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" THE IMPACT OF POSITIVISM IN MEXICO
1867 - 1910 "

A.M.R. AZIRIA.

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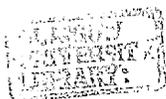
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DEDICATION.

to my grandfather, Major Juan A. Aziria,
seriously wounded in the
Spanish-American War, 1898.

C O N T E N T S.

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A B S T R A C T.

The main object of this thesis is to discover how far the Mexican Positivists influenced the development of Mexican society during the period, known as the 'Porfiriato' (1877-1910). Three areas have been chosen for analysis. These are: educational reorganization, economic development during this period and the political impact of the 'Unión Liberal.' In each of these specific areas, the analysis has been widened so as to ascertain the general impact of the 'Científicos,' a group of intellectuals, commonly associated with 'Positivism' in Mexico. Nevertheless, before this analysis can be embarked upon, an examination of Positivism as a philosophical system will be given.

This examination encompasses Part I of the thesis, where Positivism, as expounded by Comte and Littré, is analysed. The purpose of Part I is to set the context in which to analyse Mexican Positivism and hence there is a critical examination of the differences between Positivism and Spencer's Social philosophy, known as Social Darwinism as the question of whether there was a Positivist movement in Mexico, which is one of the major points dealt with in Part II revolves around the relationship between Social Darwinism and Positivism.

The first two chapters of the second part of the thesis deal with Mexican 'Positivism,' though in a different manner to that used in Part I to analyse French Positivism. Instead of giving a simple exposition of the basic tenets of Mexican Positivism, these two chapters are concerned with the views of Gabino Barreda, considered to have been the leading Mexican Positivist intellectual. In particular his interpretation of Mexican history and the

philosophical basis of the 1867 Law on education, of which he was the prime mover, are examined. The next two chapters deal with the question of whether 'Positivism' became the ideological servant of either the Mexican 'Bourgeoisie' and or the 'Díaz' regime. Secondly the question of whether it is correct to use the term 'Positivism' in the Mexican context is dealt with.

The next four chapters are concerned with three selected subjects. The first two, the fate of the political party, known as the 'Unión Liberal,' and the pattern of economic development during the 'Porfiriato' have been chosen to elucidate the impact of 'Positivism.' The third topic involves an examination of Justo Sierra's views concerning the interpretation of Mexican history and on the subject of educational reform, so as to compare and contrast the philosophies of Justo Sierra and Gabino Barreda who have been seen as the two pillars of Mexican 'Positivism.'

There are two basic arguments put forward throughout this section. The first is that the impact of Mexican 'Positivists' was limited by the fact that it was dependent on the power they were given in terms of policy-making by Porfirio Díaz. The second, and one of the main conclusions of this thesis, is that Mexican 'Positivism' very soon ceased to be the philosophy of Comte. Instead it became synonymous with the 'scientific method,' and the majority of those who were counted as 'Positivists' appeared to have owed more to Social Darwinism than to Positivism for their actual philosophical views. It is this point which many authors on late nineteenth and early twentieth century Mexican

history have failed to note and consequently have tended to consider Positivism and Social Darwinism as one and the same philosophy, mainly because this was the view of the majority of Mexican 'Positivists' themselves.

The above conclusions are subject to one major proviso and that is that the impact of Positivism in the cultural field has not been examined; it is possible that in this area it had a greater impact. The reasons for not examining the cultural field are given in the conclusion.

I.

I N T R O D U C T I O N.

The topic of Positivism in Mexico has been one, which has only been peripherally dealt with by English speaking historians. They have tended to view the latter part of nineteenth century Mexican history as a backcloth to the Mexican Revolution. Thus it has been possible for a historian, such as Peter Calvert, to assert that the 'Porfiriato' was a strongly ideological regime without proving such a comment in detail.

*(i) "Unlike the monarchies of the Ottomans or the Kajars, the Porfiriato was a strongly ideological regime. It was committed not just to a minimum programme of survival, but to a maximum programme of economic growth and self-improvement according to the scientific laws of Auguste Comte....."

Such a conclusion, if true, would mean that the 'Porfiriato' marked a clear break with the previous Mexican governments, being the first regime in Mexico which was based on a coherent ideology, which it tried to enact economically, politically and culturally. Further Calvert states that this ideology was Positivism, a view which echoes that of Leopoldo Zea. The latter's work 'El Positivismo en México' *(ii) is the only detailed analysis of the topic in either English or Spanish.

It has generally been assumed that Mexico was one of the two Latin American countries in which Positivism had its maximum impact, the other being Brazil. Germán Arciniegas, in his book *(iii) 'Latin America, A Cultural History' is typical of this outlook.

*(iv) "Mexico and Brazil represent the two great examples of Comte's influence on the political world."

*(i) 'The Mexican Revolution: Theory or Fact?', Peter Calvert, May 1969 issue of the Journal of Latin American Studies, page 52.

*(ii) 'Fondo de Cultura' 1968.

*(iii) 'The Cresset Press' 1969.

*(iv) 'Latin America, a Cultural History', 'The Cresset Press', page 389.

II.

On the basis of this view, it was natural to argue that, because the group of Mexican intellectuals who supported Porfirio Diaz, the 'científicos' was a product of Barreda's positivist educational system, the Diaz regime was greatly influenced by Positivism. Indeed this view apparently receives credence by the fact that many of the 'científicos' avowed their adherence to 'Positivism' and several of them gained important posts from Diaz, as in the case of Justo Sierra, Díaz's last minister of education or Don Porfirio Parra, the rector of 'U.N.A.M.' (Universidad Nacional Autónoma de México) in 1910. Admittedly some historians, such as *(v) James D. Cockcroft, have pointed out that Social Darwinism was just as important as Positivism as the creed which influenced the 'científicos.' Unfortunately, following Zea's example, the tendency has been to consider Spencer's Social Darwinist philosophy as an aspect of Positivism.

It is, therefore, the purpose of this thesis to examine whether these assumptions, concerning Positivism in Mexico, are correct. The first part of this thesis will give a comprehensive analysis of what the positivist system of philosophy was. The two main schools of Positivism, Comte's orthodox school and the secular school of Littré and his followers, will be described. The need for such an analysis lies in the fact that too many historians have merely used the term Positivism without actually ensuring the correctness of its use. Because individuals may have said that they were Positivists, it was not necessarily the case that what they meant by Positivism was the same as what Auguste Comte or Littré conceived as being the positivist philosophy. The

*(v) 'Intellectual Precursors of the Mexican Revolution 1900-13,' Texas Press 1968, page 36.

III.

reason for this situation may well be due to the fact that Positivism, as a philosophical system, has itself not been a topic which has attracted much interest from English-speaking philosophical writers and commentators.

The basis of this thesis is founded upon a detailed description and analysis of Positivism and a comparison between the former and Social Darwinism. The second part of the thesis develops from the first part, in trying to ascertain just what was the extent of the penetration of the philosophical system of Comte and Littré in Mexico. The related theme of whether Positivism was the ideology of the Porfiriato will also be dealt with. The latter, in turn, leads on to the question of the role and attitudes of the 'científicos' themselves. There have been various interpretations of their position in the 'Porfiriato,' from Hubert Herring's 'intellectual jewels' to Peter Calvert's and also Leopoldo Zea's 'ideologues,' expounding a 'full-blooded' capitalist ideology, based on the 'scientific method' of Comte. This, the third topic, may provide the conclusive answer to the first two. It is the philosophical beliefs of this group and its relationship to Díaz and his policies which can best answer the question of Positivism's role in Mexico. It is also the hardest to examine.

Three areas of analysis have been selected. The first educational policy was chosen because of the heavy emphasis given to it in Comte's work and also because of its role as a tool of 'social engineering' in the minds of Mexican intellectuals in the late nineteenth century. It is also an area where any shifts in the dominant philosophical outlook may be detected via changes in syllabi, or the emphasis on one type educational facility as

IV.

against another. The second area chosen for detailed analysis is the role of the 'Unión Liberal,' formed as a political party by the 'científicos' in 1891. The history of this party can throw a strong light upon the nature of the Diaz regime and the relationship of the 'Científicos' towards it. The third area is a general historical analysis of the economic development of Mexico during the period of the Porfiriato.

The intention will be to see whether a specifically 'científico' inspired economic policy was followed or one which received the full approbation of this group.

This method has not been developed to produce conclusive and irrefutable answers. Rather it has been directed to open up a subject which has much too often been dismissed as an 'aside' or as a 'byway' of no interest. After all the only complete work on the subject, Zea's 'El Positivismo en México,' was written as long ago as 1944.

CHAPTER ONE.THE BASIS OF THE POSITIVIST PHILOSOPHY.

Auguste Comte can be considered as the sociologist of human and social Unity, as history, in 'his eyes' formed a single coherent unit. The problem involved in the exposition of such a view will be discussed later. Raymond Aron has argued that the stages in the evolution of Comte's system of philosophy can be considered as representing the three ways in which the thesis on human unity was developed and justified.

Each of these three stages can be ascribed to one of Comte's three major works, the first stage is to be traced to Comte's works of the period 1820 to 1826, the most important of which are the "Opuscules," The "Sommaire Appreciation de l'ensemble du Passe' Moderne," "the Plan des Travaux nécessaire pour ré-organiser La Societé," and finally "La Consideration sur le Science et les Savants." The "Opuscules," the major work of this period, contains a description and analysis of a particular moment in the history of European Society.

*(i) This moment was characterized by the definite replacement of one type of society by another. The former could be characterized by the adjectives 'theological' and 'Military.'

The theological thinking was contemporaneous with the predominance of the warrior caste in society, due to the importance of military activities in the medieval society. The new society as against the former, is 'scientific' in ideology and industrial in nature. In this society, scientists are to replace the theologians, as the social group which provides the intellectual and moral foundation of the social order. Hence it can be said that the 'scientists' are inheriting the spiritual powers of the priests. Indeed towards the end of his life, Comte was to assign to his 'scientist' caste, the ceremonial powers of the Catholic priesthood. Just as the scientists are replacing the priestly caste, the warrior caste, according to Comte, is being replaced by *(ii) industrialists. Once men can think scientifically the chief activity of society ceases to be the 'War of man against man,' but centres around the systematic exploitation of natural resources. The main conclusion, therefore, that Comte drew from his analysis of his own society, was intellectual reform. It was not by the accidents of a revolution nor through violence that a society, in crisis, would be re-organised, but rather through the synthesis of the sciences and by the creation of 'positive' politics.

*(i) Europe, for Comte's purposes, included Great Britain, France, the United States, the Italian and German states, Scandinavia, the Netherlands, Spain and her former colonies. Later on, the Russian Empire was added to the list.

*(ii) This group included businessmen, managers and Financiers.

Comte, like many of his contemporaries, such as Marx and De Tocqueville, believed that Modern Society *(iii) was in a state of crisis due to the disappearance of one social order and its replacement by another. Like Marx, Comte believed that the contradiction between the two types of the Society would be resolved by the inevitable victory of the new society.

Although the triumph of the new society, was inevitable, it could be retarded or accelerated. The function of sociology, Comte's science of society, was to decipher and understand the course of history in such a way as to provide, to promote the realisation of the New Order.

In the second stage of the development of his philosophy, marked by his "Cours de Philosophie Positive," his basic ideas have not changed, but the perspective has become broader. In the "Opuscules" Comte was mainly interested in observing European contemporary societies and their history. This history of Europe was seen as being synonymous with the history of Human Race. This is because to Comte and to his contemporaries, the only worthwhile history to record and to analyze was that of Universal History. It was a history not of political facts but of vast social and intellectual movements. Furthermore Comte held the contemporary general view of social philosophy that all peoples, being alike, fundamentally progress in the same manner. Admittedly the rate of progress could differ between various societies due to such factors as climate or race or some other 'inevitable secondary difference.'

*(iii) Post-Revolutionary Society (i.e. post Industrial and French Revolution.)

*(iv) Nevertheless the direction would be the same for all societies. Without this methodological assumption, sociology for Comte would be reduced to a mere collection of accumulated facts, and as Levy-Bruhl has pointed out, science for Comte is concerned with Laws not Facts. The two basic themes of Comte's system of philosophy were developed and expounded in the "Cours de Philosophie Positive." These were the 'Law of the Three Stages of Human Evolution,' and the 'Classification of the Sciences,' which had been initially described in the "Opuscules." The former consists of the assertion that the human mind passes through three phases; the theological, the metaphysical and the positive (scientific) phase.

(v) In order to explain properly the true nature and peculiar character of the positive philosophy, it is indispensable that we should first take a brief survey of the growth of the human mind viewed as a whole..... I believe that I have discovered a great and fundamental Law to which the mind is subjected by an invariable necessity..... This Law consists of the fact that each of our principal conceptions, each branch of our knowledge, passes in succession through three different theoretical states: The Theological or fictitious state, the Metaphysical or abstract state, and the Scientific or positive state.

The nature of these three states is best expressed through Comte's words in the "Cours de Philosophie Positive."

*(iv) The idea of a secondary difference is based on the assumption that the development pattern of the West was the archi-type pattern which would be followed by necessity by all other societies.

*(v) "Cours de Philosophie Positive." Chapter I, Page 1.

- *(vi) The first is the necessary starting point of human intelligence; the third represents its fixed and definite state; the second is destined to serve only a transitional method. In the theological state, the human mind directs its researches mainly toward the inner nature of beings and towards first and final causes of all the phenomena it observes (towards absolute knowledge). It therefore represents these phenomena as being produced by the direct and continuous action of more or less numerous supernatural agents, whose arbitrary intervention explains all the apparent anomalies of the Universe."
- *(vii) In the metaphysical state, which is in reality only a simple general modification of the first state, the supernatural agents are replaced by abstract forces, real entities or personified abstractions, inherent in the different beings in the world. These entities are looked upon as capable of giving rise by themselves, to all observed phenomena, each phenomenon being explained by assigning it to its corresponding entity."

Finally, in the third phase man is content to observe phenomena and to establish the regular links amongst them, whether at a given moment or in the course of time. No longer would there be any attempt to find final principles underlying facts. Instead, men would confine themselves to establishing laws that govern the facts. Nevertheless, this transition from the "theological" to the "metaphysical" stage and hence to the "positive" stage, was not seen by Comte as a sharp break between types of Societies or between their respective ideologies.

*(vi) Ibid. Chapter I, Page 2.
*(vii) Ibid. Chapter I, Page 2.

Indeed, while one of the three 'cultural ideological' stages provides the dominant system of philosophy in each phase of the development, the other patterns of thought will co-exist within the dominant system. This situation is inevitable, but it is necessary; otherwise cultural and social development would be impossible. Social and Cultural and social progress, in Comte's view, can be likened to the maturing of a plant seed. The 'metaphysical' stage developed from the theological state, precisely because there already existed 'metaphysical' trains of thought in the latter phase. This idea of development through continuity also applies to the 'positivist' stage. This view of "Progress" can best be seen in the development of the various intellectual disciplines whose rates of transition to the 'Positive' stage were seen by Comte as being individually different.

The "Law of the Three Stages" had no precise significance for Comte, unless it was combined with the second element in Comte's philosophical system "The Classification of the Sciences." The latter dealt with the order in which the various sciences were ranked. It was this 'ordering' of the sciences which revealed the development of the process of maturation of human intelligence towards its final 'goal,' the 'Positive' stage. The 'Positive' methodology first appeared in mathematics, physics, in chemistry and then in biology.

*(viii) "From its first origin in mathematics and astronomy, it always has shown its tendency to systematize the whole of our conceptions in every new subject Positivism has gradually taken possession of the pre-liminary sciences of physics. . . . and in these the old system no longer prevails. . . . All that remained was to complete the range of its influence by including the study of social phenomena."

*(viii) "A general view of Positivism" by Auguste Comte,
Chapter I: Page 8 (J.H. Bridges' Translation, Reeves
& Turner 1880)

There were certain specific reasons why positivism was slower to appear in disciplines, relating to the most complex matters,

The simpler the object of study, the easier it was to think 'Positively.' Indeed with certain phenomena, where observation followed automatically, 'thought' had been positivist from the very beginning.

The combination of the "Law of the Three stages of History" and the "Law of the classification of the Sciences" lead to Comte's basic formula. This was, that the method which had triumphed in mathematics, astronomy, physics, chemistry and biology eventually had to prevail in the sphere of politics and hence would find its culmination in the founding of a 'positive' science of society, called Sociology.

*(ix) "All that remained was to complete the range of its influence, by including the study of social phenomena. For this study, metaphysics has proved incompetent..... by the theological thinkers it had only been pursued indirectly and empirically as a condition of government. I believe that my work on Positive Philosophy has so far supplied what was wanting."

*(x) "For in the first place, the science of society besides being more important than any other, supplies the only logical and scientific link by which all our varied observations of phenomena can be brought into one consistent whole. (The establishment of this great principle is the most important result of my ('System of Positive Philosophy.'))"

*{ix) Ibid. Chapter I, Page 8.

*{x) 'A General View of Positivism': Introduction, Page 1.

The object of this review by Comte of the various scientific disciplines was not just to demonstrate the need for creating the science of sociology. He had a more specific aim; beginning with biology, there occurred a decisive reversal which was to provide a foundation for the sociological concept of historical Unity. Thus, commencing with biology, the sciences were no longer analytic, but necessarily and essentially syncretic. For Comte, the sciences of inorganic nature such as chemistry and physics, were analytic, in that they established laws among isolated phenomena. With biology, it was impossible to explain an organ or a function except as part of the whole living organism. Only in relation to the whole organism, could a particular biological fact assume its meaning and so find its explanation. This idea of the primacy of the entity over elements was transposed by Comte into the sphere of social phenomena, for they too are meaningless, when isolated.

As has been seen, Comte saw himself as the instigator of the final and most complex positive science, that of sociology. This, however was not the last phase of the old process. It was the possible beginning of a new one. This would be the creation of a philosophy of the various sciences and of Science as a whole.

*(xi) "For in the first place, the science of society, besides being more important than any other, supplies the only logical and scientific link by which all our varied observations of phenomena can be brought into one consistent whole."

*(xi) 'A General View of Positivism.' Introduction, Page 1. Bridges' Translation.

This was what philosophy was to Comte, a doctrine derived from and based on the sciences, hence the name "Positivism."

*(xii) "Positivism consists essentially of a philosophy and a polity....."

Nevertheless Comte admitted that though he had created the science of sociology, it was still in an early phase of development.

Indeed Comte felt that it was still not possible to develop any laws of a 'high' generality in relation to their application; even to reach any serious generalization, it would require extensive modification of the new science's methodology.

Notwithstanding this, as Levy-Bruhl *(xiii) has stated, Science could only be scientific in Comte's view, if it were composed of Laws and not Facts. Thus although he could not claim that sociology was as advanced as a science as physics or mathematics, he could argue nevertheless that he had developed the basis, from which sociology could grow as a science.

Comte, however did claim to have discovered four general sociological laws and it is necessary to summarize them, before examining certain key features of his "Positive Polity."

The first law, the law of the "Three Stages of History," has already been analysed, as has, the second law, the "Law of the Classification of Scientific Concepts."

*(xii) Ibid. Introduction, Page 1.

*(xiii) "The Sociology of Comte" 'An Appreciation' Page 20
E.E. Evans-Pritchard.

(First Law)

*(xiv) "But in proportion, as our observations are extended, we are forced to adopt more complicated theories in order to represent facts adequately"

(Second Law)

*(xv) "In framing then our second sociological Law, the main point is to determine the natural order of the dependence among phenomena. We discern it by applying the fundamental principle: decreasing generality, increasing complexity.

Phenomena which are more general that is to say, common to a greater number of objects or modes of existence, always govern phenomena which are less general."

*(xvi) "...the three successive states of intelligence, fiction, abstraction and demonstration."

These two laws could be combined, according to Comte, to form the 'Theory of Mental Evolution,' that is to say the type of 'intelligence' which was paramount in the Theological stage was that of 'fiction' and soon, each epoch of historical development having its own associated stage of development.

The third sociological Law which, combined with the other two, formed the 'Theory of Social Dynamics,' was the 'Law of Active Evolution.' This Law was concerned with general social activity and its central premise is that:

*(xvii) "Labour does become at last the only means by which material wants will be satisfied; but not until the whole population of the globe is taken into account."

*(xiv) Volume III of "The System of Positive Polity," by Auguste Comte, page 38. (Longman's Edition 1877).

*(xv) Ibid. page 45.

*(xvi) Ibid. page 52.

*(xvii) Ibid. page 46.

As with the other two laws, 'The Law of Active Evolution' describes an evolutionary system which is composed of three stages, except in this case the subject is 'activity,' in a social-economic context.

*(xviii) "In early times therefore the leading form of Activity..... is war, though labour is never entirely absent..... My Law of the spiritual Evolution suggested that defensive Activity must discharge in the practical order, a transitional office analogous to, that of the 'Metaphysical Spirit in the speculative order.'"

*(xix) "Thus the association founded on Conquest had to be succeeded by feudal civilization, that the way might be prepared for the Industrial regime..... These three consecutive modes of active, conquest, defense and labour, correspond exactly to the three successive states of intelligence, 'fiction,' 'abstraction' and 'demonstration.'"

Comte differentiates between the epochs of 'War for the sake of Conquest' and of 'Defense by War,' by describing the first as that period where the supreme motivation was the creation of Empire such as the Babylonian, Persian and Roman Empires. The second period also had 'War' as the main motivating factor of society, but whereas the 'raison d'être' of war had been conquest, it was now security. The fall of the Roman Empire had ushered in the Feudal System whereby land had been parcelled up into different 'strips' of territory over which rulers had differing rights, Hence disagreements would result in warfare over these rights (areas of land), but the warfare would be on a smaller scale than in the previous epoch. This, however, is not a very convincing argument, though Comte would have argued that as a generalization, it held true.

*(xviii) Ibid. page 46.

*(xix) Volume III of 'The System of Positive Polity,' Page 52. (Longman's edition 1877).

It is now possible to view Comte's total conception of the evolution of society as a whole, or at Comte expressed it "The Natural Ages of Humanity." The first age of humanity was essentially theological and military in nature, with the dominant intellectual trend being that of 'Fiction.' It was followed by the second age which was in general Metaphysical and Feudal in nature and the dominant thought pattern in 'speculation' was that of 'Abstraction.' The third and mature age of 'humanity' was of necessity to be 'positive' and industrial in nature, the dominant trend in 'speculation' was to be 'demonstration' (The Scientific method). It must be stressed, however, that these stages of the 'progress of humanity' were not sharply distinguished from each other. If society was to evolve, there had to be considerable overlaps between the stages. Indeed the three component areas of each stage had by necessity a different rate of development from each other as in the case of 'speculation,' where the 'Fictional state' carried on well in the feudal period. Notwithstanding this, the evolution of humanity was to be understood through these three epochs.

CHAPTER TWO.ASPECTS OF COMTE'S VIEW OF THE POSITIVIST SOCIETY.

The primary object of Comte's work was the 'Regeneration of humanity' or at least the 'Western area.' *(i). This re-generation of humanity could only come about through the re-organization of society on 'positivist lines.' The latter could only be achieved by the positivist philosophers, for they were trained not only to diagnose the ills of society but also to prescribe the necessary cures. Volume IV of the 'System of Positive Polity' records a detailed account of the measures, required for the transformation of French society into a Positivist State, from the reform of the Calendar (page 348) to the reform of the Aesthetic arts (pages 383-4).

Although the actual nature of the 'positivist society' as described in Volume IV is of importance, the most significant problem raised is how the transition to the new form of society could be achieved. This problem can be expressed as follows; how and why should the Positivist Philosophers be in a position to direct reforms? Comte's partial answer to this question is to introduce the figure of the 'transitional' dictator.

*(ii) "Relying on the guarantee of Positivism, the temporal dictatorship, one may safely say, is bound to inaugurate the organic transition by"

There is no question but that Comte regarded Louis Napoleon as that dictator. Indeed it was because of this emphasis on the 'temporal dictatorship' and Comte's view that Louis Napoleon was the 'Positivist dictator' which led to the Positivist movement dividing/

*(i) By the Western area, Comte is again referring to Europe and to North and South America.

*(ii) Page 330, Volume IV of the 'System of Positive Polity' by Auguste Comte.

dividing into two main groups, the orthodox group led by Comte himself and the democratic 'scientific' faction, directed by Littré. It will be seen in the case of Mexico, that the 'positivists' there, first cast Juárez into the role of 'temporal Dictator' and then more emphatically 'Porfirio Díaz.' The question is therefore raised why Comte and the majority of his followers whether in France or in Mexico, should believe that the Positivist Society could only come about through the institution of a dictatorship or of an authoritarian government. In the case of Comte, the answer appears to be that he had been always of the opinion that society could never be changed through a democratic or egalitarian movement. Furthermore the structure of the society he wished to see instituted, was of a highly formalized nature and hence more attuned with an authoritarian system of government.

Comte's views concerning this subject, can be seen very clearly in a letter to Czar Nicholas I, dated 20-12-1852 and published in the appendix to the preface of Volume three of the 'System of Positive Polity.'

*(iii) "A philosopher who is a steady republican offers to the most absolute of existing Kings a work which explains systematically how humanity is to be regenerated both socially and intellectually..... But such a proceeding is easily explained by its special circumstances. FOR THIS THINKER, EVER SINCE HIS FIRST DECISIVE STEP IN 1822, HAS ALWAYS COMBATED THE SOVEREIGNTY OF THE PEOPLE AND EQUALITY MORE RADICALLY IN THE NAME OF PROGRESS, than any retrograde school has been able to do and this AUTOCRAT FROM HIS ACCESSION IN 1825, HAS ALWAYS WORTHILY PLACED HIMSELF AT THE HEAD OF PROGRESS in his vast states, WHILE PRESERVING THEM BY HIS WISDOM AND FIRMNESS FROM THE AGITATION OF THE WEST....."

