	1925	1926	1927	1928	1930	1931
Camote	1,200	90	615	795	1,019	1,013	805
Chile verde	450	90	113	99	229	71	83
Chickpeas	1,200	155	189	183	321	199	438
Wheat	23,000	7,419	6,933	7,311	6,401	5,613	10,610
Maize	42,000	43,190	64,407	41,390	41,625	22,140	64,815

All figures given in tons.

Source: 1880s, *La Sombra*, 22 February 1891.
1925-1931, Archivo de Ramón Fernández y Fernández,
El Colegio de Michoacán.

Especially serious was the decline in the production of wheat. All the indications are that this fall was a consequence of declining yields rather than a general withdrawal from the production of the crop. The figures on yields per hectare indicate that the Bajío soils were indeed exhausted and no longer able to sustain high returns without modern attention. Lands which had once been the envy of the world were now drastically impoverished and producing crops quite inferior to comparable areas elsewhere in the world.

TABLE 15: Wheat Yields in Querétaro, 1925-31

1925-39 average:	556 kg/hectare
1930	506 kg/hectare
1931	685 kg/hectare

In the mid-nineteenth century the average yield was reckoned to be in the region of 1400 kg/hectare.

Sources: Archivo de Ramón Fernández y Fernández, El Colegio de Michoacán; RASO (1848) p.37 and ASJ/LC 1857-65.

It is clear that the accumulative effects of the area's difficult environmental conditions had begun to bear heavily on Querétaro's agrarian economy, and pointed urgently to the need for higher levels of capitalization. The hazards of the region's rainfall had emphasised again and again the necessity of modernizing the systems of irrigation with artesian wells - the decade of the 1930s was no better than that of the 1920s with five years classified as bad against only one good.³⁴

Fragmentary evidence from agronomists' reports for a slightly later period, the early 1940s, confirms this impression. The once fertile lands of Jurica and Carrillo were producing only 500 kilos of wheat per hectare, whilst maize crops in Bravo and Calamanda had fallen to 450 kg/h and 375 kg/h respectively. These reports all noted the backward technology used to cultivate the land in just the same way as Norman Borlaug - animal-drawn wooden ploughs "scarcely broke the surface of the land", and the uninterrupted year-on-year cultivation of maize without the use of manure or fertilizer was draining the soil of its natural fertility.³⁵

Quite apart from the effect of the alterations wrought by the Agrarian Programme, the impact of this decline on the sector's profitability was devastating. According to a studied report drawn up

by Ing. Ezequiel Roman on wheat production in the ejido of Colorado in 1936, irrigated wheat yielded a return per hectare of only 22.05 pesos. A similar detailed study was made in the ejido of Carrillo Puerto during 1943, by which time inflation had taken a heavy toll on the purchasing power of the peso.³⁶ In this case wheat production was again carefully costed according to each task and the net revenue per hectare was calculated at 64 pesos.

Both of these figures appear to be considerably inferior to those achieved by the hacienda San Juanico. We have previously seen how wheat production there yielded a net return of around 50 pesos per hectare during the years 1856-64. Even with the subsequent decline in soil productivity the higher market values of the Porfiriato would have secured similar if not improved returns during the last years before the Revolution.

It is difficult to make an accurate assessment of these contrasting figures in terms of real profitability since the rate of inflation over the period in question was considerable. We can, however, get some idea of the decline by reducing each amount to its contemporary worth in maize. 50 pesos in the 1850s and 1860s would have bought about 50 fanegas of maize, whereas the more recent profits would only have managed 5 1/2 and 8 fanegas respectively.

It is clear that this comparison cannot take account of the variations within the sample - individual years are a hazardous basis for such a calculation and we must assume that the differences between the regimes of hacienda and ejido would also have had an effect. Even so, the areas in question, the irrigable lands of San Juanico, Jurica, Carrillo, and Colorado, were all comparable, and we know that yields from these lands had indeed fallen over the period by perhaps as much as 50% or more. Given this, it would appear legitimate to attribute at least some credence to the calculated comparison made above, and to

conclude that the decades following the Revolution witnessed a drastic fall in profitability. The political circumstances clearly account for a good part of this decline but it is also fair to infer that the failure to compensate for soil exhaustion and a difficult climate was equally important. Even as late as the early 1950s the area's soils were described as "extremely deficient in nitrogen" and the reports and figures for the period suggest that the common practice was still to cultivate without the use of fertilizers.³⁷

Footnotes to Chapter Eight

1. Charles C. Cumberland, Mexico, The Struggle for Modernity (New York, 1968 ed.), p.298.
2. Alicia Hernández Chávez, La Mecánica Cardenista (Mexico, 1979), HRM vol. 16, pp.210-13.
3. Ramón Beteta, 'Economic Aspects of the Six-year Plan' in Economic and Social Policy of Mexico (Mexico, 1935), pp.44 ff. quoted in Sanford A. Mosk, Industrial Revolution in Mexico (Berkeley and Los Angeles, 1950), p.58.
4. González 1979, p.238.
5. Hernández Chávez 1979, p.213.
6. Luis Medina, Del Cardenismo al Avilacamachismo (Mexico, 1978), HRM vol. 18, p.248.
7. Mosk 1950, p.60.
8. Medina 1978, pp.39-41.
9. Medina 1978, p.40.
10. Medina 1978, p.19.
11. Secretaría de Agricultura y Recursos Hidráulicos, Qro.
12. Medina 1978, p.42, fn. 46.
13. Medina 1978, pp.27-29.
14. Medina 1978, p.63.
15. Hewitt 1976, p.13.
16. Medina 1978, p.94, fn. 137.
17. Medina 1978, p.248.
18. Blanca Torres Ramirez, México en la Segunda Guerra Mundial (Mexico, 1979), HRM vol. 19, p.286.
19. Medina 1978, p.243.
20. Medina 1978, p.272.
21. Medina 1978, p.190.

22. Medina 1978, p.280.
23. Hewitt 1976, p.9 and data taken from el Archivo del señor Ramón Fernández y Fernández, El Colegio de Michoacán, Zamora.
24. Mosk 1950, p.286; Hewitt 1976, p.11.
25. Quoted in Hewitt 1976, pp.26-27.
26. Hewitt 1976, passim.
27. Hewitt 1976, pp.145-46.
28. Oral evidence from Hilario Ledesma, ex-peon of Juriquilla.
29. Hewitt 1976, p.18; Clark W. Reynolds, The Mexican Economy: Twentieth-Century Structure and Growth (New Haven 1970), pp.156-60.
30. Eduardo L. Venezian and William K. Gamble, The Agricultural Development of Mexico: Its Structure and Growth since 1950 (New York, 1969), pp.68-69.
31. Censo Agrícola Ganadero 1930, pp.12-13.
32. Censo Agrícola Ganadero 1930, p.21.
33. Quoted in Krauze 1977, p.168.
34. Secretaria de Agricultura y Recursos Hidráulicos, Querétaro.
35. DAQ/Files for Carrillo Puerto, Bravo and Calamanda.
36. DAQ/Files for Carrillo Puerto and Colorado.
37. AJ/Circular from Oficina de Estudios Especiales, Dirección General de Agricultura, Departamento de Extensión Agrícola, dated 15 October 1954.

CHAPTER NINEECONOMIC RECOVERY AND CAPITALIST AGRICULTURE
IN QUERETARO 1940-80

AGRARIAN REFORM AND CLASS DECOMPOSITION

By the 1940s the shape of the agrarian economy in Querétaro had been transformed - the traditional centre-piece of the hacienda had been replaced by a multitude of ejidos and pequeños propiedades. We have already seen how the years of neglect and virtually non-existent investment associated with this transformation had left the Querétaro countryside a mere shadow of its former self. It is now time to consider the fate that had befallen that class of landowners and agriculturalists which had previously ridden so high on the successes of the Porfirian hacienda.

In general terms, the social decomposition of these years was far less profound than the economic decomposition. The hacendado class in Querétaro certainly suffered a serious setback during the incursions of the Cristiada and the Agrarian Reform, some few such as Juventino Guerra of San José el Alto even lost their lives, but it would be far from the truth to say that it had been ruined by the experience.

The main reason for this resilience lay in the fact that the class had developed a number of interests separate from the productive hacienda. It had been quite common for members of the landowning families to enter the professions - by the time of the Revolution there were many doctors, lawyers, engineers and state bureaucrats at work in the capital, most of them bearing the name of one of the state's landowning lineages. One of those families, de la Llata, owners of the prosperous hacienda Tlacote el Alto, had chosen to educate all but one of the numerous sons, Antonio - who was then left to administer the property.

In addition to this trend of professionalization hacendados had diversified their interests as their profits had become more substantial. Francisco Urquiza of Jurica and Agua Azul had invested in a successful brick factory designed to take advantage of the growing demand for housing in Querétaro.¹ Others developed businesses closely associated with that of hacienda production - Alfonso Veraza invested considerable amounts in improving the flour mill of Batán, whilst two owners of San Juanico had similar ventures on the move - Braulio Iriarte owned the mill close to Santa Rosa Jaripeo in Michoacán as well as a trading house in Mexico City, and Florencio Sánchez ran a company trading in grain also in the capital.² A further case was that of Santiago Jimeno of the hacienda Capilla who invested in a project to set up a brewery in Querétaro.

Other lucrative concerns included the boom in transportation at the time of the Porfiriato: some Querétaro landowners had money invested in the major lines, whilst others moved to set up a company to run smaller ventures around the city and beyond to the townships of Pueblito and Acámbaro. Finance also proved attractive, and many local hacendados were responsible for the establishment of the initial capital for el Banco de Querétaro,³ whilst Bernabé Loyola died with no fewer than four hundred 1000-peso shares in el Banco Internacional e Hipotecario.⁴

Perhaps the most dramatic development of the late Porfiriato in Querétaro was hydro-electric power. Electric lights in the state capital represented the apogee of progress through the application of science, and in the source of the power there was the secondary asset of irrigation - not to mention the anticipated symmetry of the electric water pump irrigating the lands of adjacent haciendas. The Compañía Hidro-Eléctrica de Querétaro was established in the first years of the Twentieth century, and by the outbreak of the Revolution a second dam, the Presa del Centenario - in memory of the Insurgencia - had been

constructed across the river of San Juan at the point of a 120 metre waterfall called El Paso de las Rosas. This dam had taken fourteen months to complete and had cost 135,000 pesos.⁵ Machinery for the generator had been purchased from a German company Voith of Heidheim at a cost of 350,000 German marks.⁶ The company had been established on the basis of a capital sum of 310,000 pesos in the early years of the century by way of the sale of 100-peso shares. By 1921 further issues of shares had swollen the capital sum of the company to well over one and a half million pesos.⁷ By 1925 the company was providing electricity to light a number of pueblos and haciendas, and also powered sixty industrial plants including the textile mills of the Compañía Industrial Manufacturera (which had been Hercules of the Cayetano Rubio family) and the flour mills of San Antonio and El Fenix.⁸ In addition to these interests the company had also developed a number of artesian wells and water-pumps for the purposes of irrigation - some 45, spread across the valleys of San Juan del Rio, westwards over the plain of Querétaro as far as Apaseo, with a total extractive capacity of 3200 litres of water per second.⁹

Unfortunately we do not know how profitable this company turned out to be, but there is every reason to think that such a monopoly over the new power would have been very successful - it is also clear that the company was able to buy some of the concerns it supplied, like the flour-mill of Guadalupe in Pueblito and the irrigable rancho of the same name belonging to the company's debtor Julian Gutierrez. From the point of view of the argument presented here the important thing to note is that the vast majority of the money invested in the company came from the state's hacendados. There is little doubt that such investments helped these families to overcome the losses they incurred during the years of recession and agrarian reform.¹⁰

Finally, of course, it should be noted that the retarded pace of the agrarian reform gave the landowners every opportunity to reduce the effects of the expropriations - as we have already noted, several properties were divided up and sold before they could be affected by petitions from pueblos of nuclei of resident workers. In addition to this defensive strategy many of the class had the advantage of owning property in the city, either Querétaro or Mexico City. One of the effects of the agrarian reconstruction over these years was the displacement of a large number of rural residents. The later push towards industrialization combined with this displacement to make urban real estate a very valuable asset indeed.

Time and diversified interests had thus given many hacendados the opportunity to withdraw from the economy they had helped to establish. The majority of them chose to do so. Their withdrawal, combined with the State's failure to do anything more than to redistribute land to undercapitalized ejidos, condemned the area to more than three decades of economic decline. But in the midst of it there emerged the modern pattern of land tenure for the region. The Cárdenas years of division and redistribution were followed by Camacho's consolidation of the private sector, and during the 1940s and early 1950s there was a rush of applications in Querétaro to have properties registered as legally immune. The result was that the state was more or less equally divided between the two sectors, with more than 800 private holdings and over 27,000 ejido plots: land held privately amounted to over 640,000 hectares, whereas ejidal lands covered almost 495,000 hectares (Secretario de la Reforma Agraria, Querétaro).