*(iii) Letter to Tsar Nicholas I, preface to Volume III, 'System of Positive Polity,' block capitals have been used for emphasis.

Comte's republicanism appears to be a combination of his *(iv) family background and of his 'apprenticeship under Saint Simon. In France, the Monarchy was associated with a landed aristocracy, a group whom Comte wished to see utterly eradicated. Nevertheless Comte's attitude towards 'democratic' and 'egalitarian' ideas was one of absolute opposition, as witnessed by his letter to the Tsar Nicholas.

*(v) "..... Such being its antecedents, the communicationserve as a type of the normal relations which in a well ordered society should exist between true theologians and eminent patricians....."

Comte made it very clear that the 'new order' could only be imposed from the 'top,' downwards:

*(vi) "In Eastern Europe alone can enlightened theories now find chiefs disposed to appreciate and able to use them."

It is a simplification to view Comte's 'new society' being only attained through authoritarian and 'dictatorial' measures, even though the 'positivist' philosophers would act as mentors to the various *(vii) 'temporal dictators.' The Positivist Society was inevitable, its advent was inherent in the laws governing 'human history,' the temporal dictator *(vii) could only hasten its inevitable triumph. Yet there is no apparent doubt as to Comte's belief that in virtually every state in the world, the Positivist Society would be introduced only under the auspices of a 'dictator' or of an authoritarian Monarch, probable after a period of moral, intellectual even political anarchy.

*(iv) His father had been supporter of the post-1789 Regimes.

*(v) "Letter to the Tsar Nicholas."

*(vi) Letter to Tsar Nicholas I, preface to Volume III.

*(vii) The term 'Dictator' is to be understood in the sense of its classical meaning i.e. a temporary ruler with omnipotent constitutional powers who was only appointed during a period of emergency.

This point must be emphasised, when looking at the problem of why the Mexican 'positivists' appeared to be such strong advocates for the 'Porfiriato' as an instrument of change. Furthermore, the lack of any thorough economic analysis and of any emphasis on economic determinism as an agent, meant, that a 'Deus ex Machina' was required.

The transition to the positivist society needs only to be sketched briefly. *(viii) As has been mentioned previously, it would begin with the setting up of the dictatorship which would exist until the end of the second phase. Under the dictator's auspices, the priesthood would introduce the 'Religion of humanity' and a new educational system. In the last phase, the dominant problem would be the setting out in detail the structure of the new society.

*(ix) "During the two first stages, the 'Positive' Priesthood directs its special attention to the introduction, first of the 'worship,' then of the doctrine, under a monocratic dictatorship..... in the last phase, the priesthood works out the regime in concert with the triumvirate, which is the characteristic feature of that period."

The actual changes which were to be carried out during the first two phases, included the Transformation of the army into a gendarmerie, the abandonment of Algeria to the Arabs, a policy of decentralization through the formation of seventeen 'gouvernements' and the authorization of trade unions.

*(x) "At home, this second phase advances the organic transition industrially, by authorizing the coalitions of the workmen, as fully as those of the masters..... they will be of assistance in the re-organization of industry, when the Positive Religion shall regulate their management."

*(viii) The details concerning the formation of the 'positive society' in France, though the principles involved would apply in modified forms in (to) other countries.

*(ix) Page 360 Volume IV of the 'System of Positive Polity' (translated by R. Bridges).

*(x) Volume IV 'System of Positive Polity', page 365.

The creation of Trade-Unions was essential, if the corrupting influence of the 'industrial' middle class was to be checked.

*(xi) "More than the others deteriorated by empiricism and egoism, as is seen by its more marked leaning to monopolies....."

Of more importance is the development of the religious sphere. The first phase was characterized by the propagation of the idea of 'Order and Progress.'

*(xii) "In adopting the formula, Order and Progress, the first phase expressed the decided determination to end the modern revolutionary movement by the reconciliation of the two ideas....."

The second phase will be characterized by the development of rituals of worship, but above all by the reorganization of the educational system which would then propagate the doctrine of positivism. It is of importance to analyse this transformation of the educational system as it offers a direct yardstick with which to compare the 1867 Barreda reforms of the Mexican educational system.

Comte conceived of the temporal dictatorship setting up, at first in competition with other pedagogic institutions of higher learning, 'positivist' schools. In his opinion, seventeen institutes of higher learning were sufficient for France. It must be noted that the emphasis was upon higher education, secondary and primary education received fairly scant attention from Comte.

The reason for this attitude was that Comte considered that this area of education was the 'Pandaemonium' of 'metaphysical' thought. Indeed this view of his attitude is borne out when the objective of the new schools is examined.

*(xi) Ibid. page 393.

*(xii) Ibid. page 394.

*(xiii).....Such schools will of necessity have mainly a philosophical result, but the grounds on which the government founds them must be that they are to educate the various services which remain under its control....."

In essence, the professions were to be re-modelled in a 'positivist' mould, not only were they to be based on a more scientific grounding, but also the one class in society which was the overt enemy of the 'Positivist' movement, the 'bourgeois' was to be rooted out from its stronghold. The bourgeois, according to Comte, consisted of the professional groups in society. Indeed it could be epitomized by the legal profession; this view demonstrates Comte's lack of comprehension concerning the economic basis of class structure. The professions provided the core support for 'Metaphysical' thought, through their attachment to Liberalism and 'Jacobinism' and hence their elimination was essential.

The system of 'schooling' proposed by Comte, although it was meant to provide a scientific training for all the public professions, was to be of prime importance in the training of administrators, members of the legal profession and diplomats.

*(xiv) "Meant for all branches of the public service, the positive school will yet exert its formative powers, most particularly able to facilitate the transformation of the West.that is justice, diplomacy and administration..."

Nevertheless the profession, in which Comte put his greatest faith as the *(xv) "natural precursors of the sociocratic Priesthood" was that of medicine. Consequently their 'no-vitiate' was to be the chief function of the new 'scholastic system.'

*(xiii) Volume IV, 'The System of Positive Polity' page 368.

*(xiv) Ibid. Page 370.

*(xv) Ibid. Page 373.

The average 'School,' more akin to a University than a school, would have an annual intake of two-hundred candidates, of which one half were to be nationals *(xvi) from Italy, Spain, Britain and Germany. The 'schools' themselves were to be in the care of the priesthood, in the 'Positivist' stage of society at least. The minimum age of the 'novices' would be twenty and they were to undertake, what Comte described as an 'encyclopaedic novitiate;' lasting three years. Prior to the final transformation of society, the period of the course would be somewhat longer. Furthermore Comte insisted upon the seclusion of the schools from the rest of society.

*(xvii) "This exceptional measure rests on the necessity of withdrawing a picked body of young men from the influences of the sceptical and corrupt milieu which they are, by training as the auxiliaries of the Positive priesthood, to be the one great means of regenerating"

The three year course itself consisted of the study of three pairs of abstract sciences. Each year would be devoted to one pair. The choice of sciences to be studied was dictated by Comte's 'Law on the Classification of the Sciences' in that the simpler analytical sciences, mathematics and physics were studied first, then the more complex analytical sciences such as chemistry, leading up to the syncretic sciences which were to be studied in the last year. This final year would be devoted to the teaching of sociology and biology. The object of studying these two syncretic sciences was that they would form the basis of the final subject of the course, 'Morals' which would be taught at first as a science and then as an 'art.'

*(xvii) Page 373. Volume IV, "The system of Positive Polity." This translation is poor in terms of comprehensibility but it is the only one extant and it is to be noted that the original was written in a very convoluted style.

*(xviii) "The last year alone will have three courses of lectures, the object being that of biology and sociology may lead up to and end in morals, first as science, then as art....."

The final emphasis on 'morals' as a subject can be explained by Comte's belief that the 'Positivist Society' involved a moral regeneration of society. Furthermore, if the priesthood was to fulfill its function of maintaining harmony in the new society, their understanding of 'morals' as a subject would be of prime importance.

The actual organization of the courses outlined by Comte in Volume IV of the 'Positive Policy.' This framework for the main syllabi left plenty of opportunity to fit in other courses which Comte considered necessary for the encyclopaedic training of the novices. Thus candidates would have to study two modern Western Languages as well as having to gain some knowledge of Greek and Latin. The aim of this was to

*(xix) "Each of the seven courses which are always in succession never simultaneous, will consist, as in the normal state of forty lectures, three a week with a month for preparation and examination between the two subjects of each year, so as to leave three months vacation after devoting ten weeks to the final examination."

'give freer play to the intellectual and moral influences of such intermixture of the nations.' *(xx)

Furthermore compulsory lectures would be given in aesthetic subjects such as music and art. It can be seen that the main core of instruction during the three years was to be of a scientific nature. Once the candidate had completed it, he

*(xviii) Volume IV, 'The System of Positive Polity' Page 374.

*(xix) Ibid. Page 373.

*(xx) Ibid. Page 374.

could be considered to be fully cognisant of the 'Positivist' methodology and system. If he wished to enter one of the professions such as medicine, he would have to undergo a further three year period of training, though of a mainly practical nature.

Together with this positive programme of education, Comte had a negative one, one much criticized by his former follower, Littré. The programme consisted of gradually closing down all other institutions of higher education, whether of an academic or technical nature. All possible sources of non-positivist thought were thus to be phased out. It was this aspect of Comte's thought together with his vision of the final 'Positivist' society, for which, after all, his educational programme was in part designed to introduce.

The nature of the 'Positivist Society' can be briefly described, though Comte himself described its facets with meticulous detail right down to the *(xxi) 'Reformed Calendar' and the *(xxii) 'Masses' to be performed by the priesthood of humanity. In essence the 'final' society can be described as an Industrial Society which was to be organized on an elitist basis, consisting of two groups, the patriciate and the plebeians who were the work-force of society, there was however to be social mobility between the groups. The patriciate itself was to be divided into three sub-classes.

*(xxi) The new Calendar is given in a table facing Page 348. There were thirteen months of twenty-eight days each and a complementary day (Dec. 31). The "Festival of All the Dead," the additional day in a Leap-Year was to be a holy day in celebration of the 'Festival of the Holy Women.' The first month was to be called 'Moses' and celebrated 'The Initial Theocracy,' ending with 'Bichat,' celebrating 'Modern Science.' Each day was dedicated to a famous person connected with the month, thus in the month of Descartes, the twenty-eighth day was dedicated to another philosopher, Hume.

*(xxii) An example of a 'Positivist Mass' is given in the Annual Address for the Festival of Humanity at the Church of Humanity, Chapel Street, London, by Richard Congreve, on the first of January, 1898.

The first patrician sub-class was the 'Priesthood of Humanity' who, apart from being the servants of the 'Religion of Humanity,' would act as the guardians of the 'Positive Society,' as they were to be the most highly trained positivist scientists. The 'Priesthood,' to safeguard its function of Society's guardian, would be so qualified by its "renunciation of both wealth and power."

It was nevertheless disingenuous of Comte to have said that the priesthood would renounce 'power,' for his very emphasis on the Religion of Humanity, a derivation from his former *(xxiii) (St. Simon) master's ideas on religion suggest that the priesthood were to retain the supreme moral power in society.

Otherwise it is difficult to see how the priesthood could act as the guardian of the 'Positivist Society' without some form of sanction, apart from the moral one.

The second patrician sub-class was composed of administrators who, like all the members of the patriciate were to be educated in the positivist schools. Their function was to administer society, an echo of St. Simon's *(xxiii) comment that government in the 'new society' should consist of the 'Administration of Things'

*(xxiii) Claude-Henri de Rouvroy, Comte de Saint-Simon (1760-1825) Comte, from 1817 to 1824, acted as Saint-Simon's secretary, junior collaborator and 'adopted son.' There is no doubt that he was greatly influenced by St. Simon's works.

"Introduction aux scientifiques du XIX siècle," (1807-1808) and the "Memoire sur la science de l'homme" (1813), both attempted to construct the 'positivist' or 'scientific' methodology of the sciences, (The Universal Science). "L'industrie" (1816-1818), to some extent, gave an outline of the Positivist programme, including the industrial nature of the future society.

Finally Comte collaborated with St. Simon in the writing of "L'organisateur" (1819-1820), it was he who wrote the "Systeme de Politique Positive" which formed the third 'cahier' of the work.

It must be noted also that Comte's later emphasis on religion had a similar counterpart in St. Simon's work, viz. "Nouveau Christianisme" (1825). "In new Christianity all morality will be derived directly from the principle that Men should treat each other as brothers."

*(xxiv). There would be no conflict between the administrators and the priesthood, for they would not represent two conflicting powers, as in the Medieval/period, but rather they represent two *(xxv) 'capacities.'

The final patrician class consisted of the managers of industry. They would run the means of production in society; although they would keep their allodial rights, yet they would only be sanctioned to run 'industry' for 'humanity' and for their own profit, under the penalty of sequestration. Comte's views of the functions of the managerial class to a certain extent reflect *(xxvi) Enfantin's exposition of certain implications within St. Simon's doctrines concerning his 'new industrial society.' The State as the 'Social Institution' will allocate capital, through a system of central and industrial banks, to those best able to use it productively. Hence managers and bankers would only be entitled to higher profits and salaries, if their stewardships are carried out properly. Comte, as well as St. Simon and Enfantin, was explicit about the liquidation of the Anarchy of free competition. Just as with Society, Industry would be administered in a scientific and technical manner. It must be noted, however, that Comte did not really give an outline of the organization of industry, nor, unlike Enfantin, did he put forward any concrete economic theory.

*(xxiv) The quotation was later used by Karl Marx.

*(xxv) 'Organisateur,' O.C. Vol. XX, page 85. The article was written by Comte. (capacity has the meaning of role).

*(xxvi) Enfantin was a prominent follower of St. Simon. He became one of the members of the "College of six Apostles," which dedicated itself to the development and exposition of St. Simon's works.

The theories on industrial management were put forward in a series of lectures given at the end of 1828.

This chapter has attempted to give a brief sketch of Comte's 'Positivist Society;' no attempt has been made to evaluate it. Nevertheless, it will be argued in the fourth chapter of this section, that Comte's works provided a 'developmental theory' of society which was attractive to foreign intellectuals. In particular it would have an appeal to intellectuals from countries which, like France, had not undergone a full-scale industrialization and which were suffering from political or social instability.

CHAPTER THREE.THE SCHOOL OF SCIENTIFIC POSITIVISM.

The previous two chapters have attempted to encapsulate the philosophical and political systems, developed by Auguste Comte. These formed the formal doctrines of what can be termed the 'Orthodox School' of Positivism. It is now necessary to give a brief examination of the second school of positivism, the so-called 'Scientific School' whose doctrines though derived from Auguste Comte, had been to a certain extent reshaped by his one-time putative successor Emile Littré. The importance of this group is that it offered a democratic 'version' of positivism as against the 'semi-theocratic' exposition of Comte. Justo Sierra himself in the *(i) Political Evolution of the Mexican People' has pointed out that its views had considerable influence on some of those Mexican intellectuals who were considered Positivists.

Littré, after having gained eminence as a philologist, physiologist and as a researcher on medical topics, became a convert to 'positivism' in 1840. The main reason given for his attraction to positivism by Littré was that it provided the link in 'the great chain of human knowledge.' Specifically he saw the explanation of the development of knowledge, as having been provided by the 'Systeme de Philosophie Positive.' Indeed Littré immediately started to disseminate Comte's works in a newspaper, 'Le National' through series of articles in 1840, commencing with the 'Analyse raisonnée du Cours de Philosophie Positive' 'd'Auguste Comte' which was a precis. of the 'Cours.'

*(i) Originally published as a set of articles forming part of the "Social History of the Mexican People" (3 Volumes), Mexico D.F., 1904.

*(ii) "Monsieur Comte was not mistaken in the importance of what he sent me. A conflict arose in my mind between my former opinions and the new ones. The latter won..... I thenceforth became a disciple of Positive Philosophy."

Nevertheless, despite Littré's ardent devotion which was life-long, within five years, a rift developed between him and Comte which was to fracture the Positivist Movement.

The philosophical reasons for his divergence from Orthodoxy are clearly traced by Littré in 'Auguste Comte et la Philosophie Positive,' first published in 1853. Littré divided Comte's work into three distinct periods, ending 1842, centred on the conception of the 'Positive Philosophy,' through which Comte created the science of history. The second stage 1842 - 1845, consisted of the implementation of the conception of 'Positive Philosophy.' The final stage, as seen by Littré, consisted of Comte attempting to express what was implied in the 'Cours' and thus deriving a religious and political system (The System of Positive Polity.) It was the conclusions that Comte drew during this final period, that Littré felt unable to accept.

Littré considered that in this third phase of his work, Comte made the grave error of substituting the objective method of analysis, employed in the cours, by the subjective method, as evinced by the 'System of Positive Polity.' Comte was correct in viewing the 'Positive Philosophy' as the system which contained all that was known concerning the world, man and society, and that it provided a method which encompassed all the means of

*(ii) "Auguste Comte et la Philosophie Positive"
Preface pages 1-2. De la Hays, 1859.

obtaining Knowledge. Further Littré agreed with Comte that certain phenomena were unknowable, though this did not mean that the inaccessible meant the non-existent.

Nor did Littré disagree with Comte in his belief that the Positivist conception of the World and Society necessitated the development of a new social order. This of course meant the renovation of society which would come about through.

*(iii) "The active move toward reducing the place left to old opinions....."

Indeed there was no disagreement over the process of renovation, needing the development of a new spiritual power which derived from 'positivist' ideas, concerning the nature of society and which would be responsible for a totally new educational system, the rock-bed, according to Littré, of the Positivist Society. It was at the point, where Comte replaced the word 'philosophy' by 'religion' and the term 'Spiritual power' by the term 'Religious power.'

*(iv) "His language changed in the years which followed 1845. He openly repudiated the word 'Philosophy' and transformed it into 'religion' and in his view, spiritual power became true religious power."

Religion and philosophy were not synonyms of each other! Religion implied the existence of a priestly caste, a body for which Littré could see no role. Furthermore Comte had created a new deity 'Le Grand Tout' (The Great Everything) who acted as an arbitrator between the universe and the individual. The 'Religion of Humanity' was a complete anathema to Littré who was

*(iii) Ibid. Preface page 2.

*(iv) Ibid. Page 509.

an agnostic and whose family background had been somewhat anti-clerical. The love of humanity, implied in the 'Positivist' attitude *(v) "encompassed and surpassed christian love" and it did not need to be an object of worship.

Littre concluded that the principal origin of these erroneous assertions on the part of Comte, stemmed from his use of the deductive or subjective method of analysis. The subjective and objective methods proceeded by means of *(vi) "Consequence" and "enchaînement," but neither the starting point nor the system of "consequence" and "enchaînement" were the same. The subjective method started from an 'a priori' conceptualization. The objective method was based upon experience. Yet Littre himself admitted that the error of using the subjective method was implicit in Comte's work of the second period. It was a natural development of the work done between 1842-1845 on the preparation of the 'System of Positive Polity.'

It must be pointed out that the major initial reason for the rupture between Comte and Littre was political rather than a disagreement over philosophical methods, though probably personal issues were also at stake. It appears from his writings that Littre could not accept Comte's endorsement of Louis Napoleon's 'Coup d'état' of 1851.

Littre, a strong republican, had supported both the 1830 and 1848 Revolutions, and consequently was unable to accept Comte's willingness to sacrifice the Liberties of the second Republic, though in

*(v) Ibid. Page 511.

*(vi) "Life and Works of Littre" - Quarone, Page 39 and 46.

Comte's eyes such an attitude represented a 'metaphysical' re-lapse on the part of Littré. Once the break had occurred, Littré considered it necessary to re-examine Positivism.

*(vii) "... submitting to the control of the positive method, all that he (Comte) had pronounced during the latter part of his life and that I had taken on trust."

This re-examination, as has been seen led to Littré and his group rejecting the 'system of Positive Polity.' The result was that Littré and his associates such as G. Wyrouboff, an expatriate Russian scientist, attempted to purify positivism by removing the religious and authoritarian tones imbued in it by Comte. The major vehicle of this renovation of positivism was the journal 'La Philosophie Positive,' founded by Littré and Wyrouboff in 1867. In content, it compared very favourably with the 'Revue Occidentale,' started in the 1870's by the Orthodox School. It not only contained non-positivist articles but it also reviewed anti-positivist works. This policy was derived from Littré's attitude that Positivism, as a system, should triumph through debate and not be coercion.

Littré himself tried to define the parameters of positivism, notably in his defence of it as a system against Herbert Spencer's criticisms, expressed in their most cogent form in the essay *(viii) "Reasons for Dissenting from the Philosophy of M. Comte." Spencer had commenced his criticism of Positivism by attacking the viability of the *(ix) 'classification of sciences.'

*(vii) Auguste Comte et La philosophie Positive, Page 512.

*(viii) "Reasons for Dissenting from the Philosophy of M. Comte" was originally published in 1864 as an 'appendage' to the 'Classification of the Sciences. In the chapter, dealing with Spencer's criticism, the Glendessary Press edition of the essay is used.

*(ix) Spencer's ideas concerning the development of the sciences can be found in his work "The Classification of the Sciences."

Spencer argued that there was a definite contradiction between Comte's hypothesis relating to the 'scientific series' and the historical development of the sciences themselves.

This criticism led Littré to re-assess the fundamental concepts of positivism, particularly in relation to the 'classification' of the sciences.¹ Indeed to overcome certain of Spencer's criticisms, Littré altered some of Comte's original tenets. Interdependence as a factor was introduced into the theory of the development of the sciences.² In this context, the terms 'series' and 'evolution' were more rigorously defined by Littré, Comte had virtually used these terms as synonyms for each other.

*(x) "The evolution of the sciences is the way by which human knowledge reaches for greater and greater general and abstract truths..... The 'series' of the sciences is a classification by which each of them depends on the preceding science and itself is the dependant basis for the succeeding (science)."

More significantly Littré changed the emphasis of positivism. The emphasis was placed on the positivist method rather than on the results it produced, this divergent attitude is apparent in his commentary on the 'Cours.'

*(xi) "..... at the same time a system which comprehends everything that is known about the world, man and societies and a general method including within itself all the avenues by which these things have become known....."

*(xii) "the real originality of Comte's philosophy is in its method far more than its doctrine....."

This did not mean that Littré or his associates denied that an important function of Positivism was to reconcile scientific

*(x) 'Reasons for Dissenting from the Philosophy of M.Comte.'
Page 293, 294.

*(xi) Ibid.

*(xii) Ibid.

speculation with the government of mankind. Nevertheless the emphasis was on positivism as a unique methodology.

The significance of this change of stress cannot be overstated. Comte had derived a particular social and political structure from his initial philosophy, which he expounded in the 'System of Positive Polity.' Littré excluded deliberately the latter and instead stressed the role of the 'positivist' method. This meant that different types of society could adopt the 'positivist' outlook, though he himself favoured a 'moderate' democratic society.

*(xiii). Thus the direct social and political aspects of Comte's works were avoided, 'Positivism' would no longer be an all embracing philosophy, but just the final developed philosophy of science which could be used as a universal method to tackle problems, whether they were scientific or social. Thus a believer in the democratic political evolution of society, such as Jules Ferry, could be a 'disciple' of positivism. Indeed Littré hoped that its general application would lead to social and political harmony. This is implicit in his book, 'Philosophie Positive,' in which among other topics he analysed, were 'Progress in Societies and in States,' 'Modern Industrial Society' and 'Socialism.' In his discussion of the evolution of modern societies and of the modern state apparatus, he concluded that there was a twofold trend. These were the increasing Liberty of the individual and the increasing power of the State.

*(xiii) In the elections in France, Littré was elected a deputy for the department of the Seine. At that date he was regarded as a Left-wing Republican and was seen as a member of that heterogeneous Left-wing group representing Paris, including Victor Hugo and Garibaldi.

- *(xiv) "..... in short, the more general the affairs of state become, the more they become governed by laws, and sometimes the security of the individual, under its protection, is increased. It follows that the state becomes more 'Loyal' in its transactions, more humane in its operations, more organized in its processes."

Littre's acceptance of Dupont-White's theory, clearly showed the former's political productivities and in what direction he saw societies developing and also to what end the positivist method would be used for. Furthermore in his chapter on the 'development of modern industry,' he set down the proposition that industrialization led to the incorporation of the working classes into the fabric of the social and political community.

- *(xv) "Finally, as the feudal state had definitely collapsed..... industry became the agent of unlimited and fully competitive production. Thus according to the times, the worker is a slave, a corporate man, a citizen of the commonwealth."

It would appear therefore that Littre and hence the scientific school were in the mainstream of Liberal bourgeois political thought and of the advocates of Industrial Capitalism as the agent of social integration and of limitless economic wealth. This view however, is not wholly confirmed by Littre's discussion of

- *(xvi) Socialism in which he had argued that the working classes had become economically emancipated through the growing industrialization of France.

- *(xvii) "..... it came about that the religious, patrician and military castes were supreme..... This regime subordinated work and the workers. The industrial state draws them out from this state of subordination."

- *(xiv) "Philosophie Positive" Page 183. The French 'Loyal.'
 *(xv) "Philosophie Positive" Page 188.
 *(xvi) This article appears in Littre's book "Philosophie Positive," but see appendix I for a review of what he meant by socialism.
 *(xvii) Ibid. Page 380.

He did argue that this 'amelioration of the working classes' position was not complete, though he felt that in a democratic society, a virtual concomitant of the industrial society, the ameliorative process would quicken in pace. Furthermore he envisaged through the development of education, the growth and spread of co-operatives as the unit of production which would give the working classes a greater share of wealth than they at present enjoyed.

*(xviii) "... in the face of such manifestly overwhelming results, one wonders why co-operative societies do not multiply on all sides. In fact for the moment, co-operative societies are limited their extention.... by conditions dependent on the state of education of the workers."

The scientific school can therefore be differentiated from the Social Darwinists, in that it adopted a new favourable outlook towards the trend of government increasing its powers and it envisaged a considerable *(xix) modification in the capitalist structure which could be hastened on, by the spread of the positivist method to tackle social and political problems. The latter, however, was not to be imposed from above as this would destroy the Kernel of Liberty, *(xx) 'public debate, free discussion and the freedom of the press.' These attitudes markedly distinguish Littré from Comte. Comte had developed a system which was *(xxi) 'complete' and which envisaged an authoritarian semi-caste system, to which the community and its life was to be subservient. It was to be a static society, for it was to be the final culmination of social evolution. In contrast, Littré

*(xviii) Ibid. Page 381.

*(xix) Neither Littré or Comte expressed any enthusiasm about 'Laisser - faire' capitalism.

*(xx) Ibid. Page 183.

*(xxi) Comte's system was more all-encompassing in nature than Littré's view of positivism.

only proposed a methodology which would be the unique aid in the continuing development of societies, both politically, economically, socially and in the sphere of science. The question of how these expositions could be fitted into an ideological framework in Mexico will be discussed in part two.

It will have been seen that Littré emphasised the methodological aspect of positivism and hence his main aim was to refine it. This, in his opinion necessitated the further development of the scientific and philosophical substructure of positivism. In the view of the scientific school, Comte had left gaps in his review of the sciences, in particular the fields of political economy, psychology, aesthetics and ethics.

Although Littré and his collaborators had thus agreed on the purification of positivism, they were not sure how definitive, the two basic positivist principles, the 'Law of the Three Stages of History' and 'The Classification of Sciences' were. Comte had stated that he had derived them empirically. If this was the case, they could be disproved theoretically by further scientific investigation which might reveal facts which ran counter to Comte's laws. The result would be the fatal undermining of positivism. If however these two laws were purely deductive, they would require proof.

The basic position of the 'scientific school' was that philosophy could only co-ordinate the findings of the sciences and when doing so, it had to employ the scientific method. This view, unfortunately presented several difficulties which were in the main due to Littré's whole-hearted acceptance of the philosophical framework, set out in the 'Cours de Philosophie Positive.' These difficulties would become explicit, if new scientific discoveries began to undermine Comte's philosophical substructure.

Such a situation did occur in the sphere of biology, with the exposition of Darwin's theory of natural selection.

Littre and his associates considered that Darwin's theory of evolution as no more than an hypothesis, though they did claim to have a neutral position on the matter as it was considered to be a purely biological argument.

Nevertheless that part of the course which dealt with biology, had been written without the benefit of Darwin's research. It must have been clear that if Darwin's theory was generally adopted, many people would become dubious about a scientific philosophy that took no account of it.

Littre and his followers were dedicated, nevertheless to the development of Positivism and the positivist method through debate and discussion and hence its propagation through these same methods. This 'open' attitude contrasted strongly with the more 'esoteric' and 'doctrinaire' approach of the Orthodox School. This clash of approaches was as much a test for differentiating the two schools as any doctrinal differences. This contrast between the 'patriarchal' approach and the 'open-debate' method has a definite and, as will be argued, significant parallel to the conflict in approaches towards the syllabi of the higher-education colleges (Preparatory Schools) in Mexico between Gabino Bareda and Justo Sierra.

CHAPTER FOUR.POSITIVISM AS A DEVELOPMENTAL THEORY.

An outline of the doctrines of the two main 'schools' of Positivism has been set out. It is now necessary to examine how far Positivism offered the basis of a developmental theory of society which would be attractive to intellectuals from outside France. The central core of Positivism is essentially a theory of evolution. Each of Comte's four 'sociological' laws described an evolutionary process, whether as in the case of the 'positive' development of the sciences or in the case of the history of the dominant elites in society. The main conclusion which was drawn from these laws was, that the 'Positivist' society was inevitable, not only in France, but also in the whole of the 'Super-Western' society which included Latin America.

. Yet the 'Positivist' society's advent could be brought closer through the application of certain means, together with particular historical circumstances, especially in the existence of a dictator and a strong body of Positivist intellectuals. The new society could be obtained without sacrificing 'order,' but at the same time, progress of a scientific and economic nature would be encouraged. These two words 'Order' and 'Progress,' derived from the motto of the Orthodox School of Positivism, are perhaps the key to the attractiveness of the 'Positivist Doctrines.'

*(i) "Love for Principle, and Order for Basis; --
Progress for End."

*(i) "Religion of Humanity" -- The Annual Address --1-1-1898
(London). The address was made by Richard Congreve.

It offered seemingly the possibility of a polity, based on an ordered society directed by a stable government provided by a scientifically managed administration with the promise of economic progress by means of industrialization. Furthermore the fact that positivism was developed in France would appear to have been a feature that commended itself to Latin American intellectuals such as Jorge Lagarrigúe of Chile, Eduardo Wilke of the Argentine and Teixeira Mendes of Brazil. France, unlike Great Britain, had many of the social and political features which characterized countries like Mexico and the Argentine. It was still a predominantly rural country with only pockets of industry, and as such it had still powerful aristocracy and clergy, who though shorn of much of the power which they had prior to 1789, were, notwithstanding powerful social and political forces, as witnessed by the 1870 Election. Furthermore the recent political history of France from 1789 to 1851 had shown up a similar political instability that marked most Spanish American Countries during the same period. With similar problems to solve, such as ensuring progress towards the level of prosperity and power of industrialized countries and at the same time securing 'Order,' itself a desired objective, it can be appreciated why 'positivism' should seem so attractive to Mexican, Chilean and other Latin American intellectuals. Yet Positivism could only become acceptable, if it fitted in with the intellectual and cultural continuum of those countries.

Ricaurte Soler, in his analysis of *(ii) 'Argentinian Positivism' has made the important point that the intellectual environment of the Argentine had already been strongly influenced

*(ii) "El positivismo Argentino." Published by Paidós.

by the works of French Philosophers and writers, prior to the introduction of positivism. Indeed the works of these *(iii) authors, including the 'scientific Methodology' of St. Simon, Comte's direct precursor, were fairly widely circulated and studied even prior to the *(iv) 'War of Independence.'

During the 1830's and the 1840's the dominant philosophical systems amongst the Argentinian intellectuals were French eclecticism, introduced by Amedee Jacques and the psychological theories of Fernandez de Aguerro, a continuator of the system developed by Destutt de Tracy. Even on the non-academic level, newspapers of a liberal and anti-clerical nature such as that of Alberdi and *(v) Echeverria which was published in 1837, were promoting policies and objectives which supposedly aided social progress and which were claimed to be based on scientific principles.

*(vi) "Clear and uncomplicated ideas, without metaphysics, in the reach of everyone..... In this we shall be 'positive'..... The prose, for us, will not be Virgilian or Ciceronian, it will be a particular method of expression, it will be the social ideas and interest....."

*(iii) The Enlightenment writers strongly propogated the merits of scientific and technical studies, in particular their attachment to Newtonian Physics was significant in the transmission of the concept of the scientific method.

*(iv) Esteve Barba and Barrera Laos, in their respective works, "Historia de America," Tomo XVIII-La Cultura Virreinal" and "La Vida Intelectual del Virreinato del Peru," have pointed out the ease with which scientific and economic ideas and works were transmitted from Europe, via Spain, to the latter's colonies. Even advanced political and philosophical works and ideas made the journey from France to Spain and to Spanish America, despite the supposed vigilance of the Inquisition and the Customs Officials.

*(v) Esteban Echeverria himself, was a promotor of the doctrines of St. Simon, as was Bernado Ribodavia. The fact that St. Simonian Socialism had an impact on Latin American intellectuals is significant, for St. Simon's philosophical system formed a 'half-way' house to Positivism. Thus José Victorino Lastarria, a Chilean intellectual and politician was first a follower of St. Simon, and then of Comte and finally of Littré.

*(vi) Part of the editorial published on the 18-11-1837, quoted in "El Positvismo Argentino."

It is Soler's proposition that the influence of Positivism would not have been so widespread, if it had had no connecting links with the ideas and patterns of thought of the previous half-century. This conclusion may well be a 'cliché,' but it is one overlooked by Zea in his study of Mexican Positivism. Zea tended to see Positivism as a foreign philosophical system, with no really genuine connection with previous Mexican intellectual thought, which was adopted mechanically as the then current ideology of the Mexican 'bourgeoisie.' Soler's argument is certainly more acceptable than Zea's conclusion. Positivism's influence, if it was of any significance, could only have come about, because the cultural 'soil' was propitious for it. This conclusion unfortunately must remain as an assertion, and no more, though it is an area upon which some research could be carried out.

The final and superficially, perhaps, the most attractive feature of Positivism lay in Comte's analysis of the history of western society. The threefold division particularly attracted many intellectuals of the mid-to-late nineteenth century, as it appeared to mirror exactly the Latin American historical experience since the sixteenth century, as will be shown later. The theological period was reflected in the colonial era, in which the power of the landed classes and the clergy was paramount, while the post-independence phase with its conflict between the 'clerical' conservatives and the 'anti-clerical' Liberals, seemed to reflect Comte's transition stage, the metaphysical period. Significantly, Positivism came to the fore at the time, when in several Latin American countries, conservative forces were seemingly on the defensive.

*(vii) It seemed at last that the final phase of historical development was about to commence.

*(vii) The end of the rule of the 'pelucones' in Chile in 1861, the 1863 Río Negro charter in Columbia, the Liberal victory of 1867 in Mexico, all suggested a defeat of conservative forces throughout much of South America.

CHAPTER FIVE.THE RELATIONSHIP BETWEEN 'POSITIVISM' AND SPENCER'S
'SOCIAL DARWINISM.'

There are two outstanding features in the dissemination of Positivism in Latin America. The first concerns the attitude towards Comte's later emphasis upon the 'Religion of Humanity,' adopted by the Latin American Positivist intellectuals.

*(i) Brazil appears to have been the only country in which all the tenets of the 'Orthodox school' of Positivism were accepted whole-heartedly by Positivists. This acceptance was demonstrated by the founding of the 'Church of Humanity' in Porto Alegre and the exposition of religious Positivism by two of the three leading nineteenth century *(ii) Brazilian Positivists, *(iii) Miguel Lemos and *(iv) Teixeira Mendes.

*(i) The 1891 Brazilian Republican Constitution, itself was written mainly under the influence of Positivism through the labours of Teixeira Mendes, Lemos and principally Julio de Castilhos.

The constitution of Rio Grande do Sul (14th of July, 1891) itself was most definitely a Positivist document and as such, is given amongst the appendices.

Paradoxically, unlike Comte, Brazilian Positivists were liberal and to a certain extent, democratic in their concept of the ideal political system.

*(ii) The third leading Brazilian Positivist was Benjamin Constant Botelho de Magalhaes (1830-91). In 1852 he became the Mathematics Professor at the Brazilian Military Academy which according to German Arciniegas, had a growing positivist influence by the 1850s. Constant immediately set out to teach his cadets the Positivist Philosophical system. Without doubt the Republican attitude amongst the Empire's officers was derived from the Positivist indoctrination, which they received at the Academy.

Constant initially was an adherent of the 'Religion of Humanity,' though later he adopted a Littrean stance and rejected the former.

Information on Constant's Positivist Republican attitude can be gained from 'O Ideal Republicano de Benjamin,' published in 1936 in Rio de Janeiro and edited by Nelso Garcia Nogueira and J. Modesto Lima.

*(iii) c.f. Appendix I^a

*(iv) Idem.

Moreover Jorge Lagarrigue, the Chilean, later a French Positivist, was also an adherent of Religious Positivism, though his major work *(v) 'To a Republican Dictatorship' does not clearly emphasise the religious side of his beliefs. Other Chilean Positivists such as *(vi) Francisco Bilbao and José Lastarria, however, were very much non-believers in the 'Religion of Humanity.' Indeed in the two other countries where Positivism could claim a large intellectual following, Mexico and the Argentine, the 'Religion of Humanity' had no impact whatsoever. It was never mentioned by either Gabino Barreda or *(vii) José Ingenieros, the two leading positivists of their respective countries. Positivism was seen as an anti-conservative, hence anti-clerical a secular philosophy. Yet, another factor was of importance in the distinctive differences between Brazilian Positivism and that of the Argentine and of Mexico, and in part explains the first difference. This was the impact of Spencer's social Darwinism.

It is clear that in both Mexico and the Argentine, by the 1860's, Positivism was certainly not being expressed in its original terms. Soler has isolated two main trends in its exposition in the Argentine. One he calls the 'bio-psychological system,' developed by *(viii) Florentino Ameghino in 'Mi Credo' which expounded a psycho-cosmological theory, more akin to the theories of Democritus than to those of Comte and

*(v) "A Ditadura Republicana" - 'Segundo Augusto Comte' by Jorge Lagarrigue, translated into Portuguese by J. Mariano de Oliveira from the original French. Published in Porto Alegre by the 'Escola Técnica Parobe.'

*(vi) Francisco Bilbao (1823-1865).

*(vii) José Ingenieros (1877-1925). He began as a follower of Spencer, but then he became a Positivist, after he came under the influence of Italian Positivism.

*(viii) Florentino Ameghino (1854-1911). 'Mi Credo' was written in 1905. His collected works were published in 1915 under the auspices of the provincial government of Buenos-Aires.

Carlos Bunge. The other emphasis, he calls the biological exposit-
-tion, whose leading exponent was Ingenieros. The pattern in
Mexico was similar. The reason for this transformation is simple,
Positivism came under the influence of other philosophical doctrines,
particularly those of Spencer and Oswald Spengler. (Spengler
1880-1936).

Arciniegas has called this transformation, the rise of 'Spencerian
Positivism.' Indeed in certain cases, it is difficult to see why
specific intellectuals such as Macedo, taken by Zea as a typical
Mexican Positivist, were seen as Positivist at all. This confusi-
-on of regarding Social Darwinism as an aspect of the Positivist
Philosophical system is understandable. They were both 'evolut-
-ionary' systems, they were supposedly based upon the 'scientific
method,' though positivism had the *(ix) disadvantage of having
been expounded prior to the publication of Darwin's 'Origin of
the Species.' Yet the two systems were clearly separate and to
a great extent antagonistic philosophical systems, and both
Littre and Spencer were quick to acknowledge this.

*(x) "The disciples of M. Comte think that I am much
indebted to him, and so I am, but in a way widely
unlike that which they mean, save in the adoption
of his word 'altruism,' which I have defended, and
in the adoption of his word 'sociology,' because
there were no other available words..... the only
indebtedness which I recognise is the indebtedness
of antagonism..... What to think, is a question in
part answered when it has been decided what not to
think....."

*(ix) The sections on the science of biology were based upon
Jean Baptiste Pierre Lamarck's (1744-1829) work.
The fact that the "Classification of Sciences" was completed
prior to the publication of Darwin's investigations was very
damaging to the viability of Comte's system. If biology was
revolutionised by this new theory, could not new advances and
discoveries occur in the other sciences. In that case, the law
of the "Classification of the Sciences" would be in 'tatters'
and as it was a corner-stone of Comte's system, that also would
collapse. Herbert Spencer was quick to attack this major weak
link in Comte's philosophical edifice, and despite Littre's
attempt to shore up the latter by arguing that the 'Origin of
the Species' was only a hypothesis (Simon), undoubtedly a slow but
mortal blow was inflicted upon Positivism in its pure form.

*(x) Autobiography, Vol.I pp.517-18, quoted from the introduction
of Spencer's 'The Men Versus The State' page 20 (Pel.Ed. 1969)

- *(xi) "There are others who reject all his (Comte) distinctive doctrines; and these must be classed as his antagonists..... Declining his re-organisation of scientific doctrine..... In this class stand the great body of men of science. And in this class I stand myself."

It may well be that Mexican Positivism, like that of the Argentine, developed into a form of Social Darwinism, but to call this Positivism as Zea does, is distorting. The political and social implications of the two systems were distinct as were their respective doctrines.

Donald Macrae, in his introduction to 'The Man Versus The State' by Spencer, has pointed out that whereas Comte's positivist society is expressed in a collectivist context, Spencer's were set in the context of extreme individualism. Comte's unit was society, whereas Spencer wrote about the 'individual' and 'freedom,' terms which did not often appear in Comte's works.

- *(xii) "M. Comte's ideal of society is one in which government is developed to the greatest extent, in which class-functions are far more under conscious public regulation than now..... That form of society towards which we are progressing, I hold to be one in which Government will be reduced to the smallest amount possible and Freedom increased to the greatest amount possible..... one in which the spontaneous co-operation which has developed our industrial system, and is now developing it with increasing rapidity will produce agencies for the discharge of nearly all social functions, and will leave to the primary governmental agency nothing beyond the function of maintaining those conditions to free action..... and in which social life will have no other end than to maintain the completest sphere for individual life."

- *(xi) "Reasons for Dissenting from the Philosophy of M. Comte" page 6. (Glendessary Press 1968).
- *(xii) Page 17, "Reasons for Dissenting from the Philosophy of M. Comte."

The difference between their respective doctrines were not just concentrated in their views concerning the ideal society, but it is evident in their views on the development of knowledge.

Propositions held by, M. Comte. *(xiii) "..... each of our principal conceptions, each branch of our knowledge, passes successively through three different theoretical stages....."

Propositions which I hold. The progress of our conceptions, and of each branch of knowledge, is from beginning to end intrinsically alike. There are not three methods of philosophising radically opposed; but one method of philosophising which remains, in essence, the same....."

Spencer by denying the initial viability of the 'Law of the Three Stages,' also denied the rest of Comte's sociological laws, for all of them were dependant on a three-stage historical process, against this Spencer argued for a unitary process of evolution. Further Spencer attacked the validity of the 'Classification of the Sciences' on which Comte had based his statement that with sociology all thought had become 'Positive.'

*(xiv) "The sciences as arranged in this succession specified by M. Comte (Mathematics, astronomy, physics, chemistry, physiology and social physics) do not logically conform to the natural and invariable hierarchy of phenomena; and there is no serial order whatever in which they can be placed, which represents either their logical dependence or the dependence of phenomena."

*(xiii) Page 9, Ibid.

*(xiv) "Reasons for Dissenting from the Philosophy of M. Comte" Page 14.

This selection of differences between Comte and Spencer gives credence to Spencer's *(xv) contention that it was the core tenets of Positivism with which he disagreed. Indeed the gap between the two men can be most effectively seen in Spencer's attack on Comte's doctrine that ideas rule society.

*(xvi) "Ideas do not govern and overthrow the world: the world is governed or overthrown by feelings to which ideas serve only as guides. The social mechanism does not rest finally upon opinions; but almost wholly upon character. Not intellectual anarchy, but moral antagonism is the cause of political crisis."

Admittedly they were both evolutionists, but evolutionist convictions were common throughout most of the nineteenth century.

Briefly Spencer's doctrines can be examined in terms of his assertion of the organic structure of society and of his core concept of 'Social Evolution.' Spencer clearly states his organic view of society in the 'First Principles.'

*(xv) Spencer claimed that the doctrines and ideas which he held in common with Comte, were shared inheritance from previous thinkers. This common knowledge can be divided into three principal assertions.

- (1) "All knowledge is from experience (Ibid page 6).
- (2) "..... that all knowledge is phenomenal or relative (Ibid Page 7).
- (3) "M. Comte reprobates the interpretation of different classes of phenomena by assigning metaphysical entities as their causes; and I coincide in the opinion....."

These doctrines were, as Spencer claimed, propositions common to those philosophers who believed in the scientific method, thus the first proposition was enunciated by Francis Bacon, the second was affirmed by, among others, Spinoza, Bacon, Newton and Kant, whilst the third was a common assertion of the Enlightenment.

*(xvi) Ibid, Page 13. Comte's doctrines can be simplified down to the concept of a dialectic thought. Spencer had in no case a dialectical theory of any sort.

*(xvii) " Are the attributes of a society..... or are they in any way like those of a living body? The second question..... is to be answered in the affirmative Nevertheless..... living bodies and societies so conspicuously exhibit augmentation....."

Society, like an organism grows, but it also grows in terms of structure through increasing functional specialisation. Again the comparison was with living organisms, a simple society could be compared with a single-celled amoeba, for there is no division of labour; as with the amoeba, all the different dunctions are carried out by the individual. With a more complex organism, such as a fish or a mammal, different organs have different specialised functions. A similar situation in Spencer's view, occurred in the case of Societies. The more complex a society was, the greater the specialisation of functions, as could be seen through the advent of the division of labour. Further, because of their organic natures, societies, like all living beings, were subject to extinction or to evolution.

It was impossible for societies to remain in a static state, they either had to progress through natural change or decay and die.

*(xviii) "It is also a character of social bodies, as of living bodies, that while they increase in size they increase in structure. Like a low animal, the embryo of a high one has few distinguishable parts multiply and differentiate. It is thus with a society. At first the unlikeness among its groups of units are inconspicuous in number and degree; but as the population augments, divisions and sub-divisions become more numerous and more decided. Further, in the social organism as in the individual organism, differen-
-tiations cease only with that completion of the type which marks maturity and precedes decay....."

*(xvii) "The Inductions of Sociology" page 52 first published in instalments in 1876 as part of the 'System of Synthetic Philosophy.' This and the following quotations are taken from 'Reasons for Dissenting from the Philosophy of M. Comte and other Essays,' published by the Glendessary Press.

"(xviii) 'Reasons for Dissenting from the Philosophy of M.Comte,'" page 51.

It is in this situation that the concept of social evolution becomes important.

- *(xix) "Social growth usually continues either up to times when the societies divide or up to times when they are overwhelmed."

Social Evolution is seen as a 'War of all against all,' and as such its beneficent effects will only be achieved by a process involving pain and suffering. Like individual species, societies according to Spencer, were by nature, conservative, tending to stability, thence decay and hence extinction. Only through the struggles of its individual members against each other and against other societies, could a particular society evolve and advance.

- *(xx) "The fundamental facts to which all national judgments of utility must go back, are the facts that life consist in, and is maintained by, certain activities If each, having freedom to use his powers to the bounds fixed by the like freedom of others, obtains from his fellow-men as much for his services as they find them worth in comparison with the services of others..... if contracts uniformly fulfilled bring to each the share thus determined..... then there is maintained the vital principle alike of individual life and of social life....."

- *(xxi) "Further there is maintained the vital principle of social progress; in as much as, under such conditions, the individuals of most worth will prosper and multiply more than those of less worth. So that utility not as empirically estimated but as rationally determined, enjoins this maintenance of individual rights; and, by implication, negatives any course which traverses them."

*(xix) Ibid Page 51.

*(xx) 'The 'Man Versus the State,' Page 181 (Pelican Edition, published 1969), first published 1884. Its aim was to attack the growing interference of Parliament in terms of social legislation, in the 'Social domain.' Essentially it can be seen as a defense of the tenets of the 'Manchester School' expressed in terms of Social Evolution. Indeed, Spencer himself saw the book as an attack on the New Toryism, symbolised by 'government paternalism,' and a defence of Liberalism, symbolised by 'the freedom of the individual' and the industrial society as against the 'military society,' associated with Toryism.

*(xxi) Ibid, Page 181.

Any action by the state to ameliorate the so called 'ills of society' which were really the symptoms of evolution itself, by quenching the mechanism of social struggle, would thwart the very process of social evolution, as the fittest societies were those which contained the fittest individuals.

There is no need to discuss in detail the ideological implications of Spencer's system of philosophy. It is a clear expression of laissez-faire Liberalism, developed at a time when growing criticisms of the social results of the British Industrial Revolution were bearing their 'first fruits' in terms of socially-ameliorative legislation, however inadequate it was. The appeal of Spencer's doctrine as against Comte's System, lay in its comparative simplicity. Spencer's view of social development was certainly less complex than Comte's dialectical system, further it was seemingly supported by the evidence of 'biological evolution.' If man was just a superior type of animal, he would be subject like the animals, to the 'Law of Evolution' and this Law would also cover the aggregate units of humanity (societies).

The inference would therefore be that the highest level of social development, then attainable, was the *(xxii) 'laissez faire' industrial society, in which social evolution could be given full reign.

In terms of a developmental theory, it was thus more attractive as a theory than Positivism. Its message was that the only way for a society to progress and hence become a *(xxiii) power,

*(xxii) Laissez faire in terms of social-economic relationships. In terms of trade, the doctrine might be adulterated to some extent, to incorporate a mild form of protectionism.

*(xxiii) I.e. to ensure that the society does not become dominated by outside interests or 'Powers.'

was to encourage 'laissez faire' Capitalism which would at the same time hasten the demise of backward elements, as in the case of Mexico, the unintegrated Indians and peasants and the semi-feudal landowners. The reason for examining Spencer's doctrines is to set a back-ground for analysing the hypothesis that the Mexican 'Científico' movement was as much influenced by social Darwinism as by 'Positivism'! Ricaurte Soler has pointed out the rise of what he called 'Spencerian Darwinism' in the Argentine during the last third of the nineteenth century. Indeed the question of whether the 'Científicos' did form a homogenous group is also raised. Deriving from this problem, is the question of whether *(xxiv) 'Cientificismo' formed a coherent developmental capitalist ideology which sustained the Porfiriato, must also be investigated.