HACENDADO SURVIVORS AND THE RISE OF THE CAPITALIST RANCHERO:
FOUR CASE STUDIES

Although the majority of Querétaro's hacendados chose to withdraw from the land there were others who stayed on. Their attempt to survive the difficult years which followed the Revolution was eased by the way in which the agrarian reform unfolded sporadically and then gave way to the revival of the private holding. An analysis of some of their number will serve to demonstrate the path of their development and their connections with the previous epoch.

The Villasantes

Alberto María Villasante y Orue was born in Bilbao in 1876. He came to Mexico at some point during the first two decades of this century already married to a señora de Vicente. In 1926 he bought the haciendas of which he had been tenant - San Juanico and La Comunidad - from a fellow Spaniard, Braulio Iriarte, for 200,000 pesos.¹¹ Within a few years these lands had been affected by donations to the neighbouring pueblos of Santa María Magdalena and San Antonio de la Punta. As a result of these grants the area of the properties was reduced from 973 hectares to about 350.¹²

Villasante was not deterred by these set-backs and attempted to make up for the loss of area by renting other land. In 1929 he took out the tenancy of Santa María Magdalena, an adjacent hacienda of some 245 hectares owned by a citizen of the United States, Eduardo Orlando Orrin. By this time don Alberto was involved in establishing a dairy unit in San Juanico - referred to as a Unidad Agrícola Industrial Lechera. He was coming under considerable pressure from a petition for further land grants from the pueblo of El Retablo, and his case against additional expropriations was strengthened by the attempt to set up such a unit.¹³

In 1930 Querétaro's Comisión Agraria Local gave one Ing. Ruperto Parra the task of assessing the validity of Villasante's claim. His report provides us with a useful profile of the hacienda's production at the time.

The evidence included in the report confirms the trend pointed to earlier, of declining productivity. This was especially the case for wheat and lentils - yields for the former were down to 700 kg per hectare, whilst lentil crops barely surpassed 275 kg per hectare. The straw from these crops was an important component in feeding the livestock, as was the maize produced on the hacienda. Equally important was alfalfa - Villasante was producing over 1250 tons of this per year from a plot of 28 1/2 hectares, and was in the process of extending this to a further 12 hectares. Also in preparation was a field of roots, some 22 hectares, which was to supplement the feed for the livestock.

It will be remembered that imported breeds of dairy cattle were already stabled in San Juanico during the last years of the Porfiriato. Villasante had maintained this tradition and was holding some 89 mature cows, mainly Holstein but some too of the Swiss breed, as well as two bulls and a number of growing offspring. Methods of cultivation were still in the process of modernization and for this reason there were a number of draught stock maintained on the hacienda.¹⁴

Daily requirements for cows in milk were considerable - 46 kg of green alfalfa, 11 1/2 kg of maize straw, and 2 kg of bran or maize flour; during the months of September and October roots replaced the maize straw and the alfalfa ration was increased to 60 kg. These amounts were halved when the cows were dried off and one tenth of them was required per head of unweaned sucklers.

The rest of the livestock held on the hacienda also made demands on the arable production. As a result of these various requirements

the report computed an aggregate annual list for the San Juanico milk unit -

2244	tons of alfalfa
1324	tons of maize straw
146	tons of ground maize
28	tons of roots

Alongside this list the report drew up the quantities of produce which the haciendas of San Juanico and La Comunidad were capable of -

1285.5	tons of alfalfa
491.0	tons of maize straw
230.25	tons of maize grain
7.9	tons of lentils
29.5	tons of lentil straw
57.25	tons of wheat grain
123.0	tons of wheat straw

The production was thus reckoned to be insufficient for the needs of the livestock, such that a deficit of 5827.62 pesos was left outstanding at the end of every year - money spent on the purchase of the balance required.

On the basis of this report Ing. Parra accepted the position advanced by Alberto Villasante and endorsed his claim that the properties constituted a Unidad Agrícola Industrial Lechera.

The petitioners in El Retablo did not let the matter rest at this and took their claim to the Comisión Nacional Agraria. The national authorities were by this time already affected by the emergent candidature of Lázaro Cárdenas. An agronomist was despatched to Querétaro, one Ing. Ignacio Nuñez, during the last months of 1932. His report was submitted in January 1933 and shows that there were a number of points in contention.

Ing. Nuñez's main complaint was that the earlier estimates for San Juanico's productive capacity had been lower than they should have been. Root yields had been underestimated, and producing cattle could also have survived on less than half the allowance for maize straw. But above all, Nuñez argued that the original report had considerably underplayed the capacity of the hacienda to produce alfalfa. Villasante had reported that each plot was cut seven times a year and that on this basis one could produce the fodder at a rate of 45 tons per hectare. Ignacio Nuñez reckoned that land in the area in question could have withstood ten cuts a year, and with good care and correct irrigation, the yield could reach an average of 80 tons per hectare. With returns of this scale the plots of alfalfa in production and in preparation were seen as quite sufficient for the hacienda's livestock.

Ignacio Nuñez was probably stretching a point. It is true that the Parra figure of 45 tons per hectare was something of an underestimate, since the average yields in Querétaro at the time were in the region of 50 tons, and San Juanico's lands were better than average (although here it must be remembered that only the top quality soils were involved in the production of alfalfa). This said, however, it is important to note that average yields for alfalfa did not exceed the level of 50 tons per hectare until the late 1950s, and that present returns from the best lands in the area are not much higher than those stipulated by Ing. Nuñez in 1933.¹⁵

Nuñez went some way towards admitting the exaggerated nature of his case in the course of his conclusions - there he suggested that expropriations of San Juanico be kept to a minimum since larger losses would jeopardize the unit's possibilities of staying in production. In the event his suggestions were taken up, and San Juanico lost only 53 hectares of irrigated land to the ejido of El Retablo. Some 298 hectares remained.

Villasante had clearly expected some degree of expropriation.

The same year of the Parra survey he had taken out a seven-year tenancy on the considerable hacienda of San Joaquin de la Cueva to the south of San Juanico. This property, previously owned by the spinster heiress Dolores González de Cosío and bequeathed by her to a nephew, Carlos González de Cosío y Rubio, was almost 7,000 hectares in dimension, and was rented out at between 9,000 and 10,400 pesos.¹⁶ Very little came of this move, however, since within a couple of years of the contract the agrarista governor Saturnino Osornio had granted over 4,000 hectares of the hacienda's land to the ranchería of La Cueva.

Don Alberto was more successful in his contract of tenancy for the adjacent property of Santa María Magdalena. As noted earlier, he had first rented this hacienda in 1929 from Eduardo Orrin. The contract was drawn up again in 1938, this time for a rent of 5,000 pesos in silver and for an indefinite period.¹⁷

Even more significant than these strategies to compensate for shortages of fodder were don Alberto's attempt to modernize his methods of production. At the end of the Twenties he was still using some oxen in the cultivation of San Juanico, but this number had been reduced to only 22 yokes. He was already well on the way to dispensing with these beasts and replacing them with mules - these, he said, were easier and cheaper to maintain, had a higher work-rate than oxen, and also needed less maize straw and open pasture - which could then be saved for the dairy herd.

Mules were an improvement, and by the middle of 1933 Villasante had sold off all but 18 of his oxen and increased the mule stock to 128. But even with these changes he was aware of the continuing problem of fodder, especially as the dairy herd was expanding by the year. His objective was to totally replace these draught animals with machinery,

thereby leaving all fodder for the dairy cattle. The move to mechanize production had already been started by Villasante in the late 1920s when he had bought two tractors, one a Fordson the other a Moline, and both capable of drawing a two-share plough. In 1932 he bought a third, this time a John Deere model capable of using a four-share plough. The detailed list of the machinery found on the hacienda in June 1933 shows the extent to which this move towards mechanization was underway, and bears witness to the early commitment of Alberto Villasante.¹⁸

Not unreasonably he also took precautions to safeguard these investments. In 1934 the 298 hectares of San Juanico were divided into two fractions: one Alberto Villasante registered in his own name, comprising 140.70 hectares, including over 50 that were irrigable and over 10.5 of casco. The other fraction covered some 159.20 hectares of temporal lands and was registered as the property of one Alberto Villasante y de Vicente, the son of the other owner. Applications for Certificados de Inafectabilidad were duly made for these properties in the mid-Forties and approved, somewhat belatedly, more than ten years later.¹⁹

In this way the Villasante operation developed on the basis of some 536.60 hectares, 298.90 hectares of which were owned by the family and 237.70 rented from the family of Orrin. The tenancy on this latter area, the ex-hacienda of Santa María Magdalena, was renewed at the beginning of the 1950s for a further term of ten years, with the rent now up to 10,000 pesos per year. This renewed contract was between don Alberto senior and the divorced wife of Eduardo Orrin, Guadalupe Cisneros, and her three adult children, Jorge, Carlos, and Carmen. All were based in Mexico City, except Carmen who was a citizen of the USA and lived in Dallas - and the young men were employed respectively as airline pilot and tourist guide. Unsurprisingly in

these circumstances, the contract drawn up in 1951 incorporated an option on the part of the tenant to purchase the property. In 1954 the elder Alberto renounced his right to this option and the property was sold instead to his second son, José Ramón. By this time the pioneering Villasante was close to eighty years old and had opted to move to Mexico City, leaving the casco of San Juanico to José Ramón, then twenty-eight. The purchase of Santa María Magdalena cost the latter 70,000 pesos, a sum cleared by three cheques from the Banco Nacional de México. Within two years this had been split into two parts, one of 151.10 hectares and registered in the name of José Ramón, the other 86.60 hectares and registered as the property of his sister Carolina.²⁰ By the end of 1956 both of these units had been granted the immunity of Certificados de Inafectabilidad, and within a generation had been passed on to the present incumbent Ignacio Villasante, second son of José Ramón and dedicated ranchero. The combined area is now cultivated intensively: yields of oats, barley, and wheat all reach up to 5 1/4 tons per hectare, crops of maize surpass even these at a maximum of 6 tons per hectare, whilst the heaviest yielder of all, sorghum, produces at a rate of up to 9 tons the hectare.²¹

The Roíz Buenos

Alberto María Villasante y Orue was a relatively recent arrival in Querétaro and started out as a tenant farmer. He was also an immigrant from Spain. So too was Cipriano Bueno Fernández, the son of Francisco Bueno and Serafina Fernández, but in his case the departure from the mother country had been somewhat earlier. From the little information available it appears that don Cipriano arrived in Veracruz during the middle years of the Porfiriato. He probably arrived with his sister Francisca and brother Vidal.²¹ They seemed to settle in Veracruz and only made contact with Querétaro at the turn of the

century, when Cipriano bought some 1,700 hectares of land from Julian Gutierrez.²² These were the bulk of what had been the hacienda of San Rafael, once an annexe of the poorly administered estates of the Feliú family centred on the expansive Chichimequillas.

In 1911 don Cipriano bought the last fraction of this hacienda, a further 116 hectares of arable temporal for 3,800 pesos.²³ Little more is known of this man, other than the fact that he was a shareholder in an enterprise based on the two Chichimequillas mines of La Unión and La Providencia in 1923.²⁴ Some three years later he died whilst on a visit to Veracruz - probably to spend some time with his sister Francisca who had remained in the city after marrying one José Roíz, also an immigrant from Spain.²⁵

Don Cipriano had never married and consequently made his nephew José Roíz Bueno heir to his estate. Francisco had borne two children, one in 1883 called Celestino, the other in 1886 - José. When his uncle died José moved up to Querétaro and lived in a house on Juarez. He discovered that his estate included the hacienda San Rafael and also the main hotel in Querétaro, situated on the central plaza and appropriately called Gran Hotel. Within weeks he had leased both these properties to his elder brother Celestino Roíz Bueno for a five-year term at 12,000 pesos a year.²⁶

Some years before his uncle died Celestino married a Spanish señora called Soledad González. Their first-born was a girl, Francisca, named after her paternal grandmother. The second child was a boy, called José after his grandfather. Four other children followed during the years of their move to Querétaro - Luis, Marina, Ana, and Guadalupe Margarita. Although approaching middle-age Celestino started out afresh as hotelier and tenant farmer.²⁷

The hacienda San Rafael had never attracted any careful attention or constructive investment. It had suffered from being in the shadow of the better-endowed Chichimequillas, and the Feliú family had used it primarily to raise money as they plunged ever further into debt - it was for this reason that don Cipriano had bought it up in separate fractions.