.....

*(xxiv) Although the word was used frequently as an epithet of opprobium, its precise meaning was never actually defined.

The word was coined by Luis Cabrera (1876-1954), a leading Carrancista intellectual, and he himself meant by it commercial and financial monopoly Capitalism. A literal meaning would be 'scientism' or 'Scientificism,' neither really mean anything in English.

P A R T T W O.CHAPTER SIX.THE BEGINNINGS OF THE POSITIVIST INFLUENCE IN MEXICO.The 'ORACION CIVICA.'

This chapter will examine the first major impact of Positivism in Mexico, in its pure form. There is no doubt that the 1860's marked the period when Positivism seemingly became an important element in Mexican intellectual thought. Moreover, neither social Darwinism nor *(1) Giddings's psychological theories had yet made their appearance. The initial major exposition of 'positivist thought,' in Mexico, occurred in the speech given by Gabino Barrera *(ii) at Guanajuato on the sixteenth of September, 1867.

*(i) Josuah R. Giddings, born 6-10-1795 in Tioga Point, Pennsylvania, died 27-5-1864 in Montreal, Canada, where he was the U.S. Consul-General, he was an anti-slavery politician and a historian on the institutions of slavery. He believed that government should act as the means of uplifting the ethical life of the nation.

*(ii) Gabino Barrera, born in Puebla on the 19th-2-1818 and died on the 10th-3-1881. Initially he studied for a career in law, however he soon switched to medicine. Between 1847-51, he studied the latter subject in Paris. It was in Paris that he became a follower of Auguste Comte, having been introduced to the latter by another Mexican intellectual Pedro Contreras Elizalde.

Significantly he was a doctor, for it was with members of this profession that Comte initially found his most dedicated followers viz. E. Littré, Teixeira Mendes, Robin and Pedro Contreras Elizalde. Perhaps Comte's emphasis on the 'syncretic' sciences as the highest form of sciences, was the key to this situation, as medicine was one of the three syncretic sciences, biology and sociology being the other two.

Nevertheless, the introduction of positivism in Mexico predated the *(iii) 'Oración Cívica' by several years. Indeed it would seem that, if its introduction was to be pinpointed, it would lie with *(iv) Pedro Contreras Elizalde. Although this is the case, the 'Oración Cívica' marked the commencement of the overt rise in political importance of 'positivism' in Mexico and as such it formed the basis of the future development of Mexican 'Positivism.'

The theme of the "Civic Speech" was the 'Intellectual Emancipation' of the Mexican people in its threefold form, scientific, religious and political.

*(iii) of Appendix III. The 'Oración Cívica' was a speech given by Gabino Barrada to celebrate the final defeat of the Emperor Maximilian.

The text used for the quotations in the chapter is that printed in the commemorative publication 'Ley Orgánica de Instrucción Pública en el Distrito Federal,' published by the Universidad Nacional Autónoma.

*(iv) Pedro Contreras Elizalde, was born in Leon, Spain, in the year 1823 or 1824. His father was a pro-spanish Criollo from Venezuela. Contreras studied medicine in Paris, where under the influence of his Lecturers, Robin and Segond (another 'positivist' doctor) he became a follower of Auguste Comte. He returned to Mexico, his maternal home, in 1855. There he became the esteemed friend of Benito Juárez. It was almost certainly because of his great influence over Juárez that Gabino Barrada was invited to join the Committee on 'Educational Reform' in 1867. It can be said that the advent of political importance of 'Positivism' was due to this friendship.

*(v) "..... So which were those unconscious influences whose action..... could at one time fight..... later come out victorious against resistance which seemed insuperable? All of them could be reduced to one, one only--though formidable and decisive-- The Mental Emancipation characterized by the gradual decay of the old doctrines, and their progressive substitution by modern ones, decay and substitution which advancing continuously without a pause, end by creating a complete transformation before the latter's progress has been noticed by anyone..... Scientific, Religious and Political emancipation: here is the triple source of that powerful torrent which daily has grown and increased its strength....."

The interpretation of Mexican history, given by Gavino Barreda in his speech, was firmly based on Comte's view of Western history. In essence, it was the reformulation of the 'Law of the Three Stages of History.' It is significant that for Barreda, Mexican Cultural and Intellectual History began with the Spanish Conquest and not with the pre-conquest native civilizations. Unlike Justo Sierra, Barreda firmly set the history of the development of Mexico in a Hispanic, 'Western' context.

The Spanish Colonial period was seen as the *(vi) first, or 'theological,' stage, with the Clergy and the 'criollo' landowners being the two socially dominant groups in Mexican society.

*(v) Page 87 of the 'Ley Orgánica de Instrucción Pública en el Distrito Federal.'

*(vi) This view of the colonial system is entirely tenable, considering that the institutions and values brought over by the first generation of Castellians (This term is used deliberately as the new Viceroyalty was attached to the Kingdom of Castilla specifically) reflected the feudal system which was still dominant in Estremadura and Andalucía viz. the encomienda system.

- *(vii) "After three centuries of peaceful domination and of a system, perfectly blended to prolong, without end, a situation which attempted to maintain the 'status quo,' ensuring that education, religious beliefs, political (life) and the administration converged towards the same well-determined and obvious goal, the indefinite prolongation of a continuous domination and exploitation....."

The clergy was pictured as the most influential group, for it controlled the institution, education, which effectively maintained the colonial social system.

- *(viii) "When that priest-hood, armed at the same time with heaven's thunderbolts and temporal punishments, and supreme controller of all education, seemed to have 'tied-up' all the 'avenues' so as to not allow the *(ix) enemy access....."

Nevertheless the social-political and cultural structures of the colonial period were undermined. The major overt symptom of this transition occurred in 1810 with the outbreak of the War of Independence. The influences which caused this breakdown of the old theological order, were 'of course,' intellectual. The process was merely part of 'Mental Emancipation'; otherwise the victory of the Mexican people could not, according to Barreda, be explained logically.

- *(x) "..... characterized by the gradual decay of the old doctrines and their progressive substitution by modern ones....."
- *(xi) "If such an important event had not been prepared for beforehand by a concourse of slow and 'noiseless,' but real and powerful influences, it would be completely inexplicable, and it would not now be a historical deed but rather an unbelievable (fabulous) novel;....."

*(vii) (Oración Cívica) 'Ley Orgánica de Instrucción Pública en D.F. 1867-1967. Page 87.

*(viii) 'Oración Cívica,' Page 86.

* (ix) The 'enemy' is scientific thought and 'progress.'

* (x) 'Oración Cívica' Page 87 (cf. Footnote) *(v).

* (xi) Ibid, page 86.

Essentially Barreda's critique of Mexican history must be seen in terms of 'intellectual development,' for the 'slow and noiseless influences' were intellectual forces. 'Intellectual' has to be understood in the sense of general patterns of thought and attitudes, otherwise Barreda's critique, as well as Comte's, becomes meaningless rubbish. By their very nature, the new patterns were 'slow' and 'silent,' they were abstract forces and so, invisible, but because of their pervasiveness, they were 'real' and 'powerful.'

1810 was indeed the end of the old 'theological epoch,' yet Barreda pointed out that this had not meant the complete destruction of the previous dominant groups, the clergy and the landowners. It only heralded a transitional stage, Comte's 'Metaphysical stage,' during which both the old forces and the new forces fought each other for final dominance. In its political form, the struggle was between the conservatives and the liberals and was only concluded by the victory of the latter.

*(xii) "On the one hand the clergy and the army, ~~and~~ the remnants of the 'old' Order, and on the other, the emancipated 'intelligence,' "(xiii) impatient to expedite the future, entered into a terrible conflict which has lasted *(xiv) 47 years; a struggle sown with bloody and dismal scenes..... a conflict, during which the progressive party each time came to establish greater strength."

The conservative forces, though shorn of their privileges by the 1857 laws and of their political pre-eminence in 1861, were active nevertheless in their support of Napoleon III's adventure

*(xii) 'Onación Cívica' page 96.

*(xiii) The word intelligence refers to those who were 'modern-ists' in thought and attitude i.e. they had imbibed the 'scientific spirit.'

*(xiv) 1820-1867, from the setting up of the First Empire to the fall of the Second Empire.

*(xv). Yet the progressive group, under Juárez, was able to defeat and destroy Maximilian's empire, largely by themselves. The latter fact was for Barrera, the most significant point; the triumph of the progressive forces had been achieved without the interference of the United States and hence it represented a victory for self-regeneration.

*(xvi) "..... But the glory of Mexico has become ever more magnificent! Not one sabre of the American (U.S.) army has been drawn in favour of (xvii) 'The Republic,' not one of the White House cannon....."

Further it was not only that the independence of Mexico had been safe-guarded, but that at last the reactionary elements of society had been totally overcome. A new era now had dawned, all the moral, intellectual and political forces, necessary for social reconstruction, had appeared; the necessary pattern of evolution had taken place.

*(xvii) "..... on having triumphed over the Adventurer Prince and over those elements on which he had counted for his support....."

*(xviii) "Fellow citizens, we have surveyed hurriedly the whole orbit of the Emancipation of Mexico..... Also, out of the conjunction of these crises, grievous but necessary, has resulted the whole of our full emancipation, as if by the unfolding of a plan....."
 "But today our labour is ended; all the elements of social reconstruction are assembled; all the obstacles have been flattened; all the moral intellectual or political forces which ought to coincide with its *(xviii) help, now have appeared"

*(xv) Napoleon's attempt to set up a Mexican Empire under Maximilian, brother of the Emperor of Austria-Hungary, Franz-Joseph. of Page 102 Chapter VI.

*(xvi) "Oración Cívica," Page 104 in "Ley Orgánica de Instrucción Pública..... D.F."

*(xvii) Barrera is referring to Mexico. This extract shows a rather disingenuous view, as Barrera overlooks the importance of U.S. pressure on Napoleon to withdraw his troops, especially during early 1865. Nevertheless Barrera believed implicitly that Mexico alone had determined its own fate.

*(xviii) 'Oración Cívica' (footnote 17) page 107.

*(xviii) Ibid, page 109.

*(xviii) 'Its' refers to the 'Social Reconstruction.'

The final paragraph of his speech dealt with the attitude that his fellow citizens should adopt to further the future development of Mexico. The slogan suggested by Barreda was the Positivist 'device' of 'Liberty, Order and Progress'; 'Liberty as the means, Order as the foundation, and Progress as the end.'

*(xix) "Fellow Citizens, in the future let our strength be, Liberty, Order and Progress, Liberty as the means, Order as the foundation, and Progress as the end..... and there after, full Liberty of conscience, and absolute freedom of expression..... and may all disturbances, which are not purely spiritual, all revolutions, which are not solely intellectual, be unnecessary and impossible..... may it be the certain guarantee..... walking always on the flowery footpath of progress and civilization....."

The significance of this passage is obvious, there would be no need for any more violent revolutions, Mexico's development would take the nature of an orderly journey. What this 'Progreso' would consist of, was not made explicit, nor what form the new Mexican society should take. The implication of the speech was that 1867 marked the opening year of the Positivist Society in Mexico, and presumably the latter was to develop along the path that would lead to it being a fully developed 'Positivist and Industrial Nation.'

The 'Oración Cívica,' as has been said before, conformed to and was based upon Comte's interpretation of the historical development of societies. Mexican history was interpreted according to the 'laws of the three stages of historical development,' confrontations and struggles were between positive and negative forces. The former represented by the 'Liberal' party, were those forces who represented the new intellectual 'milieu' and hence, the negative forces such as the clergy were representative of the old 'Theological' order. Indeed this great

*(xix) Ibid, page 110.

struggle between liberals and conservatives was placed upon a global stage by Barrera. The latter implied that Europe's 'positivist' march had been arrested by the negative forces; as in the case of France, where Napoleon III had re-imposed a reactionary system, Comte on the other hand had welcomed the advent of 'Napoleon le petit.' The French intervention in Mexico was to be seen as an attempt to destroy the seemingly successful 'positive' forces in Mexico. Thus the defeat of this attempt was not only a victory for the Mexican people, but also a victory for the whole of humanity.

*(xx) "The soldiers of the Republic, at Puebla, like the Greeks at Salamis, saved the future of the WORLD, by saving the republican principle which is the modern standard of humanity....."

In this sense, the Mexican Liberals embodied in themselves the
 'Positivist Spirit.'

*(xxi) "In this conflict between European 'reaction' and American 'civilization,' in this battle between the monarchical principle and the republican principle, in this last exertion by fanaticism against 'emancipation,' the Mexican Republicans found themselves alone against the whole world..... The triumph of the republican party, lead by Juárez, was the triumph of progress over reaction....."

Yet there were significant differences between Barrera's interpretation of Mexican history and Comte's general philosophy of history. The most superficially obvious was Barrera's praise of the 'meritorious' role of the Liberal Party, lead by Juárez. Comte always had considered liberalism as a negative force, mainly supported by the metaphysical class per se, the professional bourgeoisie.

*(xx) 'Oración Cívica' page 100.

*(xxi) Ibid, page 100. It could be argued that much of the tone of these passages was merely rhetorical hyperbole. Yet Barrera and his closest associates always claimed that the speech represented faithfully his view of Mexican history and so these passages should be taken seriously.

The professional bourgeoisie was assigned the term of Jacobinism by Comte. *(xxii) Nevertheless it can be argued that in the case of Mexico, the Liberal party represented a much more authoritarian tradition than the European Liberal parties.

*(xxiii) "Francisco Bulnes, considered to be a *(xxiv) 'Científico', in his book 'Juárez y las Revoluciones de Ayutla y de Reforma,' published in 1905, portrayed 'Juárez' in a completely different 'light.' Juárez was shown as an opportunist hypocrite. According to Bulnes, Juárez was until 1858 a moderate Catholic politician, without any justifiable claim to be a reformer. Afterwards he became a 'Jacobin' dictator.

*(xxv) "... that the greatest enemy which Mexican Democracy had, was Juárez from 1867-187."

Bulnes also attacked the nature of the Juárez 'cult' as an injurious phenomenon.

*(xxvi) "... The aim of 'Juarismo' was to strip the illustrious Mexican people of their merits in order to create a Juárez of Jacobin mythology." This view of Juárez as an authoritarian ruler is repeated in

*(xxvii) Abelardo Villegas's work "La Filosofía en la Historia Política de México," in which the author made the point that, in terms of his style of government, *(xxviii) Juárez was the definite progenitor of the style of the Porfiriato.

*(xxii) Comte's term for such Liberal movements was Jacobinism. It was his belief that the 'Positivist' Society would only come into existence, after the destruction of the Jacobin parties and of the Jacobin class (Professional Bourgeoisie). His contempt for the Jacobins also applied to all Liberal groups, whether they were of Girondist or of Conservative tendencies.

*(xxiii) Born 4-10-1847 in Mexico City, died 22-9-1924. 'Juárez y las Revoluciones de Ayutla y de Reforma,' published by H.T. Milenario.

*(xxiv) The reason that he was known as a 'Científico' was that he held ideas that had been developed abroad, and for his belief in the 'scientific' method.

*(xxv) Page 483 'Juárez y las Revoluciones de Ayutla y de Reforma.'

*(xxvi) Ibid, page 494.

*(xxvii) Abelardo Villegas.

*(xxviii) Barrera's support of Juárez would therefore be analogous to Comte's support of Louis Napoleon, both could be seen as fulfilling the role of the 'Positivist Dictator.'

In view of the particular political history of Mexico, it would have been surprising, if Barreda had not supported Juárez, not only because Juárez as the 'strong man' of Mexico was in a position to carry out some of the practical measures advocated by the 'positivists' and it was only through these means that positivist ideas could be implemented in a practical manner; also Barreda's friendship with Contreras Elizalde was a factor, he now had access to the President.

The other major difference between Comte and Barreda in their respective attitudes towards the Catholic Church and towards religion in general. As has been shown in chapter II and chapter III, Comte had considerable respect for the Catholic Church and for 'spiritual matters' generally; the latter was expressed in his foundation of the Church of Humanity. Barreda on the other hand, was strongly anti-clerical and further he never demonstrated any sign of wishing to set up a 'Positivist Church' in Mexico, *(xxix). It is probable that this deviation from 'Orthodox Positivism' was due to the political circumstances, prevailing in Mexico during the first two-thirds of the Nineteenth Century. The entrenched reactionary nature of the Catholic Church in Mexico did not favour the concept of trying to create another 'spiritual organization,' even if Barreda and Contreras Elizalde had been willing to carry out this aspect of Comte's programme, and there is no evidence to suggest that they were believers in the 'Church of Humanity.'

*(xxix) Barreda was never an anti-catholic, only wishing to strip the church of its political and cultural power.

This examination of the 'Oracion Civica' has demonstrated that Barreda was a 'Positivist' in that he accepted Comte's view of history, though he differed from Comte over 'spiritual matters.' It will be seen from the next chapter that Barreda also accepted Comte's theories on the development of the sciences and the consequent implications for educational syllabi.

The final point to be noted is that Barreda did not present a concrete view as to the detailed 'route,' which the development of Mexico should take, in the 'Oración Cívica.' Nor is there any evidence from his *(xxixa) other works that he ever had a detailed view of the final form which Mexico's society should take.

*(xxixa) Most of Barreda's works and essays can be found in 'Opusculos, discusiones y discursos,' published by 'Comercio de Dublan y Chavez,' 1877.-

His comments on public education can be found in 'Revista Positiva' Vol. I, page 269, Mexico 1901.

A selection of his essays and comments on public education can be found also in 'Estudios,' edited by José Fuentes Marez and published by 'La Universidad Nacional Autónoma' in 1941.

CHAPTER SEVEN.THE EDUCATIONAL REFORM OF 1867 - 69.

In the previous chapter, the beginnings and some of the doctrinal bases of Mexican Positivism were examined. In order to appreciate the nature and aims of Mexican Positivism, it is necessary to scrutinize the attitudes behind the 'Report' of 'The Commission on Educational Reform' which was set up in 1867, and its subsequent promulgation on the second of December 1867. The central position of 'education' in this work is due not only to the fact that it was the sphere upon which Positivism was said to have its greatest influence, but because to a great extent through the implementation of particular educational policies, it is possible to discern very clearly the long term political and social goals aspired to by Barreda and Juárez.

Juárez and the Victorious Liberal party were faced with serious problems of national reconstruction, necessitated by the events of the previous thirty years. In theory the primary aim of the Juárez government was to restore the constitution of 1857 and to set up the political institutions it prescribed. The achievement of this goal, if it was to be successful, particularly in the long term, required the creation of suitably favourable social and economic conditions. The latter was by itself a primary goal, for since 1848, if not earlier, the governments of Mexico had been desirous of industrializing the country. It was believed that this was the best means of securing Mexico's Independence 'vis a vis' the United States of America. Fear of the U.S.A. was general amongst most Mexican politicians and intellectuals of this period. The memory of the War of 1847/48 and the subsequent Peace Treaty was a powerful guiding force.

*(i) "It is necessary to pass from the Colonial era to the Industrial era..... And it is necessary to achieve it quickly, because the giant which grows at our side and each day it comes closer to us, it will tend to absorb and dissolve us, if we find ourselves weak....."

Political independence could only be guaranteed by a policy of industrialization, the way to economic and political power or so it seemed! It thus goes without saying that any philosophy favourable to that policy would be received with approval.

This policy could only be carried out, if the government could count on a powerful sector of society to support it and replace the clergy and landowners as the prominent social class. This role could only be taken on by the middle classes who hopefully were to emerge from the process of industrialization which was to be financed from the sequestered *(ii) clerical property, a move which in itself would weaken the Church's moral and secular powers. This nascent middle class would be the 'bed-rock' of the 'new Mexico' and unlike its predecessors, it would subscribe to the Liberal philosophy of individualism. The latter was seen as the crux of the Liberal policy; for according to leading Liberal intellectuals, such as Mora, Valentín Gomez Farias and Lorenzo de Zavala, without this new morality which already existed in the advanced countries such as the U.S.A. and the U.K., Mexico would be lost. The answer to the problem of creating the new middle class man seemed to lie in 'educational reform.' Furthermore this reform would also be

*(i) The passage was written by Doctor Luis Mora (Page 74, Vol.II of 'México y su Revolución Educativa' by Isidro Castillo). Doctor Mora was a long-standing Liberal Educationalist, having chaired a committee for Educational Reform during the Presidency of Santa Ana (1833), and the Vice-Presidency of Farias. Mora was a Utilitarian in philosophy, being an orthodox follower of Jeremy Bentham. A detailed exposition of Mora's views on education can be found in 'Obras Seltas' by the latter, published by Porrúa in 1963.

*(ii) The source is Isidro Castillo's work 'México y su Revolución Educativa.'

a means of laying the technical and managerial skills needed in the running of the 'hoped-for' industrial sector, as well as removing from the clergy one of its key powers, the control of education.

Educational reform, involving the secularization of the educational system, had been an issue between Conservatives and Liberals as far back as the *(iii) acting Presidency of Marias. Attempts had been made to re-organise education on a secular basis, laws to this effect had been passed in (iv) 1833, *(v) 1856, 1857 and 1861 without result. In 1867, Juarez was determined to effect a modernization of the educational system, once again on a secular basis. There is no doubt that up to 1867 Mexican education was at every level, of a generally poor standard.

*(vi) "In the primary schools of that epoch, Spanish (Castillian) grammar was not taught, at all. To read, to write and to learn by heart the 'Catechism of Father Ripalda' was what formed the primary branch of education, it was slow and above all imperfect....."

The 1867 commission on educational re-organization, appointed by President Juárez, consisted of *(vii) six members, Francisco

*(iii) Cf. 1824.

*(iv) cf. Appendix IV.

*(v) cf. Appendix V for details of the 1833 Law.

*(vi) "Ley Orgánica de Instrucción Pública en el Distrito Federal," section one. The passage was written originally by Benito Juárez in his book 'Apuntes para mis hijos.'

*(vii) Either Barrera or Francisco Díaz Covarrubias presided over the commission. Most authorities believe that the former was appointed chairman.

Díaz Covarrubias, Gabino Barreda whose speech at Guanajuato had given him a national reputation, Pedro Contreras Elizalde, Dr. Ignacio Alvarado and the licenciates Eulalio M. Ortega and José Díaz Covarrubias. They were to act in liaison with Antonio Martínez de Castro who was Juárez's Minister of Education.

The commission's scope for investigation was as wide as possible, encompassing all aspects of education within the *(viii) federal district, including the syllabi of municipally-run schools.

All commentators on the commission's report and on the subsequent legislation, are agreed that the prime mover in the committee was Gabino Barreda. It was his view that secondary education if it was to be an effective instrument of moral, social and economic change, would have to be based upon a science-orientated curriculum and this became the view of the whole commission. Indeed, as will be seen, the syllabi were to bear a strong resemblance to Comte's own proposed educational syllabi.

This was no coincidence, as after all the philosophical system which was inspiring the new programme was that of positivism. In the opinion of Barreda and Contreras Elizalde, there was no more suitable philosophy to motivate the new system than positivism, as it appeared to be the philosophy which had been adopted by the great nations, England, France and the U.S.A. which were in the vanguard of Industrial Progress. The industrialized countries had the advantage over the rest of the world in that they had a 'scientific-based education' and according to

*(viii) the 1857 constitution had re-emphasised the Federal nature of the government. Thus the Federal Government had only the power to reform the educational system of the Federal District only. Nevertheless it could set an example which would almost certainly be followed by the state governments.

Contreras Elizalde, their citizens did not suffer from a *(ix) 'mystic-lazy' attitude which was the cultural mark of the Latin Races. These conclusions with their racial-cultural implications show that positivism for the members of the commission did not, in its practical application, signify the whole doctrine of Comte. It rather signified the positivist method or more accurately, the so-called 'scientific methodology.' This is significant, for it meant that Mexican 'positivists,' by this criterion could hold disparate philosophies, and yet still be called 'positivists,' provided they believed in the 'scientific method' and in the goal of industrialization. This point was made most forcefully by José María Vigil in 1880 in *(x) 'El Monitor Republicano.'

*(ix) Quoted by Isidro Castillo.

*(x) Page 97, 'México y su Revolución Educativa' Vol. II, José María Vigil was himself supposed to be a follower of Littré.

If his statement is credible, it means that the belief that the 'científicos' did form a coherent intellectual school was a complete myth.

*(xi) "Our positivists declare that positivism is not a doctrine or a philosophy among others, but a method; the method fit for considering our social reality and for the establishment of a valid Order for all the Mexicans. By affirming this, Mexican Positivism is establishing its own school..... Neither Comte, nor Littré nor (John Stuart) Mill, have understood Positivism as such a 'doctrine'..... But there is something else more serious, the Mexican Positivists by separating the doctrine from the method, retaining the latter, show their incapacity..... a suitable educational system. All education implies a certain doctrine which arms, organizes and orients the life of the pupil. Our positivists with the 'pure' method can do nothing to fulfill this function....."

This concept of 'Positivism,' as a method only, was very much at variance with that of Comte, who described 'Positivism' as a 'Philosophy and a Polity.' Yet it is clear from *(xii) Porfirio Parra's reply that this was general amongst many of those intellectuals considered to be positivists, though it must be stated that both Barrera and Contreras Elizalde were always 'Orthodox Positivists.'

*(xiii) "We, the Mexican Positivists are eclectics in the Positivist method, and if a doctrine arises from Spencer, Mill or Comte, we accept it, if it is in accord with the common method which all of them (the latter three) have proclaimed, rejecting it if it does not....."

As Vigil pointed out, this answer was a very negative one, for it evaded the issue of what the philosophy and doctrines of the Mexican Positivists were! Indeed to talk about a common method, 'proclaimed' by Comte, Spencer and Mill, was to say very little. The need to view problems and expound a philosophy on a 'scientific-logical basis' was propounded implicitly by Bacon, explicitly by the 'philosophes' and by such thinkers as Bentham, John Stuart-Mill,

*(xi) "México y su Revolución Educativa," Page 98.

*(xii) Porfirio Parra was a member of a group of intellectuals who considered themselves to be supporters of Barrera.

*(xiii) Quoted in 'México y su Revolución Educativa,' Page 98.

Comte, Spencer, Marx and by virtually every political and social philosopher from 1700-1900.

By itself, the phrase 'Scientific Method' had become a 'catch-phrase,' used by philosophers and intellectuals to emphasise their views. It is the conclusions and the theories derived from the 'scientific method' which matter. If Parra's reply did indeed represent the attitude of the 'Mexican Positivists,' then it is impossible to disagree with Vigil's comment that --

*(xiv) "Senor Parra placed in the midst of the Positivist anarchy and having to take a set position, resolves to take up none..... Mexican Positivism remains silent over the Transcendental (and) over the substance of the doctrine, in order not to enter into polemics with other ideologies"

What is also important to note is that the doctrines of Comte, Spencer and John Stuart-Mill, though they might have common features and certainly in the case of the last two, both men could be said to stand in the general liberal tradition, but Positivism and Spencer's views were not the same and in many respects conflicted with one another, as has been shown in chapter V. This decay in the positivist movement in Mexico was not apparent in 1867, though its seeds were developing.

The Law which emanated from the commission's investigations, had a certain resemblance to the Law of 1861, it, however differed radically from the latter in that it reformed the educational syllabus and not just the organizational structure. The 'scholastic' nature of the educational syllabus was transformed into one with a scientific tenor. The objectives of the Law itself were given in a short exodium.

*(xiv) Ibid, page 99.

*(xv) "It is considered that to diffuse learning into the community is the surest and most efficient method of improving its morality and of establishing in a solid manner, liberty and the respect for the constitution and for the Law."

Again, this short statement makes it clear that education was to be the instrument for moral progress, the base for industrialization and for establishing harmony in the social-political sphere. In this context, one of the most important policy measures advocated by Barreda and his colleagues, lay in the sphere of primary education.

The commission advocated the creation of a large number of primary schools in the Federal District, whose maintenance would be in the hands of the local municipality. In each community with less than five hundred inhabitants, two schools would be established, one for boys and one for girls. If the community exceeded one thousand inhabitants, the number of schools would increase by one for each sex for every extra two thousand inhabitants. Further the municipalities were directed to call upon landowners to set up primary schools on their estates. A role suggested by Barreda's views on the social function of the rich.

*(xvi) "The rich ought to know that they must belong to a society in whose progress they must collaborate....."

The municipality of Mexico City itself would establish and maintain two schools for boys and two schools for girls. This extensive educational reorganization was to be the prelude to the establishment of compulsory primary education for five year olds and upwards in the Federal District. The policy itself was designed, as has been pointed out, to break the dominance of the clergy in the sphere of primary education and to found the social-

*(xv) "Ley Orgánica de Instrucción Pública en el Distrito Federal," section two (page 20).

*(xvi) "México y su Revolución Educativa," Vol. II, page 99.

This statement repeats in a less strident tone, Comte's comments on the industrial and financial Capitalist Classes.

-economic base for the advancement of Mexico. This objective, in part, was to be attained in the syllabus to be taught at these schools, where the plan of studies had a definite scientific nature, designed to adapt the pupils to the 'new era.' The pupils were to be instructed in disciplines which would give them knowledge of their own physical environment as well as presenting them with an image of Mexico, throughout its history; evidence again of Barrera's influence.

*(xvii) "With this, the pupils would be placed in conditions favourable to form for themselves a notion of the Universe. They had to learn to observe and experiment in particular cases and to generalize them directly in order to come to the concept of law, they were to learn to reason inductively and deductively to think; the legislators, convinced, that intelligence is not a barn that needs to be filled, but is a hearth which it is necessary to light....."

A limiting factor in the Law of 1867 was that it only applied to the Federal District. Educational policy elsewhere, was in the hands of the individual state governments. Moreover, according to Jose Diaz Covarrubias, compulsory primary education was in force by 1875 in the following states: *(xviii) Aguascalientes, Chiapas, Coahuila, Campeche, Guanajuato, Guerrero, Jalisco, Michoacan, Morelos, Nuevo Leon, Oaxaca, Puebla, Sinaloa, Sonora, San Luis Potasi, Tlaxcala, Vera-Cruz and in Baja California.

*(xvii) Ibid. page 82.

*(xviii) "Ley Organica de Instrucción Pública en el Distrito Federal," section two.

*(xix) This spread of secular primary education, greatly helped and supported by the four Ministers of Education during the period 1867-1880, Martinez de Castro, José Díaz Covarrubias, Ignacio Ramirez and Protasio Tagle, appeared to be the most significant effect of the law of 1867.

The influence of Barreda has been shown in the formulation of the primary school syllabus and organization; it is much more obvious in the delineation of the syllabi of the 'National Preparatory Schools.' *(xx) The plan of studies was that the sciences should be studied in the order, established by Comte in his 'Classification of the Sciences.' A student in order to get his baccalaureat or leaving certificate, would commence his studies with mathematics, the least complex of the sciences, according to Comte. He would continue his scientific studies *(xxi) with physics, astronomy, history, geography, chemistry, the biological sciences, terminating with 'logic.'

*(xix) Including the Federal District, educational reform had been initiated in 19 of the 31 states and territories. The states which by 1875 were still unaffected by educational reform can be grouped as follows:-

<u>NORTH.</u>	<u>CENTRAL</u>	<u>SOUTH</u>
Durango	Colima	Quintana Roo.
Chihuahua	Guerrero	Tabasco.
Tamaulipas,	Hidalgo	Yucatan.
	Queretaro,	
	Zacatecas.	

These states are territories represented less than 40% of the population of Mexico.

*(xx) cf. Appendix 4.

*(xxi) cf. The table of the subjects given offered by the 'Preparatory Schools.' It is to be noted that depending on the course taken, the student would take a prescribed set of subjects which would defer from profession to profession. cf. Articles of the Law on Educational Reform of the second of December, 1867 which are fully laid down in the 'Ley Orgánica de Instrucción Pública en el Distrito Federal.'

*(xxii) "An education in which no importance branch of the natural sciences is omitted in which all the phenomena of nature from the most simple to the most complicated are studied and analyzed by turns, theoretically and in practice; an education, I repeat, undertaken on such bases and with the sole aim of finding the truth, that is to say, what there is really..... This method is of *(xxiii) a slow sureness, but what does it matter, if we are sure of its importance. What are ten, fifteen or twenty years in the life of a nation, when it deals with the undertaking of the only means of conciliating liberty with concord, progress with order? Intellectual order which this (education) educational system intends to establish, is the key to social and moral order of which we have so great a need....."

The syllabus, although science-orientated included certain non-science courses. *(xxiv) History was a basic course in all the different study plans, for it was considered to be an essential aid and base to the understanding of social dynamics. Geography, too came into this context, as an aid to comprehension of social statics, which French, English, Castillian Grammar and Spanish Literature were basic courses; as they helped the students in the task of gaining knowledge and in the diffusion of ideas, by allowing them access to foreign works. The general structure and organization of the subjects to be studied are explained by Gabino Barrera in a letter to Mariano Rive Palacio, the Governor of the state of Mexico, dated 10-10-1870.

*(xxii) Page 80, 'México y su Revolución Educativa' Vol. II, Also page 15, 'Estudios,' (a selection of essays and letters by Barrera) published by U.N.A.M. The passage quoted above is taken from a letter, dated 10.10.1870 to Mariano Riva Palacio, Governor of the state of Mexico.

*(xxiii) Martin quirarte has made the point in 'Gabino Barrera, Justo Sierra y el Ateneo de la Juventud' that Barrera always believed that the reform of education would be slow in attaining its goal, though he was certain of its eventual success.

*(xxiv) cf. List of subjects offered.

*(xxv) "..... As you will be able to see at first sight, the most important 'preparatory' studies have been arranged in such a manner that (a student) one begins with the study of mathematics and finishes with the study of logic, inserting between the two, the study of the natural sciences, starting with cosmography and physics, then geography and history and last of all the natural history of beings endowed with life, that is to say botany and zoology. In the midst of these studies which later I will show succinctly how they form a rigorous scale of useful and even necessary knowledge which knit together one to another like a continuous chain, in which the prior subjects go on serving as an indispensable base to those that follow.....: in the midst, I repeat, of this scientific ladder, the study of languages have been inserted, in the order required by the necessity of having to have one (of the languages) for the aforementioned subjects..... Thus French has begun to be taught, because a multitude of books, suitable for serving as textbooks have been written in this language....."

Furthermore Barreda in the same letter, explained his reasons for laying down a homogeneous core of studies which all students whatever their specialization had to undertake.

*(xxv) Page 5 of 'Estudios' - a selection of Barreda's letters and essays by José Fuentes Mares, published in 1941 by 'La Universidad Nacional Autónoma.'

T A B L E I.

List of Subjects offered in the 'INSTITUTOS PREPARATORIOS'

*(xxvi)

- | | | |
|---|---|----------------------|
| 1) Spanish Grammar. | 2) Latin. | 3) Greek. |
| 4) French. | 5) English. | 6) German. |
| 7) Italian. | | |
| 8) <u>Arithmetic.</u> | 9) <u>Algebra.</u> | 10) <u>Geometry.</u> |
| 11) <u>Linear Trigonometry.</u> | 12) <u>Spheric Trigonometry.</u> | |
| 13) <u>Analytical Geometry.</u> | 14) <u>Discriptive Geometry.</u> | |
| 15) <u>Infinitesimal Calculus.</u> | 16) <u>'Mecanica Racional.'</u> | |
| 17) <u>Experimental Physics.</u> | 18) <u>General Chemistry.</u> | |
| 19) <u>Natural History.</u> | 20) <u>Chronology.</u> | |
| 21) <u>General History.</u> | 22) <u>National History.</u> | |
| 23) <u>Astronomy.</u> | 24) <u>Geography (Physical and Political particularly of Mexico).</u> | |
| 25) <u>Ideology.</u> | 26) <u>Grammar.</u> | |
| 27) <u>Logic.</u> | 28) <u>Metaphysics.</u> | |
| 29) <u>Moral Philosophy.</u> | 30) <u>Litterature, Poetry, Oratory and Declamation.</u> | |
| 31) <u>Drawing (Linear, Art and Technical).</u> | 32) <u>Shorthand.</u> | |
| 33) <u>Paleography.</u> | 34) <u>Book-keeping.</u> | |

*(xxvi) Data is drawn from the U.N.A.M., publication 'Ley Orgánica de Instrucción Pública en el Distrito Federal.' Subjects underlined belong to the scientific core of the course.

*(xxvii) "..... Thus one understands the diversity of religious or political beliefs; thus one at last explains the complete anarchy which actually reigns in (people's) minds and in ideas, and which one can incessantly feel in everyone's actual behaviour.

To make uniform this behaviour, it is not enough for the government to pass laws to require it,..... or to cajole with infinite rewards in the future life, as is done in religion, in order that every day behaviour might be sufficiently harmonized with the real necessities of society, it is necessary that there should be a common fund of truths from which we all can share, more or less deliberately, but in a constant manner. This fund of truths which has to serve us as a starting point, should present a general and encyclopaedic character..... only the age in which it is customary to carry out 'the preparatory studies,' is the proper one to satisfy this necessity of the actual society,..... But in order to fill it with the only means capable of achieving it, is an 'education (educational system),' systematically calculated for this end, it is required that the latter should be the same for all, whatever the profession may be"

The subject which was to synthesize the whole course into a unified progression was Logic. On a general plane, Barreda argued that the whole course was a study of 'logic' on a 'grand level.'

*(xxviii) "This practical course of Logic which the students have been studying gradually and progressively, passing from the study of one science to others....."

It was therefore natural that the subject which was at the top of the pyramid was 'abstract' logic.

*(xxvii) Ibid, page 11. This anarchy of ideas which translated itself into social anarchy was due to a lack of a common pool of knowledge which everyone shared. This situation led to individual idiosyncracies and thus to philosophical and political idiosyncracies.

*(xxviii) Ibid, page 27.

*(xxix) "passing from the study of one science..... is the best preparation which they could have to study with advantage the theoretical and abstract course on logic, in which they will be able to discern and appreciate properly the worth and difficulties of each one of the method and of the questions which refer to it."

The key word is 'method' for by it Barreda was referring to the 'scientific method' and indeed it can be said that the original aim of the 'preparatory studies' was to inculcate into every student, the scientific method. Thus the subject called logic, comprehended the essence of the various philosophers of the different sciences studied; hence by studying logic, the student was studying the 'scientific method' as an abstract entity. Therefore it had to be studied in the fourth year of the course, as it could not be properly comprehended without the practical back-ground of the previous three years. It is now plain what Barreda meant by the 'Common fund of knowledge' which was to be the means of achieving social and intellectual harmony. There can be no doubt that the 'common fund of knowledge' is to be equated to the 'correct application of the scientific method.' Interestingly, one science was not included in the choice of studies offered, and this was sociology, Comte's prime science, evidence perhaps of Barreda's greater emphasis on the 'Positivist' scientific method, rather than on the doctrine and so giving credence to Vigil's criticisms.

The plan of studies, in practice, was altered according to the profession for which the student was studying *(xxx). The syllabus for Legal Studies, thus embraced metaphysical history, in the first year and Latin in third year, whilst Canon Law was

*(xxix) Ibid, page 27.

*(xxx) cf. Appendix VI.

studied in the fourth year. The study of medicine and pharmacy on the other hand was extended to five years, instead of the usual four and consisted of a more extensive scientific training. It included applied physics, metrology and medical subjects and also subjects such as French, German, English and Latin.

T A B L E II.TYPES OF SECONDARY SCHOOLS AND FURTHER EDUCATION ESTABLISHMENTS,
SET UP IN THE FEDERAL DISTRICT UNDER THE LAW OF THE 2ND - 12 - 1967
(FULLY PROMULGATED 1869)

- 1) Secondary Schools for girls.
- 2) 'Preparatory Schools' (Vocational Colleges).
- 3) Faculty of Jurisprudence.
- 4) Faculty of Medicine, Surgery and Pharmacy.
- 5) Faculty of Veterinary and Agricultural sciences.
- 6) Faculty of Engineering.
- 7) Faculty of Biology.
- 8) School of Fine Arts.
- 9) School of Music and Oratory.
- 10) School of Commerce.
- 11) Secondary Elementary Schools.
- 12) School of Arts and Crafts.
- 13) School for the Deaf and Dumb.
- 14) Astronomical Observatory.
- 15) National Academy of Literature.
- 16) Botanical Garden.

The above list is taken from page 32, 'Ley Orgánica de Instrucción Pública en el Distrito Federal.'

The faculties underlined can be said to be the equivalent of University faculties.

Gabino Barrera, as has been mentioned before, considered the study of modern languages important as it not only allowed the student to read subject-matter which had been written by non-spanish speaking authors. It also would help in fostering good-relations with people from other nations.

Although the syllabi of the 'Preparatory Schools' was to be attacked for having stultified the development of Mexican Cultural life, particularly by 'Ezaquiel Montes *(xxxix), *(xxxii). Even the youthful Justo Sierra joined the ranks of the critics. The establishment of the new system did however produce important benefits. First of all the stimulus for scientific study was due to the setting up of the preparatory schools and the new science faculties.

*(xxxix) Ezaquiel Montes was the Minister of Education during the Presidency of General Gonzalez. In 1880 he issued a decree, whereby J. Stuart Mill's 'logica' was to be replaced as the set text for the course on logic by Tiberghien's work on logic. This was significant, for Tiberghien had introduced 'Krausism' into Belgium. It suggested that, if Montes was prepared to introduce a work by a 'Krausist' philosopher as a set text, Krausism (a German philosophical system) must have had a strong following in Mexico, though apparently not as large as in Spain, and therefore Positivism as the dominant philosophy was very much under attack.

*(xxxii) One of the reasons why Montes attacked Positivism was that it inculcated religious scepticism amongst the Mexican youth in such a manner that social anarchy resulted and led to a resurgence of the Catholic Church.

"In vain it will be said that the Positivist Logic does not contradict on any point religion, because it neither affirms or denies anything This thesis (Positivism) necessarily leads to religious scepticism. Because of this, it is not surprising that this philosophy has caused already social corruption; suicides, duels, libertinage are observed in the youth formed by Positivism. But there is more: through the fault of Positivism the hostility towards Liberal democratic institutions had increased. Catholicism has taken on (new strength) as fathers of families try to save their sons from such an amoral education. As a consequence of this, the number of seminaries and catholic schools has increased" Quoted by Isidoro Castillo from Monte's decree of 1880. Page 96, 'Mexico y su Revolución Educativa.'

Indeed as Martín Quirarte has pointed out, in his work, 'Gabino Barreda, Justo Sierra y El Ateneo de la Juventud,' the period, from the setting up of these new educational institutions to 1910 was marked by a significant flowering in Mexican Intellectual life. Mathematicians such as *(xxxiii) Francisco Díaz Covarrubias, Francisco Bulnes, Eduardo Garray, scientists such as *(xxxiv) Ladislav de la Pascua, *(xxxv) Leopoldo Río de la Loza and the next great educational reformer in Mexico, Justo Sierra, were all men who taught at, or were taught at (or both) these new institutes. Further the general calibre of the students graduating from these colleges, was recognized to be of a much higher level than before. Thus in the *(xxxvi) 'Schools of Agricultural and Veterinary Sciences,' students came out as professional agronomists and veterinary surgeons, and no longer as mere first-grade overseers. Eli de Gotari, in 'La Ciencia en la Historia de México,' has made the point that this improvement in professional standards was most marked in the faculty of engineering. For the first time highly trained professional, mechanical and civil engineers were produced and this situation applied to hydrographers and to topographers. Nevertheless it would appear that the stimulus to intellectual and academic, engendered by the reforms of 1867, had passed its peak by the 1890's. Eli de Gotari has argued in 'La Ciencia en la Historia de México,' *(xxxvii) that *(xxxviii) 'science' and the

*(xxxiii) Francisco Díaz Covarrubias was a member of the 1867 Commission on Education.

*(xxxiv) Ladislav de la Pascua, a priest and professor of physics.

*(xxxv) A relatively well-known professor of chemistry.

*(xxxvi) Isidro Castillo considered the standard of this faculty to be very high.

*(xxxvii) Page 301.

*(xxxviii) The areas of criticism which was made against Positivism and the new educational system will be examined in the chapter dealing with Justo Sierra and the reform of 1910. One aspect of this criticism has been described already in connection with Ezequiel Montes.

'Scientific method' had become propaganda words without any significance by the 1890s. While Isidro Castillo concluded, after his analysis of the movement as an intellectual force, that it had been in decline for some time before 1900.

The report of the commission on education was put into effect in 1868 by a decree of the Minister of Education, Antonio Martinez de Castro, though it was somewhat amended by the law on education of the fifteenth of May 1869 which altered the *(xxxix) syllabi offered by the 'preparatory schools.' It can be said, however, that the Martinez de Castro law remained more or less intact until 1910, when in that year Justo Sierra, the then Minister of Education, replaced the laws of *(xxxx) December 1867 and May 1869 by a new Law which created the 'National University of Mexico.' It is now necessary to examine how far the new educational system achieved the goals which its initiators hoped that it would attain.

Of these goals, the prime objectives of establishing a new moral harmony, and of producing a strong middle class, capable of managing a new industrialized Mexico, are the most difficult to evaluate. In the first case, a qualitative analysis would be required, though it can be said with hindsight that this objective was never achieved. It is difficult to see how this could have been attained by a policy solely relying on educational reform. It is possible to examine the question of how far the policy, enshrined in the 1867 report of the education commission, did achieve an integrated homogeneous society in an indirect manner by analysing the effects of the educational reforms on the problem of illiteracy.

*(xxxix) The courses were made somewhat more specialized than originally had been envisaged.

*(xxxx) The decree of 1867 did not become effective until 1868.

*(xxxxi) "Seven million in complete ignorance, five hundred thousand barely knowing how to read and write..... four hundred thousand with a better education..... and some hundred thousand educated persons....."

After all if the vast majority of the inhabitants of a country do not possess the means of gaining access to knowledge and information, it is not possible to talk about the possibility of achieving an integrated homogeneous society; let alone claiming that it exists, and in 1867 the vast majority of Mexicans lived outside or only on the margins of what might be called the integrated national society.

José Díaz Covarrubias, in his 'Study of Public Education in Mexico' *(xxxii), published in 1875, pointed out that in 1843 there were only 1,310 primary schools of all types in Mexico. By 1870, he claimed that this number had increased to a total of 4,500 and that in 1874 the number had increased yet again. In that year there were 8,103 schools, of which 2,000 belonged to the private sector and 117 to the clerical sector; the rest were under the auspices of the Federal Government, state governments and the municipalities.

*(xxxxi) Page 299 'La Ciencia en la Historia de México' by Eli de Gotari (Fondo de Cultura Económica). A Quotation from the writings of Ignacio Ramirez, relating to the State of Mexico at the beginning of the last third of the Nineteenth Century.

*(xxxii) Jose Diaz Covarrubias's study is considered to be the main source of statistics concerning Mexican education prior to 1975. The only obvious doubt relating to his statistical work, which can be raised at once, concerns his enumeration of clerical schools in 1874. The total of 117 compared to 2,000 schools in the purely private sector appears, considering later data, to be a considerable underestimate of clerical or clerically sponsored schools. Isidro Castillo's work 'Mexico y su Revolucion Educativa' gives a summary of Covarrubias's statistical summary, and all the figures relating to the pre-1874 period have been taken from this source.

The statistical data relating to the period 1874-1901 has been extracted from 'La Mexique au debut du XX^e Siecle' by Prince Roland Bonaparte, Leon Bourgeois, Olivier Greard et alia. The Educational statistics they used were those published by the Ministry of Education and they should be treated with caution, as should be all statistical data relating to education during the whole of this period (1867-1910)." Data concerning the last decade of the Porfiriato has been drawn from Daniel Casio Villegas' work 'Historia Moderna de México--El Porfiriato-Vida Social' and the original source again is the

Yet only Three Hundred and Forty Nine Thousand children (between the ages of six and twelve) out of an estimated *(xxxxiii) one Million Eight Hundred Thousand children of school age (six to twelve) were receiving any type of education, about 19 $\frac{1}{2}$ % (19.5) of the potential maximum. Further the quality of the education received by this minority must be questioned, as only Two Thousand of the Eight Thousand teachers had any kind of pedagogic qualification. Nevertheless this trend of increasing numbers of primary schools and of the pupils attending them continued during the Porfiriato.

In 1876 the number of schools increased to a total of *(xxxxiv) 8,165 state schools with 368,754 pupils attending them. While in 1895 there were 8,915 state schools with 722,435 pupils and a further 81,221 pupils were attending 2,585 private schools. Thus a total of 803,686 pupils *(xxxxv) (36% of children of school age) were being taught at 11,500 schools and this represented a doubling of the number of children at school over the figure for 1876, though some of the increase was due to the growth in population of some 22%. The figures for 1901 again showed an augmentation in both the number of schools and the number of pupils attending them. In that year there were 9,491 state schools and 2,645 private schools. The figures for the number of pupils in attendance at these two sectors of education were respectively 718,718 and 152,312, making for a total of 871,027 pupils.

*(xxxxiii) Covarrubias' estimate, based on a population estimate of 8,500,000 for Mexico in 1874, a reasonable figure.

*(xxxxiv) The statistical data quoted above are taken from 'Le Mexique au debut du XX^e siecle' Vol. II, pages 173 and 193. (A two volume work published in Paris in 1905).

*(xxxxv) The writer's estimate, based upon the 1895 demographic estimate which gave Mexico a population of 11,000,000. (these figures come from the 'Historia Moderna de México-El Porfiriato-Vida Económica.')

T A B L E III.PRIMARY EDUCATION (6-12).TOTAL NUMBER OF SCHOOLS. (1901)

	<u>Boys.</u>	<u>Girls.</u>	<u>Mixed.</u>	<u>Total.</u>
Schools supported by the Federal Government and the state Governments	3,459	1,676	1,299	6,434
Schools supported by Municipalities	1,644	764	649	3,057
Schools supported by private secular Concerns (Viz Land- owners and Companies)	809	525	661	1,995
Schools supported by the Clergy	260	168	49	477
Schools supported by Private Associations	51	68	54	173
TOTAL.....	6,223	3,201	2,712	12,136

The statistical data above was originally published under the direction of Dr. Antonio Peñafiel and republished in 'Le Mexique au debut du XX^e siècle' Page 193.

If the 1900 Census for Mexico is assumed to be correct and that is doubtful in the extreme, then there was for a total population of 13,607,259 a school for every 1,121 persons.

T A B L E IV.MONTHLY ATTENDANCE FIGURES FOR PRIMARY SCHOOLS - 1901.