By the time Celestino arrived a good part of it was covered by rough pasture, although there were some 900 hectares classified as second-class temporal. Two hundred draught oxen grazed the pastures along with some fifty breeding cows to maintain their number, and these were sufficient to cultivate an annual crop of maize on the basis of sharecropping. It cannot have attracted much attention from the agraristas and in any case it was favoured by the lack of any nearby nuclei of population or pueblos. As a result San Rafael survived the period of Osornio and Cárdenas with minimal losses of only around 300 hectares. Part of this success was also due to the registered fraccionamiento of the property during the period, into six piéces. A closer search on the part of the authorities would, however, have seen through this strategy, since all but one of the fractions were registered in the names of minors, all children of José Roíz, and it was clear that the property was still being run as a single unit.

Nonetheless, encouraged by this survival, Celestino Roíz began to make investments in his property. He bought a Ford truck to make transport between Querétaro and the hacienda easier and more efficient, and more importantly, he started to sink artesian wells in order to be able to irrigate. The first well was working before the end of the 1930s and a more systematic attitude to production was subsequently adopted. Irrigated lands were used intensively to take two crops a year, summer maize and winter wheat. To ensure crops of reasonable weight

Celestino dressed the irrigated lands with manure from the stabled stock, and was content to reap up to two tons of maize per hectare, and over one and a quarter tons of wheat. He also started the production of alfalfa.²⁸

The 1940s were years of consolidation for Celestino - a second artesian well was sunk and all the fractions of the hacienda were successfully established as legally immune pequeñas propiedades, as follows -

Fraction II.	200 hectares <u>temporal</u> .	José Roíz Bueno.
Fraction III.	158.32 h temporal and 173 hectares pastures.	José Roíz Gonzalez.
Fraction IV.	158.32 h temporal and 173 hectares pastures.	Ana Roíz Gonzalez.
Fraction V.	As above.	Guadalupe M. Roíz G.
Fraction VI.	200 hectares <u>temporal</u> .	Luis Roíz Gonzalez.
Fraction IA	142 hectares <u>temporal</u> .	Francisca R.G. de Amieva.
Fraction IB	As above.	Marina Roíz Gonzalez. ²⁹

As a result the property had access to considerably more than one thousand hectares of arable land, much of it level enough to take irrigation. Further money was invested in this during the early 1950s when the management of the estate was increasingly taken over by the eldest son, José Roíz Bueno. By 1954 there were eight water-pumps working on San Rafael, and José began to irrigate 65 hectares of alfalfa. At the same time he started to import pure bred Holstein cows from the United States. These cost him 3,000 pesos a head, at a time when the daily wage in the area stood at less than six pesos.³⁰

Given this high price the San Rafael herd was only built up slowly - by the late 1960s there were only eighty cows of this pedigree on the hacienda.

The build up may have been gradual but the final results were formidable and the enterprise's success was guaranteed. By the end of the 1970s the herd of mature animals, all Holstein, had reached 1800, with a regular milking population of 1400 spread across four dairies equipped with the most up-to-date machinery. In terms of the values current in 1980 each cow was worth about 30,000 pesos, and the irrigable land, once temporal and barely marketable, had risen in value to well in excess of one hundred thousand pesos per hectare. Alfalfa from these lands was produced at a rate of up to one hundred tons per hectare and priced, according to season, at between 550 and 800 pesos per ton.³¹

During the early 1960s there was a degree of pressure for land from the growing pueblo of San Rafael. A survey conducted by the state's agrarian department showed that there were almost eighty people who qualified for ejidal lands. In order to meet some of these people's needs the government bought almost 750 hectares from San Rafael's fractions, some 326.2 of which was arable. This purchase gave plots of eight hectares to half of those qualified, leaving the rest without land.³²

Whether or not this subtraction caused the enterprise any problems of supply is not known, but it is the case that by the end of the 1970s the Roíz herds had grown to the point where it was necessary to rent at least two hundred hectares of ejidal lands, all with access to water for irrigation and costing between six and eight thousand pesos per hectare. By this stage the Roíz enterprise had reached very impressive proportions, and no fewer than seventy workers were employed on a regular basis. Future prospects have been done no harm by the emergence of an alliance in the area between the Roíz family of San Rafael and that of the Amievas, descendents of Remigio Noriega and current owners of the remnants of the neighbouring hacienda of Chichimequillas. The

eldest Amieva, Salvador, had married the eldest Roíz, Francisca, and in 1980 José Roíz's eldest son and heir apparant, Jorge, was married to the eldest daughter of Salvador Amieva's youngest brother, Remigio - her name is Luz María. Wealthy though these families are, the young couple are in the process of establishing their new home at the end of a dirt track in the middle of the San Rafael estate.³³

The Fernández García

The cases of Villasante and Roíz provide examples of enterprises which were established in the years after the end of the Revolution. The history of the Fernández García brothers shows how similar endeavours could take root during the earlier decades of the Porfiriato.

At some unspecified point during those times six brothers arrived in Mexico from the Spanish province of Santander. It is possible that they were nephews of the García brothers, Victor and Patricio, who had started out in 1870 as tenants of San Juanico and later became respected agriculturalists in the area.³⁴ In any event, three of the Fernández brothers moved up to Querétaro - Isidro, the eldest, Alejandro, and Joaquín, at that time still only a boy. At the turn of the century they were tenants in Amascala and raising wheat for sale to the Batan mill in quantities of over 12 tons.³⁵ Within a few years they had managed to buy two fractions of the old hacienda of Menchaca from Vicente Franco - 315 hectares in all, costing 12,000 pesos. To cover this purchase Isidro Fernández had managed to raise a loan from the Banco de Londres y México of 18,000 pesos at eight per cent over a two-year period. The purchase included a house on the property and barns - the balance of 6,000 pesos was spent on the first of the Fernández dairy herd.³⁶

Within two years of this purchase the Menchaca properties were sold, presumably to pay off the outstanding debt which had come due at the Banco de Londres y México. The brothers had not done badly out of

the transaction, since at least on the fraction called San José they made a profit of 1500 pesos.³⁷ The same year, 1906, they took out the tenancy on the prosperous hacienda of Carretas, which lay on the southeastern edge of the city of Querétaro. The contract was for a five-year period and cost 15,000 pesos to be paid bi-annually and in advance. The first payment was covered by Joaquín García who also acted as guarantor to the brothers - it may be that this García was a maternal relative of the Fernández brothers and also connected to the García brothers mentioned earlier.³⁸

The stock they had maintained on Menchaca was then moved to the casco of Carretas. Within the first few years of their efforts there the Fernández brothers became relatively well established. We know from a contract drawn up in 1908 by a grain merchant called Luis Escovar that the Fernández brothers received the sum of 4000 pesos, advanced on the sale of the green maize still in the field and reckoned to be at least 1300 fanegas. The importance of this contract was that the collateral for this advance amounted to a mere 30 head of the Fernández dairy herd. This gave each cow a rough valuation of about 130 pesos when local breeds were valued at only 25 pesos per head for dairy stock - it is clear that the Fernández brothers were already owners of imported stock from the United States.³⁹

A later inventory drawn up for Carretas confirms this inference. This suggests that they were well-established as dairy farmers and were pursuing a modern line of production. The livestock stabled on Carretas was valued that year at over 30,000 pesos, and comprised four pure-bred bulls, three Swiss and one Holandes, and a hundred cows of these breeds as well as Dorano - there were also another fifty which had been produced by the Fernández brothers by cross-breeding.⁴⁰ No doubt these cattle thrived on the alfalfa produced in Carretas from a

plot of over 24 hectares of irrigated land.

The contract in Carretas expired in the summer of 1911. The brothers were well enough established to divide their interests and set up independently of one another. Alejandro had already become the tenant of the hacienda Negreta in Pueblito in January 1909, a contract which lasted for five years and cost 4250 pesos per year. Negreta was a fraction of the old hacienda of Balvanera and was composed of only some 104 hectares most of which was hillside.⁴¹

During those years Alejandro had remained unmarried, but Isidro had taken a wife from the powerful Querétaro lineage of Rubio - Dolores, daughter of José María Rubio. In 1910 his father-in-law helped Isidro to take a firmer hold on the business of milk production by acting as guarantor to two tenancies. The most important was that of the hacienda Casa Blanca, well-endowed and conveniently situated on the outskirts of the city of Querétaro. The other concerned two irrigated plots raising alfalfa close to the road leading from Querétaro to Hercules. Casa Blanca cost don Isidro 4400 pesos a year, and the plots a further 800 pesos.⁴²

Within a year of these contracts being drawn up don Isidro had strengthened his position. Previously various crucial assets in Casa Blanca had been withheld, especially the use of the water pump. In a new contract drawn up in 1913 the entire complex of Casa Blanca and El Jacal was made over for five years at an annual cost of 16,000 pesos.⁴³ In 1918 the contract was extended for at least another year, with the specification that the rent was paid in silver.

By the beginning of the 1920s don Isidro had made enough money to move into a property market which had been thrown into an unsettled state by the preceding years of upheaval and the rising rhetoric for agrarian reform. There is some evidence to suggest that he bought the

hacienda of El Cerrito which lay between Querétaro and Pueblito. This property had been part of the complex based on San Juanico and administered by Bernabé Loyola in the 1850s and 1860s. It was a small estate of only around 450 hectares but nonetheless valuable - on account of its good soils and convenient location. Timoteo Fernández de Juárez sold it to Andrés Arias in 1895 for 44,000 pesos, and it appears that it was the beneficiaries of his will who sold it to Isidro Fernández in 1920 or 1921.⁴⁴

The whole procedure of this transaction confirms our earlier impression of a landed class uncertain about the future of private holdings. Registration of the sale was delayed until 1927 when it was listed as three separate transactions. Fraction one of El Cerrito was apparently the property of Isidro himself, at a cost of 42,000 pesos - the other two were registered in the names of his wife, Dolores Rubio, and son Pedro, with values attached of 28,000 and 30,000 pesos respectively. Each fraction had been limited to between 140 and 150 hectares, presumable to conform to the notion of a pequeña propiedad.⁴⁵

Two fragments of evidence suggest that the transaction had indeed taken place. In the first place there is the notarised record of don Isidro's redemption of a debt of 70,000 pesos outstanding on the property in 1921 - payment was made in full to José María Mesa, the creditor.⁴⁶ Further evidence was provided by Alejandro Fernández, nephew of don Isidro and son of his young brother Joaquín - according to this source the family ran the hacienda from 1921 onwards.

It appears that don Isidro had left the running of El Cerrito to his young brother Joaquín, whilst he himself turned his attention to the property he had rented, El Jacal. This had been broken up by the owner Dolores Aguiar de Salazar and six of these fractions were sold to don Isidro, although all of them were registered in the names of his

children - Pedro, Joaquín, Ana, Carmen, Dolores and Concepción. The first two ran the unit and were billed as tenants of the others' fractions. On the basis of this arrangement a very successful dairy enterprise was built up and at least three of the fractions were given Certificados de Inafectabilidad during the 1940s - guaranteeing the enterprise a minimum of almost 190 hectares of irrigated land.⁴⁷ This successful unit was only finally run down as Joaquín Fernández moved beyond middle age and found that the expansion of the city limits of Querétaro had given his agricultural property the inflated value of urban real estate.

The other Joaquín, young brother of his namesake's father, had in the meantime made efforts to maintain the family's interests in dairy production on El Cerrito. Throughout the Twenties up to two hundred imported cows were milked there as well as some six hundred goats. The average production per head amounted to between eight and ten litres a day at a time when milk sold at ten centavos per litre. Thirty per cent of the production was turned into cream, butter, or cheese.⁴⁸ The successful development of this enterprise was then interrupted by the agrarian reform instigated by Lázaro Cárdenas during the middle 1930s. The defense that the property had been divided into three separate units, each constituting a pequeña propiedad, was summarily dismissed since it was clear that the lands were run as an integrated enterprise. In any event the Cardenista officials regarded the hacienda as still owned by the succession of Andrés Arias and the petitioning Pueblito was granted a fair slice of El Cerrito, including 117 hectares of irrigable land.⁴⁹ The Fernández family were left with 145 hectares, the majority of which remains the property of Joaquín's son Alejandro - although eighty hectares are irrigated by some four artesian wells and sufficient alfalfa is produced to maintain more than thirty Freisans in milk, the condition of the property has been somewhat run down as a result of don Alejandro's

deteriorating health (about ten years ago some twenty hecatres of El Cerrito were sold in order to finance an operation in a hospital in San Antonio, Texas).