(Published under the direction of Dr. Antonio Peñafiel).

	<u>BOYS.</u>	<u>GIRLS.</u>	<u>TOTAL.</u>
STATE SCHOOLS. (Federal, State and Municipal Schools).	295,467	182,119	477,586
PRIVATE SCHOOLS.	69,767	54,490	124,257
	<u>365,234</u>	<u>236,609</u>	<u>601,843</u>
Number of children inscribed at school			<u>871,027</u>
Monthly Attendance Rate		<u>69%</u>
Monthly attendance rate for state sector (based on the figure of 718,715 children inscribed at State Schools)		<u>66%</u>
Monthly attendance rate for the private sector (based on the figure of 152,312 children inscribed at Private Schools)		<u>82%</u>

T A B L E V.NUMBER OF STUDENTS ATTENDING INSTITUTIONS OF HIGHER EDUCATION - 1901

(Published under the direction of Dr. Antonio Peñafiel).

<u>MALE.</u>	<u>FEMALE.</u>	<u>TOTAL.</u>
5,993	2,531	8,524

From: 'Le Mexique au Debut du XX^e Siècle,' Page 193 (Vol. II.)

It is perhaps significant that there appeared to be a gradual increase of pupils attending private schools, as against the state sector; therefore it would support Ezequiel's observations *(xxxxvi) about the educational pattern in Mexico in 1880. Between 1895 and 1901, there was an increase of 67,341 pupils attending school, representing an 8.38% increase, yet the number attending state schools decreased from 722,435 to 718,715, a decrease of 0.51%. Further it has to be remembered that the state education was free, whereas the private sector charged fees.

Another question to be answered is how effective was the Law of the *(xxxxvii) 23rd of March, 1891 which had instituted free, universal and compulsory education in Mexico for children from 5 to 12 years. The answer to this problem is given by Map One which represents (in map form) the percentage rate by states of children whose names were recorded in primary schools for the year 1900. *(xxxxviii) The theory, if the law was fully implemented and completely effective, was that the rate for each state would be 100%. *(xxxxix).

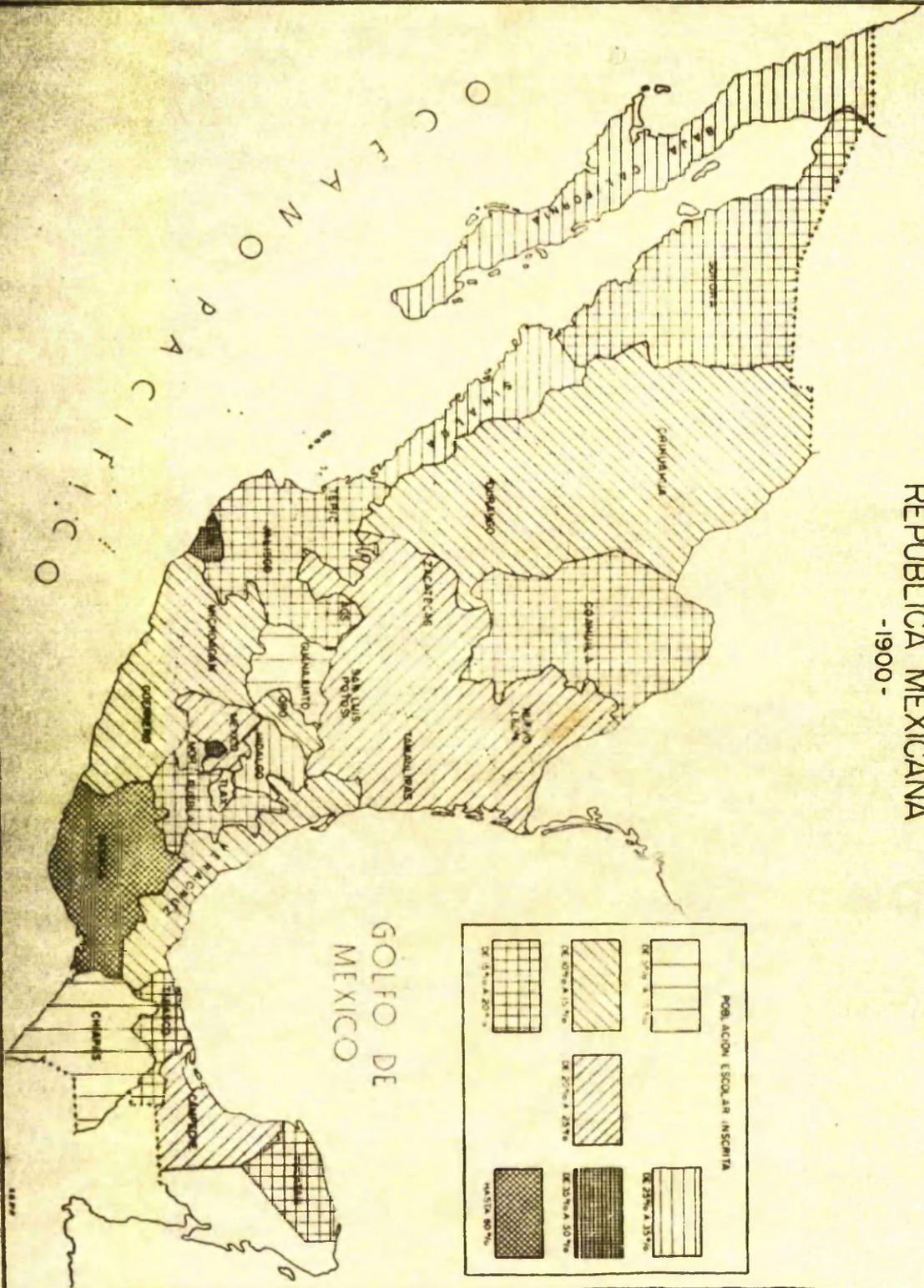
*(xxxxvi) cf. footnote 32, of this chapter, Table III suggests that the number of clerical schools was not high. Whether there was indeed an increase in the number of clerical schools, can only be gauged by analysing the composition of the so called non-clerical private schools. Supposedly they were made up of schools, sponsored by landowners and industrial enterprises for the children of their workers.

*(xxxxvii) cf. Appendix VII.

*(xxxxviii) This map has been reproduced from the 'Historia Moderna de México - El Porfiriato - Vida Social' by Daniel Cosío Villegas (opposite page 598). The Map itself was originally prepared by Sergio O'Reilly, based on the Ministry of Education's statistics of the time. Hence it must be said that the statistics from this source should be treated with caution as they would be data tending to give a favourable impression of education in Mexico.

*(xxxxix) The fact that official statistics showed that 535,943 boys were officially inscribed at all schools and that only 335,054 girls were stated to be attending school, during 1901, straight away suggests that a considerable number of children were not even registered as receiving any education at all. At the beginning of this century, there was hardly a country, in which females did not outnumber males in all age groups, a product of the fact that infant mortality effects male babies more than females.

EDUCACION PRIMARIA POR ENTIDADES FEDERATIVAS EN LA REPUBLICA MEXICANA -1900-



POBLACION ESCOLAR INSCRITA

	DE 0% A 10%		DE 25% A 35%
	DE 10% A 15%		DE 35% A 50%
	DE 15% A 20%		DE 50% A 60%
	DE 20% A 25%		DE 60% A 80%

The map shows that only in the state of Oaxaca did the inscription rate go above 50% and only two other states, the Federal District and Colima, had a percentage rate of between 35 and 50%. It could be argued however that nine years was too short a period for the law to be fully implemented; especially as to be effective, it required a considerable building programme and a significant increase in the number of teachers available in Mexico.

Another factor must be taken into consideration in analysing the effectiveness of the Mexican educational system. This is that though there may have been a relatively high number of children inscribed in the schools, this did not accurately reflect the number of children actually taught. Table IV *(L) shows the figures relating to the number of children actually attending school during the year 1901 and as can be seen the attendance rate was just under 70%, a comparatively good figure. Nevertheless it does demonstrate that the actual number of children who were receiving a full-time education was a comparatively small proportion of the potential school population.

The final question to be asked concerning the effectiveness of the educational policies of the governments of Mexico, during the period under investigation, relates to the quality of education. This is a very difficult area to analyse and it will be tackled by examining the literacy rates at the end of the Porfiriato, that is nineteen years after the 1891 law. Map two, prepared by Sergio O'Reilly and re-produced from the 'Historia Moderna de México - El Porfiriato, Vida Social,' shows the literacy rates of the states in Mexico in 1910. If Barrera and the proponents of the 1891 law had been totally successful in their objectives, by 1910 Mexico should have been well on its way to being a literate state.

*(L) Data taken from 'Le Mexique au debut du XX^e siècle' Volume II, page 193.

Yet in 1910 only the Federal District had a literacy rate of 50%, a tribute, to the 1867 law on educational reform, while Oaxaca, which had a school inscription rate of over 50% in 1901, had a literacy rate of below 10%. In general, it can be said that the Northern Provinces had a superior literacy rate to the other states, while Map I showed that the distribution of children registered at schools was fairly even over the whole country.

It can be noted that although by 1910 Mexico was still largely an illiterate society; education in Mexico had improved considerably during the period 1867-1910, and that the Porfiriato had seen the extension of the Barreda Plan to cover the whole country. Equally it can be seen that the mass of the population was still largely unaffected by any educational facilities whatsoever. Barreda had believed that it would take a long time before his plan could be fully effective; the proponents of the 1891 law also felt that it would take several years before Mexico would become a literate society. Notwithstanding this, the situation in 1910 would have been disappointing to both. Their objective of creating an integrated society whose educated population would enable Mexico to propel itself into the forefront of advanced industrialized societies, foundered perhaps on the practicalities of financing and creating the requisite infrastructure of implementing educational reform. Too much time was concentrated upon achieving the appropriate syllabi to be taught rather than on creating the necessary infrastructure. Thus in 1910 there still existed two Mexicos, one rural and illiterate *(Li) and in the majority and another urban *(Li) Daniel Cosío Villegas has pointed out in the work 'Historia Moderna de México - El Porfiriato - Vida Social,' that the folk cultures of the Mexican poor were not all that effected by the new educational system. In the 1890's witches were still being burnt in Puebla without any reaction on the part of the authorities.

and literate, restricted to the higher social classes *(Lii) and to the growing urban working class.

The conclusion that can be arrived at, is that as an instrument of social, moral and economic change Barreda's programme was a failure, but then as will be confirmed in later chapters it is difficult to see how it could be anything else.

One final point must be observed and that is the great enthusiasm for educational development on the part of government, ~~emulated~~ prior to 1877.

*(Lii) Moises Gonzalez Navarro in the above mentioned work suggested that there was a renaissance in clerical education as the new middle-classes were demanding better educational facilities than those provided by the state system.

CHAPTER EIGHT.POSITIVISM AND THE PORFIRIATO.

The previous two chapters have attempted to highlight some aspects of the nature of Mexican positivism and of his aims in the pre-Porfiriato period (1867-1876). The important question still remains as to why the common legend of the Positivist-backed Porfiriato came into existence. The factual basis of this legend lies in that the 'pronunciamiento' of Porfirio Díaz was welcomed by many of Gabino Barreda's adherents. The theme of this chapter and the next one will be an examination of why the 'positivist' adherents should welcome the Porfiriato and whether the period of the Porfiriato saw the existence of a coherent ideological regime and if so, what was the nature of the official ideology.

A simple yet convincing answer to the first question has been supplied by Abelardo Villegas, in his book 'La Filosofía en la Historia Política de México.' Villegas has argued that the Liberal party itself displayed dictatorial tendencies which were clear, not only in the 'Positivists' support of the 'Porfiriato,' but also in the re-electionist tendencies of Juárez and Lerdo, the two Presidents prior to Porfirio Díaz who after all had been a leading Liberal general during the war against Maximilian. This apparent contradiction between the theoretical basis of the Mexican Liberal party and the political actions of his leaders could be explained by examining the overall situation of Mexico in 1867. In that year, although the liberals had been triumphant and had defeated its enemies, nevertheless Mexico retained much of its colonial character and problems. Furthermore as *(i) Vernon has pointed out,

*(i) Robert Vernon, the author of "The Dilemma of Mexico's Development."

there was no tradition of peaceful opposition to the governing party 'of the day' in Mexico.

Opposition groups had either to be absorbed into the governing party or be liquidated, otherwise the likelihood was that the opposition groups would use force to gain power.

It was therefore almost inevitable that the leaders of the Liberal party would choose a semi-authoritarian style of government, hence *(ii) Juárez's period of office lasted nearly fifteen years. Yet to a certain extent, the Villegas argument fails to emphasise that to contemporaries at least, the Porfiriato did mark a break with the 'Juárez-Lerdo' epoch. Of this there is no doubt, for it was clearly spelt-out in an article by Francisco Cosmes, a friend of Barrera and co-collaborator with *(iii) Eduardo Garay, Telesforo Garcia and Justo and Santiago Sierra in the running of 'La Libertad,' a journal which was very pro-Díaz in outlook.

*(iv) "..... Rights! Society rejects them: what it wants is bread. In place of these constitutions, full of sublime ideas which in no instance have we seen realized in practice, it prefers peace, under whose coat it can work quietly;..... and to know that the authorities, instead of launching themselves on a wild-goose chase at the turn of an ideal, will hang kidnappers, robbers, revolutionaries..... No more Utopias! I want order and peace, even when they are at the cost of all the rights which cost me so dear..... I want order and peace even at the cost of my independence....."

*(v) "It is an insult that there still exist men, whose intelligence is so backward that they still believe in the ideas sustained by the legislators of 1857..... No, we are going to try a little enlightened tyranny."

*(ii) It was fortunate for Juárez that he took on the role of the defender of Mexico's sovereignty against the French or Francisco Bulnes's opinion of him would have been more widespread.

*(iii) "La Libertad" was a very prominent pro-Porfiriato intellectual journal. It was noted for carrying on the front page, the legend 'Order and Progress,' the catch phrase of the 'Porfiriato.'"

*(iv) Page 89 'México y su Revolución Educativa.' The actual quotation was from a fairly early editorial in 'La Libertad.' The irony of the statement, considering the name of the newspaper is blatant.

*(v) Page 89, Ibid.

These comments of Cosmes are critical in understanding the attitude of that circle of intellectuals who considered themselves to be the heirs of Barrera. It was not so much a progression of the general attitude of the Liberal party which made them support the Porfiriato. Rather it was disappointment with the actions of Lerdo, in particular which made them look so favourably upon the Porfiriato. Apart from the educational reform of 1867-69 the Liberal party had not been able seemingly to push Mexico along the path of industrialization and hence, the path of progress. Indeed the Lerdo government had seen a return to the chaos of the pre-1867 period. Díaz promised 'order' on which basis a modern state could be built. 'Bread' and 'Order' offered a way forward, while the constitution of 1857 apparently did not! This view of the Porfiriato was repeated by Justo Sierra, though in a more critical and less 'heated' manner.

*(vi) "..... It is a personal government that defends and reinforces legality, springing as it does from the national resolution to banish anarchy once and for all. Hence, while..... in short, the political evolution of Mexico has been sacrificed to other phases of her social evolution. This is proved by the plain fact that not a single political party exist in Mexico, nor any group organized around a programme rather than a man..... The day that a party succeeds in maintaining an organization, political evolution will resume its progress....."

The key words in the above passage are "to banish anarchy once and for all." It was upon this goal that Diaz laid the greatest emphasis in the *(vii) 'Plan of Tuxtepec.'

*(vi) Justo Sierra 'The Political Evolution of the Mexican People' translated by Charles Ramsdell, pages 366 - 367. Sierra himself saw the fall of his own creation the 'Union Liberal' due to suspicion and distrust of political parties on the part of Díaz. *(vii) Diaz's reasons for taking up arms against President Lerdo were first expressed in the 'Plan de la Noria' and then in the 'Plan de Tuxtepec' which was followed finally by the 'Plan of Palo Blanco.' Essentially these statements and apologies of intent consisted of a declaration that Díaz's main motives for rebellion was to prevent the re-electionist tendencies of Lerdo from coming to fruition and to restore 'order.' The attitude of intellectuals such as Cosmes towards Díaz's uprising was similar to that of Comte towards Louis Napoleon's 'Coup de'etat' in December, 1851.

The promise of 'Progress and Liberty' were to be achieved through the restoration of Order; a manifesto highly attractive to intellectuals, who were partly brought up on the works of Comte.

The disciples of Barreda had other reasons for looking upon Diaz with favour, apart from the promise of his self-appointed role as the instigator of a modern Mexico. There had been some friction between Barreda and Lerdo over the continuing implementation of the Law on educational reform of 1869. A more important reason lay in the sphere of doctrine. The central concept of the 1857 Constitution had been the traditional one of all liberal parties, that of Liberty of the individual. It was this concept of liberty for which many of the Barreda circle had the greatest distaste.

*(viii) "Liberty is commonly represented as the faculty of doing or wanting (any) object whatsoever without submission to the law or to any force which directs it..... if such a liberty could exist, it would be so immoral so as to be absurd, because it would be impossible to have any discipline and consequently any ORDER..... Far from being incompatible with Order, liberty in all phenomena whether organic or inorganic, consists in submitting oneself in all plenitude to the laws which determine them."

It was therefore not surprising that the followers of Barreda should choose to support Porfirio Diaz, especially as he was to accept that support, however grudgingly, in the form of choosing from amongst them Cabinet Ministers and high-ranking civil-servants such as Justo Sierra.

*(viii) Gabino Barreda 'Estudios,' essays and letters by Barreda, selected by José Fuentes y Mares, page 9. Also quoted by Abelardo Villegas in his work 'La Filosofía en la Historia Política de México.'

Isiah Berlin in his book 'Four essays on Liberty' has isolated two distinct concepts of Liberty; 'negative' liberty or the opportunity to act as the individual wishes and the concept of 'positive' Liberty. The concept of positive liberty entails the notion of self-mastery viz. to act as an integrated ethical person and not be ruled by one's baser passions. The meaning given by Barreda to the concept of liberty is a derivation of the second concept. The implication is that man is only free if he acts within the laws of nature and knowingly submits himself to them.

The latter, in his contribution *(ix) to 'The social Evolution of the Mexican People,' *(x) a three volume work completed in 1904, gave a general description of the seeming progress of the Mexican nation in all spheres of life.

*(xi) "But, if we compare Mexico's situation at the instant when the parenthesis in her political evolution was opened, with the present moment we must admit that the transformation has been amazing. A peace lasting from ten to twenty years was an idle dream, they said. But ours already has lasted a quarter of a century. It was mere dreaming, they said, to think of covering the country with a railway system that would unite the ports and the centre with the hinterland and the outside world. Only in a dream, would one see a national industry in rapid growth. But all these things have come true and we still move forward. The undeniable achievement of the present administration consists, not in having brought about this change which an extraneous combination of factors would have probably brought about anyway, but in having done everything possible to facilitate the change, and exploit it to their best advantage....."

In this sense of exploiting the process of evolution to its maximum, Porfirio Diaz was seen in the same light as *(xii) Comte's Dictator who was to set the foundation blocks for the fully developed Positivist Society. Moreover it must again be emphasized that the Barrera group were more concerned with the goal of an industrialized and powerful Mexico than with any doctrinal implications of the means used to achieve it. The result was that many of these

*(ix) 'The Political Evolution of the Mexican People.'

*(x) This work was a compendium of articles on the development of 'Mexico' in terms of its economy, history, culture and sociology. It contained essays and research material produced by intellectuals motivated by their interest in the social, economic and political development of Mexico into a modern-industrial state, i.e. they were followers of the Social-Darwinist, positivist and social-behaviouralist schools of social philosophy.

*(xi) 'The Political Evolution of the Mexican People,' page 367. Sierra's defence of the Porfiriato rested wholly on the material benefits gained under Diaz. No longer did he seek to justify it philosophically, morally or even in political terms.

*(xii) Cf. Chapter II of this thesis.

intellectuals were prepared to go all the way in their support of Diaz, even to the extent of acting as propagandists on behalf of the regime.

The best example of such a propagandist was Macedo *(xiii) who produced a theory concerning the necessity of political obligation towards the Porfirio Diaz regime. In 'Las Relaciones entre Ricos y Pobres,' Macedo argued that no opposition of any kind towards a government whose objective was the attainment of peace, could be morally justified. This was even more so, when such a government even though it was a dictatorship, was attempting to facilitate the road to progress. Indeed, the duty of the people under such a government was to 'venerate it' and to be grateful to it. Diaz's regime was such a government, because Díaz had what Macedo called *(xiv) "energía y bondad de carácter." The latter was the most powerful element that could be placed at the service of humanity, according to Macedo. It must be admitted however that Macedo was amongst the most enthusiastic of the supporters of Diaz. It will be shown in the next chapter that Macedo was a representative of the *(xv) Social Darwinist school rather than a Positivist.

The problem of how far did Porfirio Diaz see 'Positivism' as embracing his programme and how far did he regard as merely a useful justification of his regime, now arises. A partial answer can be supplied from an analysis of some of his speeches, quoted in *(xvi) 'La República Mexicana y su Regeneración.' It is to be noted, however that this work only gives edited extracts from a limited

*(xiii) Don Pablo Macedo, a very strong supporter of Díaz.

*(xiv) Quoted by Leopoldo Zea in his work 'El Positivismo en México,' page 168.

*(xv) The actual significance of the term 'científico' will be examined in the course of chapters IX and X, as Barrera, Sierra and Macedo were all regarded as 'científicos.'

*(xvi) A work based upon articles and quotations from the San Francisco 'Sunset Magazine.'

number of speeches, carefully chosen for their propaganda value on behalf of Diaz. However the extracts, given in 'La República Mexicana' are very useful in that they afford a context in which to set his policies.

In the commentary appended to the speeches, the editor argued that Diaz's general programme was primarily an economic and financial one rather than political in nature. Indeed he emphasised the point that the only firm basis for the establishment of political institutions of a democratic nature which were the supposed goals of Mexico's political development, was the attainment of peace, wealth and a sound educational system. Although this argument was probably an 'apologia' for Diaz's dictatorship, there is no doubt that Diaz did emphasise strongly the objectives of peace, industrialization and education in his speeches.

*(xvii) "If, before I die, morality should become rooted in our country, and in the public administration; if the poor find in our country education and bread; if the rich have acquired enough confidence to invest their capital into national enterprises; if from one extremity to the other of the republic, the railway with its robust voice awakes and puts into motion all Mexicans, such a beautiful spectacle would fulfill my desires....."

An even clearer exposition of his 'aims' is given in his 1896 report to the nation.

*(xviii) "The necessity which gave the impulse to the last and supreme jolt of 1876 was the whole nation should then try to exploit its natural elements of wealth; that of repopulating its territory which foreign wars and innumerable civil wars, with their sinister 'cortege' of misery and calamities had almost depopulated, that of (binding) the territory with ample and rapid ways of communication, that of opening new markets for our products, that of procuring the extension of our mercantile transactions, that of ending for once and for all our fiscal penury and up to now its inevitable sad consequences, that of re-establishing the lost national credit; that of promoting in all senses and in all forms public and private prosperity....."

*(xvii) 'La República Mexicana y su Regeneración,' page 22.

*(xviii) Ibid, page 22-23.

The most important of all this various objectives were to be the establishment of 'peace' and the instigation of economic development. The former was the product of all other objectives and their continuity.

*(xix) "... But in order to establish peace, which is a result rather than a course."

These extracts suggest very strongly that the tone and content of the speeches, at least, was similar in spirit to the aspirations of the 'Barreda' group. Indeed they could be summed up by the Positivist slogan of 'Order and Progress.' What is still not clear is how far Diaz was influenced in his policy-making by these objectives and specifically by the advice of positivist and social Darwinist intellectuals. In the context of economic policy, as will be seen, he did carry out much of what he promised in his orations, yet these measures were but a continuation of the projected policies of Juarez and Lerdo. Notwithstanding this, it cannot be said that Diaz adopted consciously the positivist programme, for as will be noted, there was criticism of his social policies or lack of them and also of his economic policy with reference to agriculture by some of the so-called 'científicos.' The latter criticism however took an indirect form.

Finally Díaz's negative attitude to the formation of a new 'Liberal' political party suggests that the argument of positivism or any other systematized philosophy represented the government ideology as being at the very least not strictly accurate. Díaz saw these Mexican intellectuals as useful allies and apologists and in certain areas of government, it would appear that the policy carried out, was in the spirit of the ideas of the 'Barreda' group, particularly in the area of education. Nevertheless there is a still very

*(xix) Ibid. page 23.

considerable doubt as to whether Diaz ever saw himself as the instigator of a 'new' Mexico.

CHAPTER NINE.'POSITIVISM AS THE IDEOLOGY OF THE PORFIRIATO.'

It has been stated, in the previous chapter that Macedo provided a theory of political obligation, justifying the 'Porfiriato!'

In the same book 'Las Relaciones entre Rico y Pobre,' Macedo went on to furnish a justification of Wealth. *(i) Leopoldo Zea saw Macedo's work as evidence of his contention, supported by Villegas *(ii), that Mexican Positivism *(iii) was the expression of a particular class, its instrument in a particular circumstance.

Zea's argument is that the Mexican 'Bourgeoisie' saw its position reflected in the ideas of its European counterpart. It therefore identified its development with that of the European Bourgeoisie and with the concept of progress developed by Comte. It is true that both groups sought 'order,' but whereas the 'bourgeoisie' in Mexico saw in Positivism a 'temporary' ideology, temporary in the sense that it was not going to be the prevailing class ideology, the European 'Bourgeoisie' were for the most part unaffected by Positivism.