Class continuity: five generations of Urquizas on the land

By now it will be clear that the majority of Querétaro's Porfirian landowners gave way to the pressures of the post-Revolutionary years. The cases we have reviewed so far suggest that the threads of modernization were picked up by men who were far from being powerful hacendados at the turn of the Century. Even the history of the Amievas, now in control of a lucrative enterprise based on the casco of Chichimequillas, is hardly evidence of any protracted continuity, since a considerable part of the family's contemporary fortune has been made in business activities in Mexico City. In keeping with this path of development the casco of the hacienda has been expensively modernized and the stables contain no fewer than fifty thoroughbred horses - and Rodolfo, the second son of Remigio Amieva, has the unusual distinction of playing top-flight polo.

Against this case, however, there are others which exemplify a different tradition. One of Bernabé Loyola's great grandsons maintains the family's commitment to local agriculture, and similar strands of continuity may be traced in the families of Cevallos and Martínez, once of the hacienda Colorado, and of Mancillo and Montes in neighbouring Calamanda. Other agriculturalists of recent prominence reveal connections which run back to humbler origins in the Porfiriato, such as the tenants of a fraction of the hacienda Bravo, called Ostendi, and the rancheros of Corralejo by the name of Hernández.⁵⁰

Additional cases point up a separate pattern already mentioned in connection to the development of a rural bourgeoisie in the north-

western states of Sonora and Sinaloa. There it was discovered that some of the best agriculturalists to emerge during the expansion of the 1940s and 1950s were exiles from the Reform Programme, hacendados from the Bajío who had lost their lands or sold up in order to make a new and anonymous start.⁵¹ Similar patterns show up amongst the most successful dairy farmers of Querétaro - the González Olveras, for example, now owners of a unit of Roíz dimensions in Tlacote el Alto and of one of the largest retailers of dairy machinery in Querétaro, were previously a hacendado family of some importance in neighbouring Hidalgo. A similar case is that of the de Alba brothers, reputable dairy farmers of lands in Pueblito, once belonging to the haciendas of Balvanera, Tejada and El Bravo - their father had been a successful hacendado in Aguascalientes.⁵²

The beginnings

One family which was prominent during the Porfiriato has, however, managed to transcend the difficulties of the intervening period and remains one of the most important of the contemporary times - the Urquizas. The Urquiza clan is now very considerable and is distributed far and wide in Mexico, but it all started with the arrival of two brothers, Francisco and Manuel, at some point in the late 1820s.⁵³ They came from the Basque provinces of Spain and Manuel, at least, soon settled in the area of Maravatío in the borderlands of Michoacán and Querétaro - not far from the birthplace of their contemporary Bernabé Loyola.

We do not know what Manuel accomplished in Maravatío, except that he married soon after arriving, to a Teresa Balbuena. The couple raised seven children there, the first, Francisco, being born in 1833.⁵⁴ Antonio followed in 1836, and thereafter there was Dionisio, Manuel, Teresa, Coletta, and Ignacio. Little is known of the last five except

that Dionisio and Manuel moved north, that Teresa married a chemical engineer called Julian Sierra, and that Coletta remained a spinster.⁵⁵

The Urquizas of the eastern Bajío sprang from the efforts of the eldest two brothers, Francisco and Antonio.

Francisco Urquiza Balbuena

By the time Francisco was in his thirties he had moved from Maravatio to the city of Querétaro. There he moved in the highest of society and soon met the youngest heir of Colonel José Francisco Figueroa, Dolores. In 1871 when Dolores was thirty they agreed to marry.⁵⁶ Dolores had been only about nine years old when her father died - her mother had died even earlier. She had been left in the care of her only brother, José Francisco, priest and enterprising manager of San Marcos. Dolores' share of the considerable estate, which included shares in the textile plant outside Guadalajara, called Atemajac, and the mine Fresnillo, as well as the hacienda of San Marcos, came to more than seventy thousand pesos - almost two-thirds of this remained as credit advanced to the purchaser of San Marcos, Mauricio Gómez.⁵⁷ Dolores Figueroa was thus a most wealthy heiress, entitled to considerable assets and in receipt of an income of over two and a half thousand pesos in interest per annum. There can be no doubt that Francisco Urquiza had made a splendid match, and within a few years of marriage he was well on his way to a substantial fortune.

The first property the couple acquired was the well-endowed hacienda of Jurica, situated close to the city of Querétaro and adjacent to Juriquilla. Including its annexes, Alvarado and Mandiola, the property covered almost three thousand hectares with a considerable part irrigable and blessed with excellent soils - the hacienda had been in the hands of the prominent family of López Ecala since soon after the Insurgency and cost Dolores over fifty thousand pesos.⁵⁸

Don Francisco made this hacienda an important part of his business ventures, first by making the most of its agricultural potential (quite soon after the purchase date he paid five thousand pesos to Bernabá Loyola to acquire additional water, and during the later years of the Porfiriato the hacienda featured as often as any other as an example of the state's flourishing modern agriculture), and later by building a brick factory there to capitalize on the boom in urban construction during the 1890s.⁵⁹

Francisco flourishes

Soon after the family's estate was extended to include the neighbouring Salitrillo, and also the excellent property of Mayorazgo, located on the fertile plains between Apaseo el Grande and Celaya, nearby in the state of Guanajuato. With the enterprise in Jurica well established Francisco Urquiza transferred his attentions to this area. Adjacent to the hacienda of Mayorazgo was the property of Agua Azul, which had been recently made into a flourishing unit by the enterprise of Alfonso María Veraza. According to the will of Dolores the family enterprise was by this time making ample profits and well able to extend its interests.⁶⁰ This is borne out by the history of the purchase of the hacienda of Agua Azul - a property of over six thousand hectares and with access to an ample source of water - although the subject of a dispute between the hacienda and neighbouring pueblos of Apaseo and Tenango and the hacienda of San Cristobal.

Alfonso Veraza sold Agua Azul to Francisco Urquiza in December 1894 at a cost of 160,000 pesos. It is significant that the purchase was made in the name of Francisco rather than Dolores, who had been the legal owner of all previous purchases, since it implies that Francisco was by that time able to enter negotiations on the basis of his own and recently earned assets.⁶¹ Quite apart from the profits he was entitled

to from the enterprises of Jurica and Mayorazgo, he had also entered into a partnership with Amado Obregón, the joint owner of the haciendas of Los Trojes and San Juan Martín, both conveniently located adjacent to Mayorazgo.⁶²

Amado Obregón was in debt to the tune of 42,000 pesos, a sum raised on the strength of the haciendas in question. When the partnership was contracted in the autumn of 1893 this debt was redeemed by Francisco Urquiza, thereby leaving don Amado with an obligation to pay him off at an interest rate of six per cent. The owner of the hacienda moved to Mexico City to join the rest of his family, one of whom, Lauro, was a doctor, and left the business of administration to don Francisco. In return for this overall responsibility he received an annual fee of six thousand pesos to be taken out of the hacienda's revenue. Until the debt of 42,000 pesos was paid off Francisco Urquiza was also entitled to two-thirds of the remaining profits, whilst the remainder was despatched to Mexico City for the Obregón family. There was also something in this contract for don Francisco's eldest son, Francisco José, since he took over the everyday direction of the hacienda and received an annual salary of one thousand pesos as well as ten pesos a week for living costs and any produce from the hacienda that he required.

We are left with the impression that this was a profitable venture for Francisco Urquiza. The contract ran for the specified period of five years and at the end of it there was no mention of any outstanding debt - we may assume from this that the effort had earned don Francisco at least fifty thousand pesos if not more. The inventory for the haciendas drawn up at the time of the contract suggests that such an income was indeed possible. The lands were well placed on the fertile plains of Celaya and, quite apart from the usual crops produced in the area, there were fields of peanuts, tobacco and sweet-potato. It is

clear that some modernizing trends were also well under way, creating a sound basis for profitability - the quality of the livestock was being improved by the presence of an imported pure-bred Swiss bull, valued at three hundred pesos and more than seven times higher than that of the local equivalent, and the list of machinery was also quite impressive, including a steam-driven thresher worth fifteen hundred pesos and several other items of modern equipment. The value of all inventoried items, excluding that of the land, the unharvested and stored crops, and the buildings, reached the impressive figure of almost twenty thousand pesos - a firm indication that Trojes was well capitalized and a most viable unit for don Francisco's attentions.⁶³

Some fifteen months after this partnership had been formed Francisco Urquiza bought Agua Azul. At the time of the purchase he was only able to put down twenty-five thousand pesos, scarcely more than fifteen per cent of the total purchase price. Fifteen thousand pesos were still owed by Alfonso Veraza to the previous owner, María Navarrete de Aguilar, who had inherited the properties of Agua Azul and Mayorazgo from her maternal grandparents, Lic. Octaviano Muñoz Ledo and Clara Garro - this mortgage was transferred to Francisco Urquiza. The other outstanding mortgage was of twenty thousand pesos and in favour of the Hospital Civil in Querétaro. The remaining hundred thousand pesos Francisco agreed to pay Alfonso Veraza over nine years at an interest rate of six per cent - the first two annual installments were to be fifteen thousand pesos, the other seven of ten thousand.⁶⁴ Within a year, however, don Francisco had managed to pay off thirty thousand pesos of this debt, and soon after the rest was also redeemed ahead of schedule.⁶⁵

There can be no doubt that Francisco Urquiza had assembled a substantial fortune by the time he drew up his will in the late 1890s.⁶⁶ Both he and Dolores declared that their joint estate had grown

considerably on account of hard work and well-earned profits, and as a result included the haciendas of Jurica and annexes, Salitrillo, Mayorazgo, Agua Azul, and the huerta of San Javier in the city of Querétaro. Quite apart from the additional assets of the brick factory in Jurica and a noble town house on the Avenue of the Sixteenth of September, the family of Francisco and Dolores were the most prominent shareholders in the establishment of the Bank of Querétaro in 1903. Significantly, don Francisco included in his will a clause recommending the formation of a family company to run the family estates instead of dividing them up according to the heirs, and that this company maintained the properties as an integrated unit for as long as possible. This he averred was a sure guarantee of successful business. He died in August 1904 aged 71, leaving a widow and five children, Francisco José, Manuel María, Guadalupe, Leonor, and Dolores - a sixth child, Carlos, had died in his youth. At the time of their father's death the youngest was sixteen and the eldest thirty-two.

Antonio Urquiza Balbuena

Francisco's brother Antonio had not made quite such a dramatic success of his life, at least in terms of business and accumulation. There is some evidence to suggest that he stayed on in Maravatío somewhat longer and acquired some small properties there - Apeo, Guaracha, and Las Piedras. He married a little later than Francisco, also to a woman of some standing in Querétaro society, María Luisa Couturier, but by all accounts with less in the way of an inheritance. Three sons were born, Luis, Ignacio, and Antonio, but their mother died whilst they were all quite young.⁶⁷

At the time of her death Francisco was already well on the way to becoming one of the area's most successful agriculturalists. Even though his eldest son, Francisco José, took some responsibility for the

administration of the property Trojes at the age of only twenty-one, it is clear that Francisco almost had more haciendas than he could cope with. For this reason he took on his brother Antonio as a partner in 1895 in a company set up to develop the haciendas of Mayorazgo and Agua Azul. Don Francisco was the socio capitalista, or financier, whilst the job of actual day-to-day administration fell to Antonio. Within two years of the partnership the company was extended to take in the hacienda of Trojes as well, the three properties forming an integrated complex between the towns of the two Apaseos and Celaya.⁶⁸

At some point during this partnership Antonio met the owner of the hacienda Soledad y Rincon near Dolores in Guanajuato. This property had been owned by a señor Abasolo, by all accounts a progressive hacendado during the years of the mid-century. The hacienda had been reviewed as to its credit worthiness by the trustees of the Convents of Santa Clara and of the Capuchines - the report had been favourable, the hacienda was apparently in good condition and well-run with livestock alone worth over ten thousand pesos.⁶⁹ Señor Abasolo had then died leaving his widow, Ana Galvan, childless and the sole heir to the estate. Both she and Antonio Urquiza must have been well advanced in years when they married - it appears that only the young Antonio Urquiza Courturier accompanied the couple to Rincon, the other two sons had presumably already left home. Not long after don Antonio died and Ana Galvan was widowed a second time, although on this occasion she was left with the consolation of having the young Antonio at home - whom she had adopted.⁷⁰ During the early years of this century she sent him north to Ohio in the United States where he studied animal husbandry at university level.⁷¹

The third generation and the Revolution

The generation of the young Antonio and his cousins was in command of the family's assets at the time of the Revolution and beyond.⁷²

The most important were Francisco, Manuel, and Antonio. The rest of the Urquiza Figueroas feature only obliquely in the subsequent survival of the family since they were women - Dolores remained single, Guadalupe married a Salvador Alvarez (whose sister was Francisco José's first wife), and Leonor married one of Bernabé Loyola's sons, Fernando. Antonio's brothers meanwhile moved beyond the compass of Querétaro society - Luis at first bought land in Morelia and then left to become a director of the Banco Comercial in Mexico City, whilst Ignacio bought the hacienda El Tesorero in Uruapán, Michoacán, and was to suffer a near-fatal shooting accident there.