The class ideological nature of Positivism was only a transient phenomenon, because the Mexican 'Bourgeoisie':--

*(iv) " did not have to accept positivism but rather it had to serve the former's interest."

The importance of this was that if circumstances changed, positivism which had sustained this class would become a hindrance and hence would be discarded. This situation led to a dichotomy, though certain positivist doctrines could be developed into a coherent

*(i) Leopoldo Zea, the author of 'El Positivismo en México, Nacimiento, Apogeo y Decadencia,' the only full work published on Mexican Positivism.

*(ii) The author of "La Filosofía en la Historia Política de México."

*(iii) "El Positivismo en México," by Leopoldo Zea, section 15, page 50.

*(iv) 'El Positivismo en México.....' section 57, page 168.

'Bourgeois' ideology, Comte had always considered the working classes as against the capitalist classes, as the group which Positivism should appeal to. Thus according to Zea, a double phase of Positivism resulted. One phase of positivism acted as an ideology for a social class, identified with the 'Porfiriato.' The other 'stream' of the doctrine was an 'ideal'-orientated version of positivism, whose adherents opposed the trend of the first phase. This 'dichotomy' theory receives its best justification by a comparison of Macedo's 'justification of wealth' and Agustín Aragón's criticism of certain aspects of Díaz's social policy. Macedo in his work 'Las Relaciones entre Ricos y Pobres' had argued that wealth was a basis of social superiority and the latter was derived from the fact that the rich as a class played an important role in the machinery of society. The value of this class came from its actual possession of wealth which enabled it to offer great material services to humanity in general.

Macedo went further than just claiming 'superiority' on behalf of the owners of wealth. He believed that wealth not only brought social superiority to the possessor, it also brought moral superiority over the poor.

*(v) "..... that superiority could be easily changed into a moral superiority, for it only needs the rich man to employ his fortune for the good..... I do not vacillate in believing that wealth constitutes or at least constitutes moral superiority....."

His reasons for this conclusion were straightforward in nature.

*(v) 'El Positivismo en México.....' Section 57, page 168, Zea quotes Macedo.

*(vi) "When the poor lack this work, they also lack bread, as this is one of the reasons why science and morality remain outside his reach; the first, because to develop it, it is unfortunately necessary to possess a calmness of spirit and rest for the body..... morality, because misery..... does not permit elevated sentiments of altruisme, as spending all intellectual activity in conquering not a future but rather a less hard present than that which he has now; it is thus impossible for him to think of the future and the needs of other people....."

In essence this meant that the wealthy man, because of his wealth, had the leisure and bodily comforts to allow him to develop his moral potential. Macedo also ascribed certain duties to both the rich and the poor which were in keeping with their respective moral and economic positions. The duties of the rich towards the poor consisted of providing work for the latter and in general of insuring the well-being of the poor. The poor, on the other hand, were to show respect and gratitude to the rich for carrying out the aforementioned duties.

Macedo's work is definitely an apologia for the business and land-owning classes. Furthermore it is clear that the underlying principles of his 'work' are derived from social Darwinism.

Indeed his conclusions can be seen as the logical extension of Spencer's own ideas, for the latter never expressed his conclusions on social-economic evolution in such crude yet clear terms.

Wealth is defined as a moral quality *(vii) rather than seen simply as an economic 'description.' On the other hand, the more 'positivist' view was represented in Augustín Aragón's criticism of Díaz's social policy.

*(vii) "I consider that the greatest deficiency of his (Porfirio Díaz) government was to have set at one side the social question"

*(vi) El Positivismo en México, by Leopoldo Zea. Page 169.

*(vii) 'Porfirio Díaz,' Vol. II by Augustín Aragón. The chapter concerning 'Porfirio Díaz y la cuestión social.' (chp. 6).

Aragon, the editor of the 'Positivist Review' from 1901-14, attacked Diaz for not having a social policy. This seeming lack of a social policy, he considered to be a grave defect, as he himself felt that the social question was the most vital problem facing Mexican society and all other societies.

*(viii) "We live in a epoch of profound spiritual agitation, and the next revolution will be the most formidable of all, the Social Revolution! Only Auguste Comte, amongst all the thinkers of the last century, is the sole benefactor of the disinherited classes on a long and sad journey; only he is the star of 'good hope' who shines resplendently on the very dark horizon..... Already in..... the imperious necessity of devoting oneself in body and soul to the study of the pressing social problems. Socialism *(ix) is the rising tide of our time. It will catch us unprepared through improvidence for not hearing the advice of Auguste Comte, who explicitly announced and demonstrated in a decisive manner that the most urgent problem of the contemporary era was the incorporation of the proletariat in the society....."

The only way to achieve a solution was to apply the science of sociology to the problem. Indeed there is an explicit suggestion in Aragon's work that part of the solution may be found in a more equitable distribution of wealth.

*(viii) Porfirio Díaz. Vol. II.

*(ix) Comte, as has been explained in chapter two, saw the working classes as one of the two groups to which 'positivism' should specifically appeal, the other being women. These two groups were outside the orbit of social and political power; so if 'positivism' was to break the 'strangle hold' of the 'status quo,' it had to advance the position of these groups. The heavy emphasis laid upon the proletariat was due in part to Comte's despair and antipathy towards the haute 'bourgeoisie' of the France of Louis Philippe who were happy with the 'status quo.' Nor was anything to be expected from the professional 'bourgeoisie' or from the petit 'bourgeoisie,' both being heavily imbued with 'Jacobin' aspirations for liberty and democracy. Although Comte talked about the need to improve and strengthen the lot of the 'proletariat,' by what tangible means this was to be achieved was not explained. By Socialism, Aragon referred to the Marxist variety, whether democratic socialism or communism. The work 'Porfirio Díaz' was written after the Russian Revolution, as was Luis Lagarrigue's work quoted by Aragon.

*(x) "We must hurry them to work for the diffusion of the science, only the study of the former will lead us to the unanimous opinion that wealth, because it is social in origin, ought to be so in its destination and we only find a pacific solution to the conflict between 'capital' and 'workers,' conditioned by three antecedents which the social science finds in its incessant investigations....."

Three elements which had to be taken into account in any investigation, were the ethical element, the social element (the conservation of civilized life) and finally the economic element. Nevertheless Aragon did not make explicit any possible solution to the problem. There is no doubt however that Aragon *(xi) believed that Díaz's failure to develop a social policy which would incorporate the working classes into mainstream of society, was a great oversight. The best example of how an orthodox positivist stood on the issue is demonstrated by *(xii) Luis Lagarrigue in his book 'La Propiedad.' Although Lagarrigue was a Chilean, Aragon's appreciation of the former's work strongly suggests that Lagarrigue's ideas reflected the views of Aragon, if not other Mexican intellectuals.

*(x) Porfirio Diaz, Vol. II.

*(xi) It would appear that Aragon wished that Diaz should have instigated a policy of social reform, possibly on the lines of Bismark's policies, whereby the conditions of the proletariat would have been improved considerably. Further he was convinced that their economic lot should have been improved. His approval of Lagarrigue's 'dicta' suggest that he envisaged some form of quasi-corporate state as being the ideal society.

Indeed Comte's own description of the positivist society is a representation of such a state, certainly that society would act as a corporate society.

*(xii) It would appear that Luis Lagarrigue was a relation of Jorge Lagarrigue (1864-1894) the great Chilean positivist. The latter was such a strong admirer of Auguste Comte, that despite being a Chilean by birth, he became a French citizen. Moreover he became a leading figure in the church of humanity, founding a Chilean branch of it and using his influence among his friends in Chile to raise money to purchase the house in which Clotilde de Vaux had lived, for the Church of Humanity.

Luis Lagarrigue himself, appears to have followed his more famous namesake in his adherence to the 'Orthodox School.'

*(xiii) 'Positivism y Comunismo.'

"While they (the communists) persist in confusing the spiri-
-tual order with the temporal, the problem planted by the
communists does not admit another solution other than that
they give themselves."

"Positivism accepts totally the material problem relating
to property set forth by the communists, but it rejects the
political solution the latter have given."

"Positivism accepts the participation of people in public
life, but it transforms political co-operation from the
government sphere, to which it is assigned by communism, into
a material co-operation of public opinion which is the
supreme and incontestable government of the World."

"Positivism proclaims that property is social, but it rejects
the communist programme of transforming private management
to State Capitalism *(xiv)."

"While the communists are only occupied by the form of
possession..... Positivism regulates the capitalist
management imposing unavoidable social duties on those who
order and those who obey, in the industrial arena....."

"Communism has tried to organize labour, before the education
of the people. Positivism on the contrary, proclaims that
the moral education of the proletariat ought to precede the
social organization of labour."

Aragon argued that Diaz did have a specific social policy, but it
was a policy that went contrary to the ideas of the Orthodox
Positivists. Díaz's policy was to support the status and position
of the 'establishment elites;' the landowners, the urban upper-
bourgeoisie and foreign companies and investors, for it was from
them that he received the necessary support to maintain his system
of government.

*(xiii) 'Porfirio Diaz, Vol. II, Appendix I, attached to the end
of the chapter entitled 'Porfirio Díaz y la cuestión social.'
Agustín Aragón quoted Lagarrigue's work with great approval. Aragón's
work on Porfirio Díaz was largely written in the 1920's and hence
his interest in comparing the Positivist view on the social question
as against the Communist view. The social question itself related
to the problem of social, economic and political equality.
*(xiv) This paragraph mirrors the fourth International's (the
Trotskyist view) criticism of the Soviet economy which has consisted
of creating a State Capitalist System which by its nature ensures
the worker's lack of power over their actions in their place of work.

On the surface it would appear that Zea is correct in his analysis of Positivism serving as the temporary ideology of the *(xv) Mexican 'Bourgeoisie,' and concerning the double-nature of positivism.

Nevertheless, there are certain weaknesses in his thesis which though they do not undermine his basic argument, for it is correct to stigmatize 'Positivism' as a 'bourgeois' philosophy, do weaken the context in which it is set. Zea's arguments concentrate on the idea that ideologies are tools which can be used and then discarded at will. This view is made abundantly clear when Zea writes about the nature of Comte's ideas.

*(xvi) "Auguste Comte is the spokesman of a clear social class. This class is the bourgeoisie..... The bourgeoisie had achieved power; well then, other groups in their turn wished for this power, and for it they wielded the same ideas which the bourgeoisie had wielded against the old powers, the aristocracy and the clergy. Liberty, Equality and Fraternity, concepts which once served the bourgeoisie to take over power, were now being used by the groups which still had not achieved this power. The bourgeoisie had the problem of having to invalidate a philosophy which had served it to attain power..... In order to invalidate a revolutionary philosophy, a counter-revolutionary philosophy, that of Order, was necessary. But the latter had to be developed without falling into the old order....."

*(xv) What composes this 'Mexican Bourgeoisie' is never made clear by Zea. The author's opinion is that it describes the professional classes, native 'entrepreneurs' and middle-ranking civil servants. Comte's conception of the 'bourgeoisie' was more specific than Zea's. To Comte the bourgeoisie was composed of 'rentiers' who were barely distinguishable from the reactionary 'aristocracy' and the professional classes, mainly teachers and lawyers, men who were so riddled with the poison of the 'Great Revolution' that their class would have to be destroyed before the 'Positivist Society' could be brought into being. This was one of the acts that Comte looked to Napoleon IIIrd to carry out in his role of 'Dictator' (Comte used the old Roman definition of the term i.e. a man with a constitutional function). Zea appears not to have realized that despite Comte's frequent mentions of 'industry' and industrial management, latter's system of philosophy was largely a pre-capitalist one. Capitalism in France in 1830s and 1840s was in the main restricted to the financial sector and industrial capitalism was still on a very small scale, limited to the mining sector in the North and East of the country.

*(xvi) Page 40, 'El Positivismo en México,' Fondo de Cultura Economica, by Leopoldo Zea, 1965.

Auguste Comte was therefore the man who created the new philosophy which discredited the old revolutionary doctrines of 1789-93.

Yet it was not a return to the even older doctrines of order and harmony which belonged to a period of aristocratic and clerical power. Thus was developed the concept of order and progress, *(xvii) there was no progress without order and no order without progress. Such a view of Comte and his place in the theory of ideas is interesting, yet it is false, for Zea forgets that in France at least Comte was never accepted by the 'bourgeoisie' and his ideas were only accepted by a small section of that group, the intellectuals and even then by only a minority of them. In part the reason for this is straightforward. Comte was never a believer in the 'market-place' and its consequent social relationships, this precluded him from being the champion of the bourgeoisie. After all the 'market place' was and to some extent is the central ethic of the bourgeois state and someone who denied it and attacked it, was not liable to be seen as its champion. Zea, as has been said, sees ideology as a weapon or tool of a social class or group. Indeed *(xviii) Zea states that he adheres to Karl Mannheim's thesis that all ideology is the expression of a social class and that it is the instrument which justifies its interests. This appears to be a misinterpretation of Mannheim's work *(xix) 'Ideology and Utopia.' Zea's definition of ideology is what Mannheim described as the 'total conception of ideology,' whereby the term 'ideology' can be described as a group 'Weltanschauung', ~~that~~ is not only the ideas, but the mode of thought of

*(xvii) 'El Positivismo en México' Page 41.

*(xviii) 'El Positivismo en México' Page 40.

*(xix) Edition used, 'The Routledge and Kegan Paul' edition of 1960. Cf section two of the work for an analysis of the definitions of the word 'ideology.'

an individual is seen as the function of the life situation of a social grouping. Mannheim himself was attempting to develop a sociology of knowledge which would analyse ideas on an unbiased level, using as a starting point for his subject, the history of the definitions of the word 'ideology.'

Zea on the other hand has taken one of these definitions and has used it out of context. Mannheim, in section two of his work 'Ideology and Utopia' had categorized the word 'ideology' as having two prime meanings, the particular 'conception' and the total 'conception' of the term. The former is used on an individual level when as Mannheim puts it:

*(xx) "The particular conception of ideology is implied when the term denotes that we are sceptical of the ideas and representations advanced by our opponent. They are regarded as more or less conscious disguises of the real nature of a situation....."

Zea, in his analysis of the role of Comte, has taken the definition of the word ideology, in its 'total conception' and placed it in its particularist context. He has implied that an ideology can be discarded on a conscious level by a social group and be replaced again on a conscious level by another one. This tends to reduce the term to a synonym for a class 'apologia' at best or a party-political broadcast at worst. Instead of Zea's view of ideology, the definition of the latter which will be used in this work, is also based on Mannheim's work 'Ideology and Utopia.'

*(xxi) "There is implicit in the word 'ideology,' the insight that in certain situations the collective unconsciousness of certain groups obscures the real condition of society both to itself and to others and thereby stabilizes it....."

*(xx) 'The Routledge and Kegan Paul' edition, page 49, of 1960.
 *(xxi) 'Ideology and Utopia,' page 36, Mannheim suggests here that a 'class' can have a picture of society which in concrete terms is false not only in relation to its own position but also in relation to the roles of other groups.

Hence the *(xxii) 'ideology' of a social group will change inasmuch as its unconscious interpretation of its social, political and economic conditions change. Thus one may agree with Zea that the means whereby a class does change with the circumstances which it finds itself in, yet it does so in a more evolutionary manner than that suggested by Zea.

On the question of Positivism in Mexico, Zea states in his introduction that he is dealing with a philosophy as it was developed in Mexico, rather than as an international philosophy. This is a major point, as there was no overall 'takeover' of positivist doctrines, instead those precepts which were accepted were combined with other doctrines such as 'Social Darwinism,' by bourgeois 'ideologists.' After all positivism was a foreign philosophical movement which if it was to become a practical programme, had to be adapted to Mexican circumstances. This is a reasonable argument, but there is a contradiction within it. Many intellectuals in Mexico such as Aragon and Barrera claimed that they were orthodox positivists and that positivism was a universal doctrine and hence clearly differentiated themselves from those who held Spencerian beliefs. It is therefore disingenuous of Zea to talk about a philosophical system on the one hand and then at the same time to view it as an ideology.

*(xxii) Cookcroft in his work the 'Intellectual Precursors of the Mexican Revolution 1900-1913,' published 1968 by the University of Texas, has produced a sound definition of the term 'ideology.'

"By the word 'ideology' is understood a coherent and publicly articulated set of ideas or opinions, affecting one or more social groups..... The development of an ideology, however cannot be understood solely in terms of its ideas or the impact of its ideas. Ideologies have to be examined in the larger social contexts in which they occur, flourish, or go neglected. Ideologies and their impacts are in this sense, intricately related to the emergence of important groups suffering specific grievances or having ambitions to be met

"The intellectual Precursors of the Mexican Revolution 1900-13" University of Texas 1968.

This definition will be used in examining the nature of the mounting opposition to Diaz in the 1900s and hence the nature of the latter's regime.

In terms of philosophical systems, Zea appears to have fallen into the trap, pointed out in this work, of confusing positivism and Spencerian Darwinism. Thus Macedo, one of his main examples of a Positivist intellectual, judging by the evidence provided by Zea himself, was a follower of Spencer in terms of his social theories and not of Comte. Indeed Zea apparently believes that the so-called science-based philosophies of nineteenth century Western Europe formed one cohesive unit; they did not! Yet Zea's definition of a Positivist is that of an intellectual who held ideas based upon none-marxist philosophies which claimed scientific backing, a definition too general to be useful in this case. The reason for the confusion appears to lie in Zea's definition of the term 'ideology' and his equating of a philosophical system with an ideology.

It must be pointed out that philosophical systems do not become ideologies on their own; rather those elements which are desirable and useful are absorbed with other elements into the prevailing class ideology, in fact it can be stated that such factors are adopted because they are succinct expressions of the prevailing class self-justification. These various elements then become fused together to form a general system which reflects the prevailing ideology, as in the case of "Laissez-faire Liberalism." If circumstances change radically the system will be discarded as the external vehicle of the class ideology, because it no longer serves efficiently the latter; but this will be an evolutionary process and not an act of conscious will.

Further Zea conceives the 'Bourgeoisie' as a homogeneous grouping whereas it is a heterogeneous class. Indeed it is a mis-nomour to allude to a 'middle-class' as there are 'middle classes' *(xxiii).

*(xxiii) In the Spanish and Spanish-American context one can talk of the different interests of the 'clase acomodada' and the 'clase media.' The former consists of senior army officers, senior civil servants, professional men etc., while the latter consists of petty 'civil servants,' clerks, artisans, teachers etc.

The life-style of a professional man differs from that of an artisan or from that of a small shop-keeper or even that of a wealthy capitalist, not only in the economic sphere, but also in the attitudes held by these classes. Their basic ideological interests may be the same, but the emphasis these groups place on these interests will differ, often radically enough to cause inter-group conflicts, as in *(xxiv) the case of the national bourgeoisie versus the international Bourgeoisie in Brazil in the 1950s or in the case of France where there is an almost perpetual clash *(xxv) between large-scale capitalists and artisans and small shop-keepers. Hence although many sections of the Mexican middle classes accepted the 'Porfiriato' and thus Macedo's views, others did not.

*(xxiv) Cf. Skidmore's 'Politics in Brazil' for an analysis of the conflicts during the period 1955-64. The national 'Bourgeoisie' can be described as the native entrepreneurial class who are not dependent upon foreign capital, whereas the international 'Bourgeoisie' are seen as the representatives of 'International Capitalism.'

*(xxv) Viz. 1975 legislation on the requirements of local chambers of commerce, (dominated by small shop-keepers) approval in relation to the setting up of super-markets.

Indeed attacks on *(xxvi) 'Jacobinism' *(xxvii) were an almost constant theme in the works and speeches of the Barreda group *(xxvii). The importance of this is that by Jacobinism, was meant 'strict constitutionalist' democracy. There is no doubt that many segments of the middle classes, particularly among the professional and the national bourgeoisie were envious of the governmental aid given to foreign firms investing in Mexico, and were strongly if not actively opposed to the Porfiriato. In this context it has to be remembered that the Mexican Revolution of 1910-20 began as a Liberal democratic revolution under Madero and the *(xxviii) initial supporters were largely drawn from the two aforementioned groups. The intellectual apologists of the 'Porfiriato' attempted to undermine this particular Liberal ideology and they had believed that this had been accomplished by the Porfiriato.

*(xxvi) 'Jacobinism' as used by the Mexican 'Positivists' tends to refer to the Liberal ideology as expounded by Juárez and Lerdo, though its detailed meaning was never made clear.

*(xxvii) Again this points to a difference between Mexican Positivism and Brazilian Positivism. The latter used the term as a term of approbation (using it to describe themselves), while the Mexican Positivists followed Auguste Comte's usage. Two other significant differences should also be mentioned, whilst the positivists in Rio do Sur took over the whole of Comte's programme including the 'Church of Humanity,' there was never a mention of the latter in the writings of Barreda and Agustín Aragon, both of whom can be considered as 'Orthodox Positivists.' This difference in attitude can be explained in terms of Mexican political history; both Barreda and Elizalde were supporters of Juárez and the Liberal party. The latter over a period of years had been in conflict with the church and it was the aim of Liberal politicians to diminish if not eradicate the church's social and political power. The emphasis had been on anti-clericalism and not 'per se' the Catholic Church. Thus both Barreda and Elizalde had been 'brought up' in an atmosphere of clericalism, but they never had the wish to challenge the church's doctrine by setting up a rival institution. At all times those who professed to be positivists in Mexico, adopted an anti-clerical attitude and never displayed any inclination towards the 'Church of Humanity.'

*(xxvii) The final difference was that whereas for the main part, Brazilian positivists had some vision of what a Positivist state should be like and actually in the case of 'Rio Grande do Sur' enacted a 'Positivist' constitution for the state while the Mexican positivists had no such clear view. Positivism had a much greater hold in Brazil than in Mexico.

*(xxviii) Cf. Rutherford 'Mexican Society during the Revolution' published by the O.U.P. and Barry Carr's Occasional Paper, 'The Peculiarities of the Mexican North, 1880-1928.' (Glasgow University) Page 10-11 in the latter work.

*(xxix) Carlos Díaz Dufoo in his book the 'Future of the Hispano-American Nations,' comments -- "Commerce, industry and the state have been able to allay the hunger of the excessive middle class, revolutionary chiefly through the necessity to get a livelihood....."

*(xxx) "The new middle class, a product of modern industrialism, is allied with all the interests that lend a proper life to society and state....."

Zea has argued that it was only in 1910 that the Mexican Bourgeoisie were able to express themselves and their interests as a coherent integral class unit; whereas before it had to combine its interests with those of other classes, in particular those of the land-owning classes because of its lack of strength. It was precisely when the bourgeoisie was strong enough to express itself as a class overtly that the 'death-knell' of Positivism was sounded, as its role of ideology of a nascent class was over.

*(xxxi) "The Mexican bourgeoisie to attain Order, had to combine their interests with those of other classes. The established order had slowly to transform itself into an Order in which the conflicting interests of the other classes could be realized. Positivism was trying to help in this co-ordination of interests in this Order; but there arrived a moment at which the idea that men had regarding the (concept) Order of such a doctrine (Positivism) was hostile to the interests of the classes with whom the Mexican Bourgeoisie had tried to reach an accord. The time came when the order, *(xxxii) based upon the Positivist doctrine, was not the Order which was required by reality; the ideas of the Positivist Order were converted into ideas of disorder, thus losing their justification as a social doctrine of order. This was the moment at which these ideas lost their relation with circumstances and they were transformed into a Utopia....."

*(xxix) 'Mexico, its Social Evolution' Vol. II, chapter V. ('The Situation and future of Mexican Industry' (final section) Carlos Díaz Dufoo, page 286.

*(xxx) 'Mexico, its Social Evolution' Vol. III page 286.

"An analogy can be made to the period of Franco's rule in Spain. In both cases, under the personal rule of a 'Caudillo,' a period of rapid economic development saw the rise of an urban managerial middle class, though in the Mexican case it was not as large as in Spain.

*(xxxi) 'El Positivismo en México' by Leopoldo Zea (Fondo de Cultura Economica) Page 51.

*(xxxii) By 'Order' Zea means political and social stability. By 'Positivist Order,' he refers to the political and social system established during the Porfiriato, i.e. a personal military dictatorship backed by foreign investment.

It is true that the relative order and stability of the Porfiriato was of great benefit to the Mexican commercial classes and that the Barreda group stressed the virtue of the Porfiriato in regards to the establishment of peace and order.

*(xxxiii) "A piece lasting from ten to twenty years was an idle dream, they said. Ours has already lasted a quarter of a century. It was mere dreaming, they said, to think of covering the country with a railway system which would connect the ports and the centre with the hinterland and the outside world. Only in a dream would one see a national industry in rapid growth. But all these things have come true....."

*(xxxiv) "..... (government). It has been entrusted to one man, not only for the sake of peace and economic progress, but also in the hope of neutralizing the despotisms of the other Powers, eradicating the caciques and disarming the local tyrannies....."

Yet the overwhelming stress on the benefits which the Porfiriato brought in terms of stability and economic progress does not on its own mean that the Barreda group had developed a bourgeois ideology. Indeed as has been seen in chapter seven, Positivism had come under attack in the late 1870s and early 1880s even from men *(xxxv) who were ministers in the *(xxxvi) 'puppet' government of Manuel Gonzalez. This fact is not in accord with the scenario presented by Zea; what it suggests, is that the heyday of positivism lay in the period immediately after the Restoration of the Republic, before the economic upsurge of the Porfiriato. In other words, Positivism was at its apogee in Mexico before the development of a capitalist middle class.