Francisco José and Manuel came to dominate the properties accumulated by their father Francisco and mother Dolores. The former married twice, once to Sara Alvarez and later to Angela Rubio, and left eight children. This line had inherited Jurica, most of which was lost to the agrarian reform - the family gained some belated consolation from the fact that Isabel, the second-born, married a señor Calzada and was thus to mother a recent governor of the state of Querétaro - Antonio Calzada Urquiza, initially trained as an architect.

The lineage derived from Manuel María was more successful in retaining possession of inherited lands. Manuel had married twice - to sisters Trinidad and María Septien. He had taken over the Urquiza lands between Apaseo and Celaya, the haciendas of Mayorazgo and Obrajuelo. It will be remembered that he had incurred fierce condemnation from the Cristeros in the area for taking an active part against them in the late Twenties. His political shrewdness showed up again when he divided up the family lands to accord with the legal

rulings on immunity. As a result there are today three separate nuclei of lands in the area, all run by descendents of Manuel María Urquiza Figueroa. Two areas of Obrajuelo were passed down through the second son, Carlos, to his offspring, Jorge and José Urquiza James - the former has also proved to be successful within the PRI and now heads the state authority on tourist development. Further lands had been passed to Francisco, first son of Manuel's second marriage, and this is currently run by him and his only son, also confusingly called Francisco. Like the unit mentioned above, run by José Urquiza James, this area is dedicated to the intensive production of milk.

The same story is to be found in relation to the lands passed on to the other sons of Manuel María - Manuel and Ignacio, and to their sons, Humberto and Eduardo.⁷³ This unit consists of at least 270 hectares of irrigated land and is more or less exclusively turned over to the intensive production of fast-growing grasses and alfalfa. This is cut for fodder and fed to herds of pedigree Holstein cattle spread over four stables and dairies. Comparable to the Roíz enterprise based on San Rafael, the herds here number some 1800 head with a milking population of around 1400 - average daily production is of the order of thirty thousand litres. The strength of the family's initiative and enterprise can be measured by the fact that this activity is only one aspect of their business - a larger part consists of the entire process of milk pasteurization and distribution. Descendents of Manuel Urquiza Figueroa are the major shareholders of the Alpura company based in Querétaro and Mexico City, and one of the country's largest milk processors and distributors. The managing director of this company is Manuel Maria's fourth son, Ignacio Urquiza Septien and still owner of a thriving dairy unit in Obrajuelo.

Antonio Urquiza and the Jersey tradition

True to the qualities of Antonio Urquiza Balbuena, the lineage which has descended from him has been somewhat less grandiose and diversified in its accomplishments. His third son and namesake started out on a course of modernization before the break-up of the hacienda Soledad y Rincón, the property of his stepmother. Midway through the Revolution, however, she died leaving the property to six heirs, her sister Isabel Galvan de Gavidia resident in Mexico City, her four nieces from this sister, and her stepson Antonio Urquiza Corturier. The hacienda had been divided up by Ing. Manuel García Pérez in 1918 and Antonio had inherited the sixth fraction comprising almost two and a half thousand hectares.⁷⁴

A few years earlier Antonio had married a descendent of one of the most prominent of the Querétaro families, Dolores Fernández de Juárezgui. Once Antonio had built a house and stable on the fraction they moved out to Rincón and began to invest in the development of the land. At least six wells were sunk and in 1922 one of these was fitted with a pump. This coincided with the import of pedigree cattle from the USA, the fruit of Antonio's education in Ohio - Hereford, Doran, and Jersey. These last were to become the hallmark of the family's emergence as dairy farmers, but first of all they had to be moved from Rincón, this partly sold as fractions and partly expropriated for redistribution, to a new property for the Urquizas, the hacienda of Carretas.⁷⁵

Carretas and Bordo Colorado

The hacienda of Carretas had a long and illustrious history in Querétaro - it was most notably the property of the Lt. Col. Manuel Samaniego del Castillo, Creole loyalist in the wars of Independence and successful commander of the Dragones de Sierra Gorda. In recognition

of his services to the Spanish crown, don Manuel was granted the noble title of Conde in October 1821, the last such title to be issued to a Mexican colonel.⁷⁶

Samaniego had inherited Carretas from his uncle Juan Antonio del Castillo y Llata, a gapuchin from the province of Santander who married the daughter of the notorious first Conde de Sierra Gorda, Col. J. de Escandon y Lleras, the man reputed to have encouraged Morelos to join Hidalgo in the Insurgencia of 1810.⁷⁷

Manuel Samaniego married well - to a daughter Catalina of a marriage between two of the most celebrated families of the Querétaro elite - the Fernández de Juárezgui and the de la Canal. The couple appear to have had six children, Manuel, Joaquin, Uriel, Maria Loreto, Maria de la Luz, and Soledad Gelaty. The parents died at some unknown date during the latter half of the Nineteenth century and the hacienda Carretas was maintained intact for some considerable time. According to a document drawn up in the late 1880s the property was directed by a company called Samaniego and company, the administration of which was left to Manuel.⁷⁸ There is evidence to suggest that this company ran the hacienda directly until late on in the period of the Porfiriato. It was then leased out to the dairy farmer Isidro Fernández during the years immediately before the Revolution.⁷⁹

During the Revolution the hacienda was rented to Alberto Legarreta, and by that time it was the property of Manuel Samaniego and his children, Joaquín, Manuel and Dolores.⁸⁰ The property was then divided between these three and each fraction of the hacienda was put on the market and sold during the years of 1920-22 - Manuel Ordonez bought some seven hundred hectares named La Providencia, Manuel Alcocer bought the fraction of the casco, some five hundred and fifty hectares, and the rest of the land, denominated El Mirador, went to Ricardo Feregrino.⁸¹

During the 1920s Manuel Alcocer worked the fraction of the casco and then broke the land into two pieces, the smaller he sold to a Miguel Mesa, leaving the larger, some 477 hectares, to a certain Arturo Dussange. Within a year this latter fraction had been further subdivided and sold to the Urquizas from Rincón. Antonio bought fraction two of the casco for 13,000 pesos (to be paid in gold coins) - 102 hectares of arable land and 300 of hill pastures. His wife Dolores Fernández de Juárezgui bought the actual casco and surrounding land for 17,500 pesos in gold - the house and buildings covered almost eight hectares, there were over thirty hectares of arable land temporal, and the other thirty were irrigated by waters driven by a pump. Further land was also acquired at that time by don Antonio, land attached to the fraction of Carretas called La Loma. During the years of Osornio some of these hectares were expropriated for agrarian redistribution such that the family was left with some four hundred hectares in total - one hundred and eighty of these, sixty of which were arable temporal, were registered in the name of Javier Urquiza, Antonio's fifth child, whilst the rest were legally owned by Don Antonio himself. Early in the 1940s both these areas, denominated La Loma and El Casco de Carretas respectively, were granted immunity with certificados de inafectabilidad.⁸²

The pedigree Jerseys stabled on Rincón were brought to the buildings of the old hacienda Carretas in 1929. Attempts to increase the amount of water available to the lands were at first frustrated, but then don Antonio met with success with a four-inch pump and later with a six-inch. With twenty-five hectares of alfalfa in production don Antonio was set to build up his herd of Jersey cattle and to begin to extend his business of milk retailing. In this he was assisted by his brother-in-law, David Fernández de Juárezgui, who was a lawyer based in Mexico City.

In January 1921 don Antonio acquired eighty-five head of pure-bred Jersey cattle from the USA - three bulls, fifty-seven mature cows,

eleven yearlings, five heifers and five calves. Two years later don Antonio could redeem the debt he owed to Banco Nacional de México incurred by a loan to purchase the beasts in the first place. The agreement between the brothers-in-law gave all the new calves to the Mexico City lawyer and the profits from the milk production were shared equally.⁸³ Production in these early days was not high, averaging only five litres per cow per day, but the richer quality of the Jersey product gave it a market value of twenty cents the litre, double that of the normal price.⁸⁴

Production was maintained on these lines throughout the 1940s. The 1950s were years of rapid growth and modernization in Mexican agriculture as a whole and early in this decade don Antonio negotiated a considerable loan from the Banco Providencial de Querétaro in order to update his stock and machinery. The rancho of Carretas was used as collateral for this advance of a quarter of a million pesos.⁸⁵ Soon after, however, the urban and industrial boom of the city of Querétaro gave the Urquizas a chance to improve their position. Carretas was situated on the edge of the old city and the Urquiza holdings now amounted to very valuable real estate. The agricultural lands were thus divided up into building plots and put up for sale during the years of 1958-59 - at least thirteen such areas were sold for private housing. Three of Antonio's children, Javier, Ana, and Jesús, were able to retain prime building plots for their own houses, and the actual casco of Carretas still remains unsold, awaiting the possible conversion into a hotel. This opportune fraccionamiento gave don Antonio the chance to establish each of his many children in one profession or another - only Javier remained true to the family tradition of practical farming.

One of the largest building plots carved out of the Urquiza holdings in Carretas now houses a large shopping complex including a cinema and

a branch of the supermarket chain Gigante. This area was developed by a real estate company based in Mexico City. A part of the company's holdings included an area of some 125 hectares to the north of Querétaro - lands which had been part of the old hacienda of Atongo, close to Chichimequillas and San Rafael.⁸⁶ Don Antonio Urquiiza exchanged the city plot for these lands early in the 1960s and re-established his milk enterprise out there. Much of the responsibility for this project passed to Javier, and a new house and set of buildings were built on the rancho, which was given the name of Bordo Colorado.

Artesian wells were sunk and all the land was brought into cultivation to produce maize, wheat, and malting barley, as well as fodder crops for the dairy herd - alfalfa, grasses, oats, and maize for silage production. In 1980 there were some three hundred head of pedigree Jerseys on Bordo Colorado with a daily milking population of about one hundred and twenty. Top production, just after calving, amounted to 43 litres a day, but the average daily yield, spread over the year and including the entire herd, fell to seventeen litres. It should be remembered that Jerseys do not produce as heavily as some of the larger breeds such as the Freisan and Holstein. In any event the Bordo Colorado Jerseys are recognised as amongst the very best in Mexico and are equally well respected in the United States.⁸⁷

Responsibility for the future of the enterprise is now passing to Javier's fifth child, Arturo - his efforts now join those of his third cousins in Obrajuelo to ensure that the connection between their Basque forefather and the Bajío lands is extended to a fifth generation.

Footnotes to Chapter Nine

1. La Sombra, 7 May 1900.
2. AJ/CC from Santa Rosa Jaripeo, 1924.
3. ANQ/FF 1903. Apd. nos. 21, 94, and 116. Alfonso Veraza was Secretario de la Junta Directiva de la cia. de Ferrocarriles Urbanos which was planning lines to Pueblito and around the city of Querétaro. El Banco de Querétaro was established with a social capital of one million pesos - most of the leading shareholders were also prominent hacendados in the area.
4. AJ/Inventory of estate 1908.
5. ANQ/CME 1903, 20 June; Itinerario para Automovilistas, Cámara Agrícola Nacional de Querétaro, 1926.
6. ANQ/CME 1904-70.
7. ANQ/CME 1921-167.
8. RPPQ, 47-150, 48-217.
9. Itinerario para Automovilistas, 1926.
10. See Appendix VIII.
11. RPPQ, 34-112.
12. DAQ/Files on Santa María Magdalena and San Antonio de la Punta.
13. The following evidence was taken from the DAQ/File on the ejido of El Retablo.
14. See Appendix IX.
15. Contemporary yields from some of the best land under the most advanced conditions are in the region of 90-100 tons per hectare - oral evidence from José Róiz of San Rafael and Javier Urquiza of Bordo Colorado.
16. RPPQ, 3-34, p.107.
17. RPPQ, 3-34, p.137.
18. DAQ/File on El Retablo; see Appendix IX.

19. DAQ/CI, nos 72 and 73.
20. DAQ/CI, nos. A/267 and A/386.
21. RPPQ, 3-1, p.30.
22. RPPQ, 1-23, p.39.
23. ANQ/CME 1911-5.
24. ANQ/CME 1923-51.
25. RPPQ, 1-34, p.258.
26. RPPQ, 3-1 (new series), p.30 (entry no.5345).
27. RPPQ, 1;23, p.39.
28. Oral evidence from señor José Roíz.
29. DAQ/CI, nos. D.158-165.
30. Data provided by the Secretaría de Agricultura y Recursos Hidráulicos, Querétaro.
31. Oral evidence from señor José Roíz.
32. DAQ/File on Ejido de San Rafael (La Cañada).
33. Oral evidence from señor José Roíz and la familia Amieva.
34. ANQ/ST, 1870-278.
35. AB/LC, 1899-1902.
36. ANQ/CME, 1904-92.
37. RPPQ, 1-26, p.72.
38. RPPQ, 3-1 (new series), p.15.
39. ANQ/CME, 1908-121.
40. ANQ/JP, 1909-3.
41. RPPQ, 3-12, p.2.
42. ANQ/CME, 1912-9.
43. ANQ/CME, 1913-29.
44. ANQ/CME, 1918-9.
45. RPPQ, 1-35, pp.109-13.
46. ANQ/CME, 1921-166.

47. DAQ/CI, nos.77-79.
48. Oral evidence from señor Alejandro Fernández.
49. DAQ/File on Ejido Pueblito.
50. See Appendix X.
51. Hewitt 1976, p.145.
52. Oral evidence from the families concerned.
53. ANQ/CA, 1897-156.
54. ANQ/CA, 1897-156.
55. Oral evidence from Sta. Ana Urquiza y Fernández de Juárezgui.
56. ANQ/ST, 1871-127.
57. ANQ/ST, 1871-88; ASM/CC and LC 1869.
58. RPPQ, 1-3, p.91.
59. La Sombra, 1893.
60. ANQ/CA, 1897-157.
61. ANQ/CA, 1894-199.
62. ANQ/CA, 1893-84.
63. ANQ/CA, 1893 Apd.
64. ANQ/CA, 1894-199.
65. ANQ/CA, 1895-53.
66. ANQ/CA, 1897-156.
67. Oral evidence from Sta. Ana Urquiza y Fernández de Juárezgui.
68. ANQ/CA, 1895-88.
69. ASJ/CC 1856.
70. ANQ/CME 1918-107.
71. Oral evidence from Sta. Ana Urquiza y Fernández de Juárezgui.
72. What follows is oral evidence from Sta. Ana Urquiza y Fernández de Juárezgui.
73. Oral evidence from Eduardo Urquiza.
74. ANQ/CME 1918-107.

75. Oral evidence from Sta. Ana Urquiiza y Fernández de Juárezgui.
76. Ladd 1976, p.213.
77. Ladd 1976, p.116; ANQ/CME 1918-98.
78. ANQ/CA, 1888-111.
79. RPPQ, 3-1 (new series), p.17.
80. ANQ/CME, 1918-54.
81. RPPQ, 1-44, p.16, 33.
82. DAQ/CI, D. S/N 250-51; RPPQ, 1-37, p.91.
83. RPPQ, 1-61, p.17.
84. Oral evidence from señor Javier Urquiiza y Fernández de Juárezgui.
85. RPPQ, 2-152, p.147.
86. Oral evidence from Sta. Ana Urquiiza y Fernández de Juárezgui.
87. Data taken from the 1980 accounts of Rancho Bordo Colorado.

CHAPTER TENEPILOGUE: THE RISE OF AN AGRARIAN BOURGEOISIE IN MEXICO:AN OPEN QUESTION

For at least four decades after the outbreak of the Revolution Mexican historiography was dominated by the image of the hacienda as 'feudal' and inefficient. Lone and dissenting voices such as that of Bulnes,¹ were written off as apologists of the Porfiriato. And then in 1950, coincident with the revival of the agrarian middle class under the regimes of Avila Camacho and Miguel Alemán, Jan Bazant published an article which argued that the hacienda had at least contained some elements of capitalist production.² The subsequent revision of the traditional concept has perhaps been slow to mature, partly on account of a dearth of documentary materials, but certain fundamental corrections have now been accomplished.

Indeed, the whole area of enterprise and entrepreneur is now the subject of considerable interest. A recent collection of studies on the formation and development of the bourgeoisie in Mexico has emphasised the importance of research into this theme.³ It is, however, significant that none of the cases which appear in this collection feature a hacendado as an example of the bourgeoisie, and the land in general is depicted as lying beyond the realm of productive and enterprising investment.⁴

Other recent assessments of Mexican agrarian history have tended to suggest that the Porfirian hacienda had begun to make certain moves towards full capitalist production, but that these were finally limited by a failure to introduce a comprehensive system of free waged labour. Such works rely upon references to the 'formal domination of labour by capital' and 'a limited transition from precapitalist relations of

production' without very much in the way of hard evidence. Exceptions to these trends are identified as cases of bourgeois enterprises with foreign owners. Mexican hacendados producing crops for the export market are depicted as being closest to the bourgeois archetype and those producing for the domestic market, such as the examples from Querétaro featuring in the preceding pages, are reckoned to be the least advanced.⁵

The 'contradictions inherent in this limited transition' are held to have been partially responsible for the agrarian crisis which preceded the outbreak of revolution in 1910. In turn, the measures introduced by the Mexican state in the second half of the nineteenth century are reckoned to have been insufficient to pave the way for fully-fledged agrarian capitalism, and it thus was left to the Revolution and the subsequent Agrarian Reform to conclude this development.⁶ In short, this line of argument has asserted that the agrarian bourgeoisie in Mexico has been a direct product of the Revolution and the Agrarian Programme - a position most bluntly proposed by Rodolfo Stavenhagen.⁷

To date only one intensive study on the agrarian bourgeoisie has appeared. This is the work of Hector Díaz-Polanco on the area of Valle de Santiago in the Bajío.⁸ It is significant that Díaz-Polanco set out on this study with the intention to base his investigations on the position put forward by Stavenhagen, and thus to limit his research to the period starting with the agrarian policies of Cárdenas in the mid-1930s. In the event the author found it necessary to take his work back to the years before the Revolution, in order to assess the nature and importance of changes and continuity.⁹ It is unfortunate that he did not have access to material on the inner workings of the haciendas in the area, and thus the account of the earlier years remains somewhat impressionistic.

All of this is given as a back-drop to the preceding work on the agrarian bourgeoisie in Querétaro. The evidence and arguments presented in this thesis are designed to demonstrate that the question of the Mexican hacienda is far from closed. Whatever else is achieved, it is hoped that this study on Querétaro will serve to maintain the debate on the nature and diversity of nineteenth-century rural Mexico, and to intensify the more recent interest in the subject of the agrarian bourgeoisie.

Footnotes to Chapter Ten

1. F. Bulnes, The Whole Truth about Mexico; President Wilson's Responsibility, New York, 1916.
2. J. Bazant "Feudalismo y Capitalismo en la Historia Económica de México" in El Trimestre Económico, Vol. XVIII, number 1, Enero-Marzo 1950, pp.81-98.
3. Ciro F.S. Cardoso (ed.), Formación y Desarrollo de la Burguesía en México, Siglo XIX, Mexico 1978, p.12.
4. Cardoso 1978, pp.18, 23 and 181-82.
5. Marco Bellingeri y Isabel Gil Sánchez "Las Estructuras Agrarias bajo el Porfiriato" en Cardoso, 1980, pp.315-336; Juan Felipe Leal y Mario Huacuja Rowntree, Economía y Sistema de Haciendas en México La Hacienda Pulquera en el Cambio, Siglos XVIII, XIX y XX, Mexico 1982. A rare exception to this approach may be found in the article by Roberto Vélez Pliego, "Rentabilidad y productividad en una hacienda mexicana: Hacienda y Molino de Santa Cruz" in Puebla en el Siglo XIX, Ed. Michèle Misser, Mexico 1983.
6. Leal 1982, pp.9-16 and Anthony Winson "The Formation of Capitalist Agriculture in Latin America and its Relationship to Political Power and the State" in the Journal of Comparative Study of Society and History, 1983,
7. Rodolfo Stavenhagen et al., Neolatifundismo y Explotación, De Emiliano Zapata and Anderson Clayton and Co., Mexico 1968, pp.53-55.
8. Héctor Díaz Polanco, Formación Regional y Burguesía Agraria en México, Mexico 1982.
9. Díaz Polanco, 1982, pp.15-17.

Appendix ISharecropping Contracts on the Hacienda, Querétaro 1850-1910

Contrato de Aparceria Rural.

Condiciones bajo las cuales....., en representación de la Hacienda de..... hace contrato de sembrar á medias con.....

1ª Primera. La duración del contrato será.....

2ª Segunda. El partido que se adopta para los efectos de este contrato, es el conocido de "MEDIEROS."

3ª Tercera. El mediero recibirá cada año, el terreno necesario para la siembra que pueda hacer con.....yuntas de bueyes tomando como base, que con una puede trabajarse un area de.....metros cuadrados.

4ª Cuarta. La siembra á que se destina el terreno será.....

5ª Quinta. Además del terreno que la Hacienda proporcionará al mediero cada año, le dará también la semilla que estime conveniente; siendo obligación de éste hacer de su sola cuenta todos los trabajos de la labor y poner los bueyes y apero necesario

6ª Sexta. Cuando la labor esté en fruto, la Hacienda pondrá los veladores que juzgue conveniente para cuidar que no sufra daños ni robos y su costo lo aplicará á una cuenta provisional que se liquidará en la forma que á continuación se expresa.

7ª Séptima. Cuando llegue la época de la recolección, la Hacienda se encargará de hacerla y tanto su costo como el de limpiar las semillas y de división, así como el costo de veladores, se dividirán en dos partes iguales de las que será una á cargo de la Hacienda y la otra al del mediero, quien la pagará desde luego.

8ª Octava. El producto total del fruto, se dividirá en dos partes iguales, en la forma que la Hacienda estime conveniente, de las cuales será una para ésta y la otra para el mediero.

9ª Novena. Impuestas, de común acuerdo, ambas partes y reconociendo sus propias obligaciones, en cumplimiento de la Ley que previene estos contratos, firmaron de conformidad.

Hacienda de.....de 18

En representación de la Hacienda,

Mediero,

Contrato de Aparcería Rural.

Condiciones bajo las cuales _____, en representación de la Hacienda de _____ hace contrato de sembrar a medias con _____

1a. Primera.—La duración del contrato será _____

2a. Segunda.—El partido que se adopta para los efectos de este contrato, es el conocido de "QUINTEROS."

3a. Tercera.—El mediero recibirá cada año _____ yuntas de bueyes con su apero necesario o sea _____ bueyes, _____ arados armados, _____ rejas, _____ yugos, _____ pares copundas y _____ barzones y el area de terreno que pueda sembrar con las _____ yuntas, calculando _____ metros cuadrados por cada una.

4a. Cuarta.—La siembra a que se destine este terreno será _____ cuyas semillas le proporcionará la Hacienda.

5a. Quinta.—El mediero hará por su sola cuenta todo el trabajo, desde el principio hasta que la labor esté en fruto, en cuya época la Hacienda pondrá los veladores que estime necesarios cuyo costo se liquidará como adelante se expresa.

6a. Sexta.—Al terminar la labor, el mediero entregará a la Hacienda los bueyes y aperos recibidos, los cuales le serán entregados al año siguiente, al dar principio la nueva labor y siempre que los merezca por su conducta y trabajo anterior.

7a. Séptima.—El mediero será responsable de los bueyes y aperos que reciba y cualquiera pérdida que tenga la pagará, a excepción de los casos en que no sea motivada por descuido sino por verdadera desgracia.

8a. Octava.—Llegada la época de la cosecha, la Hacienda la hará de su cuenta, pero tanto el costo de ésta, como el de limpiar algunas semillas, si fuere necesario, y el de veladores, será dividido entre ambas partes en la proporción de tres quintas a cargo de la Hacienda y las dos restantes al del mediero.

9a. Novena.—El producto total del fruto será dividido en cinco partes iguales, en la forma que la Hacienda estime conveniente, de las cuales percibirá ésta tres quintas partes y las dos restantes el mediero.

10a. Décima.—El sacate y rastrojo, quedará todo por cuenta de la Hacienda, que se reserva el derecho de hacer el nuevo reparto.

11a. Undécima.—Impuestas de común acuerdo ambas partes y reconociendo sus propias obligaciones, en cumplimiento de la Ley que previene estos contratos, firmaron de conformidad.

Hacienda de _____ de 19 _____

EN REPRESENTACION DE LA HACIENDA,

MEDIERO,

TESTIGO,

TESTIGO,

Appendix IIInventory of Estate, San Juanico, Querétaro, 25 December 1909

Cultivating implements and tools, total value including:	\$	\$
10 ploughs with iron shares, brand mark 'Stock'	100.00	2,819.69
32 ploughs with iron shares, brand mark 'Oliver'	288.00	
33 ploughs with iron shares, brand mark 'D. Bradley'	264.00	
19 ploughs with iron shares, brand mark 'Masador no.3'	266.08	
Miscellaneous items in La Comunidad, totalling		418.89
Agricultural machinery, totalling including:		10,226.50
1 gleaner, brand-mark 'McCormick'	480.00	
1 seed drill for wheat	135.00	
1 muck-spreader	237.50	
6 'Deering' reapers	570.00	
1 upright steam-engine, 'Canton'	600.00	
1 harvester	1,300.00	
1 large thresher, 'Case'	1,800.00	
1 large thresher, 'Robey'	1,735.00	
1 upright steam-engine, 'Champion'	760.00	
1 horizontal steam-engine, 'Rafael'	950.00	
Machine shed, value of		3,144.91
Carts, harnesses and tackle, value of		2,099.86
Garden tools and seeds, value of		74.08
Carpentry and tannery work-shops, value of		122.38
Milking parlour and dairy, value of		95.55
Forge, value of		209.63
Magueyes, value of		173.25
Cattle, thorough-bred, 101 head and value of		8,495.00
Cattle, local stock, 392 head including		
263 draught oxen, value of		11,325.00
579 head of goats, value of		1,097.50
156 head of mules and horses, value of		7,480.00
40 head of thorough-bred horses, value of		4,700.00
Other livestock, value of		273.00
Grain and other produce, value of		1,999.08
Lands, value of		146,929.00
Chapel, value of		1,572.62
House contents, value of		746.47
Unharvested crops, value of		8,087.59
With miscellaneous additions, bringing total value of estate to		211,071.74

Appendix III

Estimated Annual Incomes Accruing to Sharecroppers
in Maize Production

As noted earlier, sharecroppers in Querétaro were of two varieties, Medieros (who received one half of the crop) and Quinteros (who received only forty per cent of the crop). The following calculations are designed to suggest the best average results the sharecropper could have anticipated.

Area of temporal land was unlikely to exceed 6 hectares.

Optimum average yields from this land were unlikely to exceed 600 kg per hectare (bearing in mind that sharecroppers did not receive the hacienda's prime maize lands).

Average annual harvest from 6 hectares: 3600 kg.

Deductions from this included the share accruing to the hacienda and costs corresponding to the sharecropper for vigilance and harvesting.

Harvesting costs in the 1870s amounted to some ten centavos per fanega (Bazant 1975: p.58). Assuming an average value of \$1.50 per fanega of maize, deductions for harvesting and vigilance, expressed in quantities of grain rather than money, would have amounted to some 130 kg for Medieros and 100 kg for Quinteros (taking each fanega to weigh approximately 65 kg).

Adult consumption of maize was of the order of some four and a half kilos per week (Bazant 1977, p.67); an average family of two adults and four children would thus have required around 18 kg of maize per week, or nearly 950 kg over the year. Medieros would thus have been left with: 50% of 3600, minus 130 kg costs and 950 kg subsistence, or 720 kg surplus. Quinteros were worse off, as follows: 40% of 3600, minus 100 kg costs and 950 kg subsistence, leaving only 390 kg surplus.

With average values of maize at about \$1.50 per fanega of 65 kg these surpluses would have left Medieros with disposable incomes of around \$16.60, and Quinteros with only \$9.0. With wage rates at roughly \$1.00 per week on the haciendas, these amounts were equal to incomes earned over relatively short periods of time, from nine to seventeen weeks. On this basis sharecropping would hardly have been a compelling choice for the Querétaro campesino, and we can safely assume that incomes made from these contracts alone barely amounted to subsistence living for an average family.

Appendix IVHacienda Endebtedness 1876-1906

Hacienda	Date of valuation	\$ value	Date of mortgage	\$ value	Percentage mortgage of hda's valuation
La Comunidad	1876	16,000	1876	4,000	25%
lo de Casas	1875	35,000*	1876	5,800	16%
La Cueva	1883	50,000	1875	10,000	20%
Vegil	1869	67,728	1876	17,150	25%
San Francisco	1899	24,000	1899	9,000	37%
Jacal Grande	1883	74,700	1876	16,000	21%
Alfajayuca	1884	36,000	1879	8,800	24%
Bolanos	1870	7,000	1882	2,400	34%
Balvanera F.2 ^a	1879	8,300	1882	5,000	60%
Castillo	1884	74,159	1884	46,432	63%
Miranda	1901	49,285	1882	-	-
Corralejo	1874	3,900	1874	-	-
S. J. el Alto	1875	6,014	1875	3,414	57%
Mandujano	1892	68,119	1892	10,000	15%
Sabanilla	1871	33,362	1871	10,000	30%
Sabanilla	1880	37,870	1880	36,000	95%
Marroquin	1892	25,000*	1892	16,000	64%
S. Vicente	1892	35,000	1892	15,000	43%
La Ceja	1892	71,610	1892	27,436	38%
Agua Azul	1892	160,000	1892	35,000	22%
Carretas	1892	70,000*	1892	10,000	14%
Gamboa Fl ^a	1894	15,000	1894	7,000	47%
Castillo	1884	74,159	1899	10,127	14%
S. Nicolas	1900	72,800	1900	30,000	41%
Amascala	1896	130,000	1891	10,000	8%
La Cueva	1903	70,000*	1903	14,347	20%
Guadalupe	1905	84,309	1906	22,500	27%
Ciervo	1906	90,000	1906	-	-

*Estimated value

Appendix VRural Properties in the District of Querétaro 1876-1910

<u>Size of Property (hectares)</u>	<u>Number</u>	<u>Cumulative %</u>
less than 200	9	15
less than 500	30	38
less than 1000	37	62
less than 1500	51	84
	61	100
more than 1500	10	16
more than 2000	7	13
more than 5000	3	5

Total number of properties analysed: 61

Area accounted for: 67,525 hectares

Sources: compiled from Notarial Archives and Public Registry Office, Querétaro.

Appendix VISocial Mobility and the Land in Querétaro:The Case of the Olveras

Pedro Olvera was born on the hacienda of Batán, close to the city of Querétaro, some years before the outbreak of the Insurgency. By the time Mexico had achieved independence he had married one Ines Pulido and moved to the hacienda of Obrajé de Ixtla, situated nearby in the state of Guanajuato. The marriage was based on a capital of five donkeys (Pedro's contribution) and four cows and six sheep (Ines' dowry). Within a short space of time the couple's first son, Ignacio, was born, subsequently followed by seven other children - Andrés, Alejandra, Romualda, Antonio, Juana, Gertrudiz, and José María. Such a sequence of rapid procreation proved to be too much for Ines and she succumbed at some point in the mid-1830s. Within five months of her death Pedro had remarried, this time to a recently widowed woman named Dolores Olvera, the daughter of Queretanos Vicente Olvera and Arigida Rivera. Dolores had been married for less than two years to José María Barrón before he died leaving her penniless with two small children, only one of whom survived. She was thus unable to offer Pedro Olvera anything in the way of a dowry, other than her ability to read and write. He, on the other hand, had flourished during the years of his marriage to Ines Pulido, and was able to boast of a considerably increased capital - thanks to hard work, presumably as a sharecropper and tenant, Pedro's estate had reached the value of some \$2500 of grain and livestock, and he also owned a small house worth \$500.

Pedro and Dolores then settled in the city of Querétaro and began assiduously to develop their agricultural interests. Initially this was limited to renting land, such as the Rancho of Arroyo Hondo belonging to the hacienda of Bravo to the south of the city. As their fortunes

rose, however, the Olveras were able to buy land for themselves and by the time of his death in 1877, Pedro was able to look back on a life of profitable hard work. His will did not specify any monetary value but it is clear from the list of his possessions that he had come a long way from an illiterate campesino with but five donkeys to his name. On his death bed he was able to count the Rancho of Sancillo in Apaseo, two irrigated gardens in San Isidro, Pueblito, two houses, 80 head of cattle of diverse ages, 25 yoke of oxen fully equipped to plough, 8 unbroken mares, 30 donkeys, 30 swine, 300 goats, 100 sheep, 5 saddled horses, and a substantial reserve of grain from the previous harvest - Pedro had made his will in mid-May, some four months after the temporal crops had been harvested, and yet he still possessed the healthy amounts of 600 fanegas of maize and 50 fanegas of beans.

Pedro had, however, left a large number of heirs to share the fruits of his hard work. All except José María from his first marriage had survived him, and there were also five others from his life with Dolores - Miguel, Vicenta, Agripina, Inocencia, and Angel. In addition to these there were six fatherless grandchildren, the offspring of the two sons who had failed to outlive him. The subsequent division of his estate must have left Pedro's heirs with considerably less capital with which to start their lives.

Some idea of the impact of this division may be gleaned from the will of Dolores Olvera, made some seven years later, in 1884. According to the laws of inheritance Dolores had been entitled to take one half of the gains achieved during her marriage with Pedro. The estate she bequeathed to her six children must have reflected part of these gains - the eleventh fraction of the Rancho Sancillo, 10 yoke of oxen, 200 goats and 100 kids, between 60 and 70 sheep, 8 donkeys, 20 swine, 15 cows and 12 calves, 600 fanegas of maize, 90 fanegas of beans, and \$600 in cash.

Despite the depletion of Pedro's capital, however, at least some of his offspring managed to sustain the family's momentum upwards. The records are incomplete but it is clear that both Antonio and Andrés sold their shares of the Rancho Sancillo (some 50 hectares in each case) to the husband of their half-sister Inocencia, Nicanor Vázquez - a ranchero of Ojo Sarco in Apaseo, who was at this time busily accumulating portions of fragmented properties. What then became of Andrés is uncertain, except that he married into the family of Ayala which was also engaged in buying up land - as, for instance, a fraction of the hacienda Bravo, measuring over 550 hectares and worth \$3500 in 1892.

The career of Antonio is somewhat clearer. Long before he sold out his interest in the Rancho Sancillo he had moved to the eastern side of the city of Querétaro and bought the Rancho Buenavistilla for \$3000 in the early 1870s. He had married a Micaela Hernández in the 1860s and she had borne him eight children. They had started married life with no capital but by stint of hard labour they had \$3000 at Micaela's death. Antonio had then remarried a Dolores Figueroa and she in turn had borne him seven children, only three of whom survived. In 1902 he drew up a will which demonstrates the extent to which he had managed to maintain the tradition of his father. He lived in a house he owned in the small town of La Cañada on the outskirts of Querétaro, and his listed estate included the Ranchos of Buenavistilla and El Capulin, 25 yoke of oxen, 40 cows, 800 goats, 8 mules, and 1 cart. Like his father Pedro, Antonio was illiterate, but now there was a literate son Juan, and he signed all legal documents. Descendants of Antonio Olvera were still proprietors in Buenavistilla and El Capulin in the late 1950s.

Even more successful than Antonio was Pedro's first son Ignacio. He had stayed in the place of his birth, the hacienda of Obrajé de Ixtlá

and then married one Apolonia Olvera at some point in the late 1840s. The couple had ten children, nine of whom survived - Maximino, Tomás, Aurelio, Alejandro, José Ventura, José Dolores, Francisca, María Jesús, and Luisa. Ignacio died on the 4th of October 1899, and it is clear from his estate that he had succeeded in accumulating a considerable amount of capital. The records do not provide us with a complete list of his possessions - only the main items are included, such as the two houses Ignacio owned, the two Ranchos of Arroyo Hondo and La Peña, the irrigated plot called Callejón de San Andrés, and the one thousand fanegas of maize remaining from the final harvest (the will was drawn up in early March). The total value of the estate, including the working implements and livestock, came to the substantial sum of \$37,515.17 - the large part of this amount can be taken to represent profits earned by Ignacio over his working lifetime.

A somewhat impressionistic picture of Ignacio's enterprise may be gleaned from a review of two documents drawn up shortly before his death. These were contracts of tenancy for his Ranchos of Arroyo Hondo and La Peña, the former made over to his sons Maximino and José Ventura, and the latter to another two of his offspring, Alejandro and Francisca. Both Ranchos had houses and on Arroyo Hondo there was a well with a windmill. La Peña was stocked with 35 draught oxen and 17 ploughs - sufficient to cultivate up to 100 hectares of land; some 30 fanegas of maize were also inventoried for the specific purpose of sowing, a further indication that such an area was well within the capacity of the Rancho (it is highly likely that the surplus seed maize was allocated to sharecroppers). On the basis of this evidence it is possible to estimate that the tenants Alejandro and Francisca could have anticipated an annual maize production of over 1000 fanegas and worth around \$2500.

The Rancho Arroyo Hondo was an even better prospect. It was stocked with 49 draught oxen and 28 ploughs - adequate to cultivate some 140 hectares or more. A similar amount of maize seed had been earmarked for sowing, and it is thus legitimate to reckon that the rancho offered the prospect of an annual maize harvest of some 1300 fanegas with a value of about \$3250. These estimates go some way toward explaining how Ignacio Olvera was able to leave over \$37,500 to his children, despite having lived the rough and ready life of an illiterate Mexican campesino. Descendents of Ignacio maintained the family's interest in at least Arroyo Hondo through to the 1970s.

Source: Compiled from the following references:

ANQ/ST 1877-130

ANQ/ST 1883-57

ANQ/ST 1885 (1) - 86

ANQ/CA 1892 (1) - 92

ANQ/CA 1895 (2) - 35

ANQ/CA 1898 (1) - 60,63

ANQ/CA 1902 (1), 17

ANQ/CME 1924, 14

RPPQ, 1-4, p.60.

RPPQ, 1-18, p.35.

RPPQ, 1-20, p.219.

RPPQ, 1-22, p.182.

RPPQ, 1-55, p.35.

Appendix VIIWheat Suppliers to the Mill of Batán, 1900-1902

<u>Consignments in kilos</u>	<u>Numbers of consignments according to weight</u>		
	<u>1900^a</u>	<u>1901</u>	<u>1902^b</u>
less than 100	14	9	4
100- 500	32	21	11
501- 1,000	6	16	4
1,001- 2,000	8	12	4
2,001- 3,000	4	3	-
3,001- 6,000	3	5	2
6,001-10,000	7	6	2
10,001-15,000	6	-	2
over 15,000	6	6	-
Total no. of consignments:	86	78	29
Total weight of grain rec'd:	382,570 kg	361,569 kg	62,238 kg
Average weight of consignment:	4,448 kg	4,635 kg	2,146 kg

- a. 1900 includes 11 consignments made during the last 2 weeks of 1899.
- b. 1902 runs only for the period from January 1st to June 18th - wheat was harvested in May and June, peak availability thus occurred in July and August after threshing and cleaning.

Source: AB/LC 1899-1902.

Appendix VIII1903 Share-holders in the Compañía Hidro-Eléctrica, Querétaro

Each share valued at \$100,

Francisco González de Cosío.....	100
Alonso de la Isla.....	100
Ramón Martínez.....	100
Francisco Pando.....	100
*Sociedad Jacobs y Cia.....	100
Ramón Bueno.....	450
Saturnino Llano.....	100
Rosendo Rivera.....	100
Adolfo Aguilar.....	50
Ramón Martínez Uribe.....	100
Carlos M. Loyola.....	100
Bernabé Loyola.....	100
José Loyola.....	50
Sta. Dolores González de Cosío.....	100
Desiderio Resendíz.....	100
José María Orozco.....	100
José María Rivera.....	50
*Albino García.....	100

*The only people listed here not known to have owned haciendas in the Querétaro area.

Source: RPPQ, 1-45, p.22.

Appendix IXInventory of Estate for San Juanico, Querétaro in 1933Livestock

Holstein Friesian	
3 breeding bulls	
102 cows in production	
51 1st-calving heifers	
8 yearling bulls	
50 suckling calves	
8 cows in production, Swiss breed	222 head
15 horses	
128 mules	
5 donkeys	148 head
18 draught oxen	18 head
158 nanny goats in production	
12 billy goats	
60 nannies about to kid	
31 kids	261 head
16 rams	
118 ewes	
22 first-lambers	
30 lambs	186 head
1 boar	
11 sows	
25 weaners	
4 piglets	41 head
2 tractors, Moline and Fordson, 2-share capacity	
1 tractor, John Deere, 4-share capacity and totally equipped	
2 threshing machines, Roley and International	
2 combine-harvesters, MacCormick	
1 baler, John Deere	
2 binders, MacCormick	
2 centrifugal pumps, 2 ² / ₃ H.P. and 3 ¹ / ₂ H.P.	
2 electric generators for machinery, 30 H.P. and 7.5 H.P.	

Source: ARA, 1933 Expediente El Retablo.

Appendix XRanchero Continuity in Querétaro:Cases of Ostendi and Hernandez

Román Ostendi came to Mexico from northern Spain during the last years of the Porfiriato, probably already married to a fellow Spaniard, Carmen Berriolope. Two children were born in Mexico before Carmen died, Zacarías in 1882 and Josefa a short time later. Don Román then remarried, this time to a woman from a modest landowning family of San Juan del Río, called Josefa Ladrón de Guevara.

Don Román variously described himself as 'labrador' and 'agricultor' but never as 'propietario' or 'hacendado' - we are left with the impression that he was a man of energy and ability rather than capital. Perhaps his second wife had access to some collateral - at least she was able to buy a modestly-sized property called San Bartolomé de Apapataro in September 1899 for \$15,000, repayable over six years at six per cent.

The previous year don Román had entered a contract with Ildefonso Berriolope (in all likelihood his ex-wife's brother) over the running of the hacienda San Rafael. This latter was a part of the Bravo estate and had been rented out to don Ildefonso by the owner Pedro Acevedo also in 1898 for a period of 8 years - the cost for the first two was \$4000 and it was then raised to \$4700. Román was described as the 'socio industrial' in this arrangement, which meant that he was responsible for the daily administration of the property. The contract with don Ildefonso was drawn up to last the same eight years of the contract of tenancy taken out on San Rafael, and don Román was to receive a third of the profits as well as \$6 per week for personal expenses.

It is impossible to gauge how much he made from this contract, although we do know that San Rafael was a property with both fertile

lands and irrigation - the crop of wheat raised there in 1893 came to 3000 cargas. Even though his partner died soon after, the contract ran for the full eight years with Jesús Berriolope in place of his father.

A last payment of \$750 was made to don Román as late as 1911 - his share of the company's final liquidation. At least two years before this he had started to trade in grain in partnership with his son Zacarías. In addition to this enterprise they were still running the property San Bartolomé, and on this basis the family was able to make some headway even during the difficult years of the Revolution. When don Román died in October 1918 at the age of 60 he was able to bequeath an estate of some \$70,000, composed of San Bartolomé and a house in Querétaro on Pasteur.

Zacarías then carried on in the tradition of his father. The property was held together until January 1934 when it was broken up to avoid the dangers of expropriation. Two fractions named El Cuaresmo and Lira were sold off for \$14,000, and the rest of the land was divided up into three sections called La Virgen, El Patol, and Apapataro and registered in the names of the family - the first two as the property of the twins, Manuel and María Concepción, and the last as that of Zacarías himself. All of these properties, including the two sold off, were granted immunity from expropriation during the first months of 1944. In addition to these lands Zacarías also had access to the entire territory of the ex-hacienda of Machorra. This had been the property of Paula de Vicente and measured some 1427 hectares. By the 1940s it had been successfully broken up and was registered in the names of six of doña Paula's grandchildren, being administered on their behalf by their 'guardian' Zacarías Ostendi. In more recent times the family tradition has been maintained by don Zacarías' children, three girls named Josefina, Carmen, and María Eugenia.

Carmen left Querétaro and married a ranchero living in San Luis Potosí, but the other two stayed on, retaining ownership in lands from Machorra and marrying respectively Jesús Urquiza, a son of don Antonio, and Alfonso Adame, a local ranchero of some note and until 1982 Querétaro's Director of Forestry.

Melchor Hernández was born in the first decade of the nineteenth century on the hacienda del Muerto. He married one María Jesús Peña, and they had one child named Marcos who died before his father, at some point during the 1860s. Neither Melchor nor his wife started their married life with any capital, but later, as Melchor wrote in his will "(they) began to acquire various properties by stint of (their) hard work". This steady accumulation was sustained during the years after María Jesús's death, and by the time Melchor died in 1877 the estate was in a fairly healthy condition.

Melchor's principal property was composed of a house and garden on the edge of La Cañada, and of two ranchos nearby, called Corralejo and Los Corrales. These were stocked with 20 yoke of oxen equipped to plough, 16 milking cows, and 200 sheep. He also left 200 fanegas of maize in Corralejo, and 30 fanegas each of beans and barley. He had also been tenant of a rancho called El Cerrito Colorado which he had run jointly with his brother Ciricio. His uncollected debts amounted to the not inconsiderable sum of almost \$1700.

Melchor's son Marcos had died earlier, leaving a son and a widow, called Nestor and Loreto Amaya respectively. Melchor's entire estate was inherited by Nestor Hernández in 1877 when he was 24 years old. Some two years earlier he had married one Josefa Serrano, the daughter of Estevan Serrano - both the latter and his brother Vicente were prime cases of rancheros who achieved modest prosperity on the basis of hard work.

Nestor and Josefa proceeded to raise a family whilst at the same time consolidating the properties left by Melchor. During the 1890s several purchases were made of lands adjacent to the original properties of Corralejo and Los Corrales, and a further orchard was bought in La Cañada for \$1800 cash down. In addition to these Nestor also built up the rancho of La Cruz from a number of separate plots, finally making an integrated property of more than 177 hectares with a ranch house.

Nestor died intestate in the summer of 1919, leaving a widow 60 years old, and eight children, all of whom were of legal age - María Concepción, Pastor, Aureliano, Flavia, Amado, Juan, Apolinar, and Micaela. They were left to divide an estate valued in 1929 at over \$53,000 - livestock and grain accounted for over \$12,000 of this and the rest was composed of property - four houses in La Cañada, two gardens nearby both with irrigation, two more houses in Hercules, the Rancho Corralejo (some 760 hectares, with ranch house and two barns), and the Rancho of La Cruz. In doña Josefa's will of 1930 the profits accumulated during the period of her marriage to Nestor were declared to have been close to \$40,000.

Two years before the division of Nestor's estate between his heirs the Rancho of Corralejo had been affected by the agrarian programme - close to 95 hectares were expropriated and made over to the nearby pueblo of Saldarriaga. All of the children then received more than \$3600 in cash, and all except Flavia (who received her share in livestock and grain) were granted a fraction of Corralejo or La Cruz (of between 80 and 136 hectares).

The Hernández tradition was maintained in the area primarily by the sons Pastor, Juan, and Apolinar. Pastor was granted a certificate of immunity on the second fraction of La Cruz in July 1951, and then

passed the property to Apolinar's wife, Guadalupe Requesnes. Apolinar had trained as an agronomist and held secure tenure on fractions three and four of La Cruz, whilst his wife was the legal owner of fraction two. The area was run as an integrated unit until Apolinar sold out in 1972. At a similar time Juan sold his share of Corralejo, fraction seven, and moved into trading agricultural machinery.

Sources: ANQ/ST 1876 (2) - 118.

ANQ/CA 1893 (1) - 85.

ANQ/CA 1894 (1) - 39 and 181.

RPPQ, 1-52, p.226.

RPPQ, 1-54, p.36, 46.

ARA, Exped. A/149.

ARA, Exped. A/150.

ARA, Exped. A/285.

ARA, Exped. A/328.

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Private collections (showing abbreviations used in the footnotes)

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1885-1891

AB/LC: Archivo del Batán/Libros de Contabilidad of:
La Compañía Explotadora y Canalizadora de los Aguas de Batán,
1905-06
The production of tenancy of the Hacienda Capilla, 1906-98
The accounts of the flouring mill at Batán, 1899-1905.

AC/D: Archivo de la Hacienda de Chichimequillas/Diario, 1904-05;
/Digest of Production 1924-27.

AJ/CC: Archivo de la Hacienda de Juriquilla/Copiador de las Cartas:
1849-50, 1853, 1858-65, 1870-73, 1881-82, 1886, 1894-96 and
1899-1902.

AJ/D: /Diarios: 1857-65

AJ/LC: /Libros de Contabilidad: 1859-67 and 1892

AJ: /Inventory of Estate for 1908.

ASJA/LC: Archivo de la Hacienda de San José el Alto/Libros de
Contabilidad: 1878-79

ASJ/CC: Archivo de la Hacienda de San Juanico/Copiador de las Cartas:
1858-65, 1909-12

ASJ/D: /Diarios: 1857-65

ASJ/LC: /Libros de Contabilidad: 1859-67

ASJ/LR: /Libros de Rayadora: 1892, 1896, 1912, 1915

ASJ: /Inventory of Estate for 1909.

ASM/CC: Archivo de la Hacienda de San Marcos/Copiador de las Cartas
1857, 1862-65

ASM/D: /Diario: 1852

ASM/LC: /Libros de Contabilidad, 1855-60

ASM: /Inventories of Estate for 1851 and 1863

Public collections (showing abbreviations used in the footnotes)

ANQ: Archivo Notarial de Querétaro for the following notarios and years:

/ST: Santiago Torres, 1867-1887

/JME: José María Esquivel, 1879-1899

/CA: Celso Arelado, 1882-1924

/CME: Carlos María Esquivel, 1900-1926

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RPPQ: Registro Público de Propiedad, Querétaro

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- 2: Hipotecas, 1875-1906
- 3: Arrendamientos, 1875-1943

ARA: Archivo del Departamento de la Reforma Agraria del Estado de Querétaro

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