*(xxxiii) 'The Political Evolution of the Mexican People' by Justo Sierra published by the University of Texas, page 367.

*(xxxiv) 'The Political Evolution of the Mexican People' by Justo Sierra published by the University of Texas, 1969. Page 366.

*(xxxv) Cf Chapter seven of this thesis for the attacks on the 1867 Educational Reform.

*(xxxvi) Diaz was a member of the cabinet and in fact controlled the government. Diaz, to make good his belief in no 'Re-election,' stood down from the Presidency in 1880.

Therefore it is possible to suggest that Mexican Positivism was an expression as in France of a section of the middle classes which existed prior to the appearance of a sizeable capitalist class, that is the professional and intellectual classes. The victories of 1857 and 1867 of the Liberal party also represented the triumph of this group, whereas the Porfiriato saw the rise of a new middle class group, *(xxxvii) the capitalist entrepreneurial group, which was not attracted to a philosophy which was never developed to express their interests. It is to be remembered that Comte, Barreda and other positivists of the mid-nineteenth century never developed any economic theory worthy of mention.

Nevertheless on one point Zea is quite correct in his analysis and that is that Barreda in 1867 believed that the Positivist doctrine offered the basis of a political programme as well as being a philosophical system which explained the history of the development of Mexico. The Educational Laws of 1868 were the implementation of that political programme. Hence this thesis has been based on a two-pronged analysis. The first being an attempt to measure the impact of Positivism as a political programme on Mexico and the second being an attempt to measure the coherence of Mexican positivism in terms of a philosophical system.

The events of 1904 to 1911 were to prove Carlos Dufó's belief's *(xxxviii) to be unfounded, for many sections of the middle classes desired direct political power as well as economic

*(xxxvii) It must be made clear that the stimulus to the development of this 'entrepreneurial' class pre-dated the arrival of philosophical systems which could be said to favour the rise of this class. The seed of this development was the perpetual fear of the U.S.A. among Mexican Leaders.

*(xxxviii) Cf Quotation (footnote 29) taken from Carlos Dufó's chapter on the economy in 'Mexico, its Social Evolution.' Vol. II, chapter V.

power, and even the latter had not been wholly achieved during the Porfiriato. In conclusion, it can be plausibly suggested that Zea's original thesis is too sweeping and does not allow for contradictory views among the bourgeoisie and is based upon a distorted view as to what Positivism embodied, as well as being derived from a confused view as to the meaning of the term 'ideology.' Yet the kernel of his argument that the Barrera group were exponents of a middle-class 'philosophy' which was to weld the middle classes to the Porfiriato is correct.

C H A P T E R T E N.THE "UNION LIBERAL."

One of the two main contentions of this work has been that the Mexican movement never formed a coherent philosophical school; rather that positivism as a philosophy was only one of several European 'science' based systems, which were current in Mexico during the second half of the nineteenth century, of which 'Social Darwinism' *(i) was the most important.

*(ii) "It is not our intention to expose it here in the *(iii) 'school' style, but the title alone of our book indicated that though we could dissent from the formula of social laws, and some following the Spencerian school might profoundly assimilate them to the biological laws, while others would consider them essentially psychological according to Giddings and perhaps the great majority fundamentally historical, in consonance to Auguste Comte and Littré....."

Even this statement by Justo Sierra is perhaps too simplistic in its analysis as his own ideas were influenced by both Littré and Spencer. Yet despite this lack of coherence in their views, in all but the most general points, mostly concerning the need for Mexico to industrialize and their support of the Porfiriato, the followers of Barrera had been characterized as a tight band of intellectuals who spearheaded the 'Porfiriato.'

*(i) The differences between Positivism as expounded by Auguste Comte and Social Darwinism as presented by Spencer have been discussed in chapter V (of this thesis).

*(ii) Part 7. 'Political History,' by Justo Sierra, 'Mexico, its Social Evolution' Vol. II. The latter was a three volume work published in Mexico in 1904. It was a compendium of articles and essays on such themes as the political, economic, and agrarian development of Mexico by the leading Mexican intellectuals.

*(iii) 'School' style refers to particular philosophical system. Justo Sierra was thus indicating that the work, 'Mexico, its Social Evolution' was not the product of a particular philosophical school rather than the authors were members of diverse 'schools.'

The origins of this 'Revolutionary' myth, *(iv) as John Rutherford has dubbed it in his book 'Mexican Society during the Revolution,' date back to as early as the 1890s. The label 'Cientifico' arose as a *(v) half-jocular, half-cynical term, derived from the fairly frequent recourse of Mexican financiers and their apologists to what Rutherford and others have described as *(vi) 'Positivist Sociology' and especially to its 'criterios Cientificos' for self-justification. Considering the paucity of social-economic themes in Comte's works and also, though to a lesser extent, in Littré's books, it is more likely that they had recourse to Hacedo and to Social Darwinism. By the time of the Madero revolution, the Cientificos had come to be regarded as forming a secret non-official party whose objective was to safeguard and further their individual members' financial and business interest *(vii). Luis Cabrera *(viii) a prominent intellectual during the Revolution 'coined' his own definition of 'cientificismo' consisted of the commercial and financial monopolization and the unfair business competition which large businesses exerted in their particular sectors, under official influence and sanction. There is no doubt that such a process was going on during the Porfiriato, but whether this process should have been described as 'cientificismo' is open to doubt. Possibly the reason why Cabrera used the term was because it was already a term of opprobrium.

*(iv) 'Mexican Society during the Revolution,' John Rutherford, Clarendon Press 1971. Pages 190-191.

*(v) Ibid. The origins of the term are given as a footnote, Page 191.

*(vi) This assertion is made in a footnote on page 191, but Rutherford does not put forward any evidence to support this assertion.

*(vii) 'Mexican Society during the Revolution,' page 191.

*(viii) Luis Cabrera (1876-1954), a prominent Carrancista intellectual, for an exposition of his social critique of the Porfiriato. cf 'Mexican Society during the Revolution.'

Nevertheless amongst the Liberal Bourgeoisie there was by 1910, much antipathy towards this supposedly 'sinister' and mono-lithic group. Indeed *(ix) Ramon Corral, Vice-President of Mexico (1904-10) was persistently attacked during his period of office for being a leader of this group, as was Jose Yves Limantour *(x) whose newspaper 'El Imparcial' was reputed to be the organ of the científicos. The term had also implications of xenophobia, for as Rutherford has pointed out, many of the so called 'científicos' were alleged to be of fairly recent European descent, Limantour being a case in point. This antipathy to the científicos suggests that the 'kernel' of the myth lies in the frustrated discontent amongst the middling to small entrepreneurs and businessmen who felt shut out of the developing Mexican economy. In fact by the beginning of the Revolution, the term had become an *(xi) epithet to tar any unpopular movement or politician, including Madero and Pascual Orozco.

The best method of examining what truth lies behind this myth, is to analyse the attempt in the 1880s to create a political party whose members were later to be described in the main by the label of 'Científicos.' Its failure suggests strongly that whatever malign political-economic influence was wielded by individual 'científicos,' it was wielded on an individual level and not as part of a secret conspiracy. Furthermore such an analysis is of importance in determining the role of the Barreda group as an

*(ix) Ramón Corral (1854-1912).

*(x) José Yves Limantour (1854-1935); for a considerable period of time he was Porfirio Díaz's Finance Minister. He was of French descent on his father's side. He was the author of 'Apuntes sobre mi Vida Política' (Mexico, 1965), a political autobiography covering the latter half of the Porfiriato.

*(xi) 'Mexican society during the Revolution' cf. page 192 for the attacks on Madero (1873-1913) and on Pascual Orozco (1882-1915). The latter was a Maderista leader at the outbreak of the Revolution before coming the leader of a rebellion against Madero.

intellectual movement under Diaz and the latter's attitude towards it. The origins of this political party go back to a social and political essay written by Justo Sierra in 1889 in his journal

'The Nacional Revue of Arts and Sciences.'

*(xii) "We have not wanted to or been able here to do anything else than a tenuous outline of the considerations through which *(xiii) a plan of "conservative behaviour," in order to realise a liberal polity, can be organized. We can conjecture that when a party with such a base is organized (and at some time it will be organized or the vitality of Mexican democracy will have been a myth), it will be confronted with a radical faction which probably sincerely wishes to realize the egalitarian articles of the democratic faith. It (the Radical party) will claim the absolute omnipotence of the legislative power at the risk of making justice into a phantom, and above all with carrying to an extreme, in a spirit of complete intolerance, the prohibitions of reformist legislation."

Sierra in this essay re-emphasised his criticisms of the 1857 constitution, first expressed in 'La Libertad' *(xiv).

*(xv) "..... In communities of such an incoherent social state of such a *(xvi) dangerous geographical situation, of such a divided Constitutional organization as ours, active organ of the state, necessitates..... a number of powers superior to those which the constitution gives it."

*(xii) 'Porfirio Díaz' vol. I, chapter XI.

*(xiii) Justo Sierra was setting down in this article the theoretical justification for the necessity of a party whose outlook would be liberal in political matters, but conservative in terms of social and economic policies; hence the term "conservative behaviour." The party's role would be as a counterpoise to those who wished to implement the whole of the 1857 constitution in actions as well as 'words.' Sierra saw this faction as a thread to the stability of Mexico and to its peaceful development, because of its emphasis on extreme individualism.

*(xiv) The first edition was published on the 5-1-1878. Justo Sierra was its originator and on the 9th May became its director. It was a Liberal-Conservative daily.

*(xv) 'El Positivismo en México: Nacimiento, Apogeo y Decadencia' Leopoldo Zea. The original quotation came from an essay 'Mexico, Social y Político,' page 378 'Revista de Letras y Ciencias,' published 1889, Mexico.

*(xvi) Mexico's proximity to the U.S.A.

This was not sufficient, as there existed the danger that the nation would delegate all its rights to the government. In order to avoid this situation, the legislature had to be maintained; it would have control of all legislative power. Nevertheless if the legislature was to be a reality, the executive would have to be granted wider legal powers than it was now receiving from the legislature. In essence this meant that Sierra was arguing for greater power to be given to the Presidency and thus allow it to overrule the legislature in certain matters.

*(xvii) "It is necessary, if we wish that parliamentary government may be a fact, to augment the legal powers of the executive in the Constitution so that the latter will not seek them in practice, even outside the Constitution."

As has been said, Sierra believed that the main check on any tendency in the executive towards tyranny was the legislature. If the latter was to become a genuine democratic body, compulsory education had to be introduced.

*(xviii) "Compulsory education and compulsory voting are two great necessities of Hispano-American democracies; all adults should know how to read and to write, all citizens who know how to read and write, should vote."

During the years 1890-91, admirers of Sierra, some of whom were already members of both the Chamber of Deputies and the Senate, met together to discuss the national situation and they finally resolved to constitute themselves into a political nucleus with an *(xix) "organic programme of government." It is to be noted that the story of this political grouping is somewhat convoluted; the two main direct sources, Aragón's

*(xvii) 'El Positivismo en México,' page 399. The original quotation came from the essay 'México Social y Político.' Sierra wished to legalize the powers sought by the executive, before the latter gained them by extra-parliamentary means, including force.

*(xviii) 'El Positivismo en México,' page 399, from Sierra's essay 'México Social y Político.'

*(xix) Porfirio Díaz, vol. I, chapter XI by Agustín Aragón.

'Life of Don Porfirio Díaz' and Limantour's 'Political autobiography,' are mutually antagonistic in their attitude towards the 'Unión Cívica.'

They decided to present this programme to Díaz as a sign of support for his administration. This was in fact accomplished with the aid of Manuel Romero Rubio, Minister of the interior and the father-in-law of President Díaz. Indeed according to Limantour the Sierra group had actually initiated their plan in Romero Rubio's house.

*(xx) "..... the idea initiated by the group of friends who came together in the house of Romero Rubio -- many men of worth in all the social spheres, who aspired to work to maintain the political balance of the country and to definitely assure the 'Public Peace, at the same time developing the national wealth.....'"

This ensured a cordial reception for the deputation which consisted of Justo Sierra, Pablo Macedo, *(xxi) José Yves Limantour and Rosendo Pineda. The latter was elected as the leader of the group in the Chamber of Deputies. The influence of this group depended very largely on the support they received from Romero Rubio whose secretary was Pineda. Romero Rubio's death, three years later, was of great importance, for the 'Unión Liberal' no longer had a patron who had the absolute confidence of Porfirio Díaz. From that time onwards, according to Limantour *(xxii), Díaz *(xxiii) became increasingly suspicious of the Sierra group.

*(xx) 'Apuntes sobre Mi Vida Pública,' José Yves Limantour page 16; published in Mexico 1965.

The party's political programme, a misnomer as it was a set of philosophical postulates, is discussed later on.

*(xxi) Later in 1893, Limantour became the acknowledged head of the group, when he became the Minister of Finance in the government.

*(xxii) cf. chapter VI of 'Apuntes sobre Mi Vida Pública.'

*(xxiii) The irony is that according to Limantour, the Unión Liberal was founded in part because of Díaz's desire to have a more democratic facade around his government. (Ibid page 16).

"..... who (the founders of the Unión Liberal) taking advantage of the desire expressed by General Díaz to various friends of his, among others Rosendo Pineda that he could be able to give to the next elections a form more in harmony with the system of popular representation."

Before examining the circumstances of the official creation of the 'Unión Liberal,' the doctrinal base of their political programme should be described. This is best done by quoting the scientific postulates of the group, given by Augustín Aragon, in Volume I, of his book 'Don Porfirio Díaz.'

- a *(xxiv) "All men tend to choose, for the resolution of their problems, the best measures, of those which they find in their reach or in their orbit."
- b "When there is divergence among theoreticians, recourse to violent methods to impose whatever opinion, only produces evils....."
- c "When theoreticians appear to agree, the concord is also established between them and the masses."
- d "Experience demonstrates that in such cases (b), violence is always used to sustain opinions which are disappearing..."
- e "Thus experience also teaches that the intervention of violent methods aggravate and multiply the evils which result naturally from mental and moral discord..... Experience also demonstrates that the only and surest method of accelerating the re-establishment of moral and mental harmony consists of the most complete guarantees of individual liberty."
- f "Temporal government lacks the means of achieving the spontaneous fruit of historical evolution and before its arrival, all zeal to put an end to anarchy is unproductive"

These 'postulates' appear to be a blend of orthodox liberalism, positivism and social Darwinism. The emphasis on liberty definitely showed the influence of Spencerian 'liberalism' upon the group, while postulate (f) with its emphasis on intellectual revolution and on the process of historical revolution shows a certain 'positivist' influence.

In 1892 the group decided to form a party organization. Thus all the different liberal factions were invited to a conference to discuss the setting-up of a new political party. The social and administrative centre of the new party, the 'Unión Liberal,' was

*(xxiv a-f) 'Don Porfirio Díaz' Volume I, chapter XI.

the Casino Nacional and from that place the manifesto of the new party was launched. The manifesto was a reiteration of the general objectives of the Sierra group.

*(xxv) "On the said document, masterly written by Justo Sierra, the signatures of eleven people appeared, amongst whose names, was mine. It tried to lay the foundations of the permanent objective of National Political Education, placed under the aegis of that exceptional man, 'Porfirio Díaz,' who was in power and uniquely capable to bring into effect such a great task."

It was clear that the principle organizers had no intention to propound a policy line opposed to that of Díaz, the 'UNION LIBERAL' was not created to be an opposition party, rather it was to act as a ginger group, whilst giving general support to the government. Indeed an important stimulant to the foundation of the party had been Porfirio Díaz's own privately expressed opinion *(xxvi) that he might be able to give the next elections a form more in harmony with the system of popular representation. Despite this quasi-approval on the part of the government towards the formation of a political party, not directly under its aegis, the end of the electoral campaign of 1892 did see a partial 'crumbling' of the 'Unión Liberal,' as the government no longer needed it as an electoral vehicle. Porfirio Díaz's benign attitude towards the party had been due almost solely to his belief that it provided a good 'vehicle' for his re-election as President, in that it gave an aura of democracy to the election.

*(xxvii) "In the manifesto which it issued to the Mexican people, the 'Unión Liberal,' expressed which ideals it pursued and who was to be the candidate for the Presidency of the Republic for the next four years, General Porfirio Díaz."

*(xxv) 'Apuntes sobre mi Vida Pública,' Limantour, page 17.

**{xxvi) 'Apuntes sobre mi Vida Pública' page 16.

*{xxvii) 'Apuntes sobre mi Vida Pública' Limantour, page 17.

*(xxviii) "General Díaz had been very satisfied with the result of the convention..... Trying to solicit a popular vote..... he needed to prepare his re-election and to carry out in a form which would make very clear the national desire of keeping him in power for another four years..... A thing which could not be achieved with an election of the customary type, that is without any preparation or organization.... .."

Notwithstanding a certain number of the group who were the originators of the 'Unión Liberal' were determined to keep the party alive as an active political force; any other action would be tantamount to admitting to having taken part in a political farce. Yet this was precisely what had happened, and it shows their political naivety in not realising this. Furthermore, as Limantour pointed out, they had no chance of forming a strong political party which they had sought without the support of the government; without it, they would form an unsubstantial grouping.

*(xxix) "The trick suffered by the instigators of the 'Unión Liberal' brought unforeseen consequences. The most important of which was that in place of forming the great Liberal party, strong and permanent, so desired by the initiating group, a unique aggregation was born, as from nothing without any form or organization, without any greater bonds of union than the ideal of that political goal and the proposition of achieving it within the limits which their firm adhesion to the government of General Díaz set them."

In spite of their weak position, they attempted to pass through the legislature two specific measures which had been given a high priority in the 'Unión Liberal' manifesto. The first concerned the securing of the independence of the judiciary by assuring the immovability of the justices of the Supreme Court. The second concerned the creation of the office of Vice-President of the Republic, whose creation would ensure the peaceful succession to the post of chief of state, in case of death, incapacity or absence.

*(xxviii) 'Apuntes sobre mi Vida Pública,' page 18. Díaz knew he would win the election, but he wished to ensure a big popular vote for himself and also that it would appear to be a vote for a 'party' programme. This would give him a democratic facade.

*(xxix) 'Apuntes sobre mi Vida Pública' Limantour, page 27.

The first proposal was presented to the Chamber of Deputies, and with the aid of what was considered to be a masterly speech on the part of Justo Sierra, the bill concerning the Supreme Court was passed by the Chamber on the twelfth September 1892. The bill however was blocked in the Senate, *(xxx), and was not disinterred until the Presidency of Francisco Madero, twenty years later. As for the 'initiative' concerning the Vice-Presidency, it was lost in the Chamber of Deputies, before even a vote was taken, though it was to be enacted a few years later.

Agustin Aragon states that this burial of the two bills was directly due to the *(xxxi) suspicions held by Díaz about the initiatives and their sponsors.

This assumption was without doubt the correct one, for as Limantour himself pointed out Díaz made his dislike of the proposed laws very clear.

*(xxxii) "As he told me..... the commanding necessity for the government of not seeing itself completely disarmed in pending conflicts before the 'Supreme Court' of the Federation, whose decisions could in certain circumstances place in danger international relations....."

*(xxxiii) "While as for the creation of the Vice-Presidency, his repugnance was even greater, going as far as to judge it as irresistibly destined to turn itself into a focus of intrigues against the President's policies, and even against himself"

The clear inference was that Díaz was alarmed by any movement or organization, notwithstanding the fact that it might be created by elements favourably disposed to him, which had the characteristics of an organized political party. It created a potential threat to

*(xxx) It would appear that this was done on the President's wish.
 *(xxxi) Agustín Aragón suggested that Porfirio Díaz's suspicions concerning the initiators of these two bills were fuelled by a close friend, Senator Joaquín Barranda (Minister of Justice).
 *(xxxii) 'Apuntes sobre mi Vida Pública, Limantour, pages 19-20.
 *(xxxiii) Ibid, page 20. Limantour on page 21 left the question open as to who was right on the matter of Díaz's reaction to the two bills.

his personal rule, for Díaz rightly regarded himself as the fountain of political power and any organized political body, not directly under his control, was a 'sword' hanging over a system of government which revolved around the personal rule of one man. Indeed Agustín Aragón underlined this point, in his epitaph on the demise of the "Unión Liberal."

*(xxxiv) "It had to happen, in this way, in a dictatorial regime such as that of Don Porfirio Díaz, or one democratic in form only....."

A further important point emerges from the failure of the 'Unión Liberal' which collapsed completely after this set-back, and that was that the group which instigated the 'Unión Liberal' could only influence policies and decisions, if they were allowed to by Díaz.

This relationship of dependence was visible throughout all the latter part of the Porfiriato. Limantour in his political memoirs continuously emphasised the fact that there always existed in Díaz's mind a strong residue of suspicion towards the 'Científicos' as a group.

*(xxxv) "At the beginning, the Científicos had few opportunities for getting in contact with the President. In spite of the numerous proofs of their loyalty..... General Díaz harboured a certain fear that the group, on taking on greater impetus, it would be able to acquire an influence upon the conduct of public affairs, so much so that it would one day allow it to follow a policy line distinct from the official one....."

This suspicion of the motives of the 'Científicos' was re-kindled by their renewed demand for the creation of the post of Vice-President in 1903.

*(xxxvi) "In spite of all our reasoning, the President still did not wish to define his train of thought....."

*(xxxiv) 'Don Porfirio Díaz,' chapter XI (last paragraph), Agustín Aragón.

*(xxxv) 'Apuntes sobre mi Vida Pública,' page 95.

*(xxxvi) Ibid. page 136.

Porfirio Díaz appears to have been still convinced that this was a machination, on the part of the Científicos to gain influence over the conduct of public affairs. This attitude seems to have guided his behaviour towards his Vice-President (Ramon Corral) elected in 1904.

*(xxxvii) "General Díaz did not allow Corral *(xxxviii) his due participation in the direction of public affairs, nor did he create around him (Corral) an atmosphere of prestige and influence in which he could move within and prosper. He kept him frequently in ignorance of his plans *(xxxix), a situation more than baffling, all the more so as Corral was at the same time his Minister of Interior..... In electoral affairs he rarely consulted him and the worst thing of all he continued to call on me and not on Corral, to compose the list of government candidates....."

Limantour again openly ascribed this 'boorish' treatment of the Vice-President to Diaz's view of the 'científico' group as a threat to his control of the country, mainly because in Díaz's eyes and in the eyes of the educated public, according to Rutherford *(xxxx), Corral was closely associated with the 'científicos.'

*(xxxxi) "In my view, the only satisfactory explanation, capable of helping to decipher the enigma is the following: General Diaz, as is well known, viewed the majority of the 'científicos' with suspicion..... It is thus possible that the President feared that the said group would exercise such an influence on Corral that he would be carried beyond the limits marked out by the President. He also knew that Pineda *(xxxixii), a man of strong character..... whose inclination for politics made him devote almost all his time and activities to it, spoke daily and often with the Vice-President about Political questions; it is not illogical to suppose that in the opinion of Diaz, there existed some danger that the indiscipline of the Científicos would infect the man who was number two in the personalization of the government of the nation....."

*(xxxvii) Ibid. page 149.

*(xxxviii) Ramon Corral (1854-1911), Vice-President 1904-1910.

*(xxxix) This example demonstrates clearly the personalized nature of Diaz's rule, for he was not even going to trust his own Vice-President and he was prepared to ensure that the latter had no chance of sharing in the decision-making process.

*(xxxx) 'Mexican Society during the Revolution,' page 191, (John Rutherford (Clarendon Press 1971).

*(xxxxi) 'Apuntes sobre mi Vida Publica,' page 151. Limantour was in an excellent position to comment on the relationship between Diaz and the Científicos. He was a trusted Minister of the former and he was on friendly terms with many of the latter. Paraphrased, Limantour was stating that Diaz refused to tolerate any other centres of power in Mexico, whether friendly or unfriendly apart from himself.

*(xxxixii) Rosendo Pineda

This attitude of suspicion on the part of Diaz was inevitable, considering that the immediate basis of his power was his continual personal exercise of it. The personal nature of his power enabled him to play off different groups against each other in their search for political influence and it was in this context that the 'científicos' gained or lost prominence.

*(xxxxiii) "... he used the 'científicos' as a means of combating the other parties, but at the same time ensuring that he removed from them, all influence in public affairs"

This constant offsetting of opposing factions, enabled Diaz to remain the sole master of government policy. Thus in 1903, when the initiative concerning the creation of the post of Vice-President was re-introduced, a bill, originating from the Barranda group *(xxxxiv), a faction openly hostile to the 'científicos', which extended the term of the Presidency from four to six years was also passed *(xxxxv). Individuals from these groups might be chosen as Government Ministers, as in the case of Justo Sierra, but they were only able to act as individuals. Any attempt at implementing a group policy in a key area was always suppressed by Diaz, on the grounds that it would threaten his control of the government. In this context, somewhat similar to the Court of a Renaissance monarch or of a late feudal magnate, it is impossible to argue that the Diaz regime was heavily influenced by the ideas of the Científico group or of any other faction. The nature of the regime was best demonstrated by the fact that the Unión Liberal,

*(xxxxiii) 'Apuntes sobre mi Vida Pública,' page 167. They were useful to him in that they gave his regime, a theoretical political programme.

*(xxxxiv) The leader of this group was Senator Barranda on whom Agustin Aragon had laid the blame for Diaz's opposition to the Union Liberal. Barranda was a former Minister of Justice.

*(xxxxv) Originally the bill would have extended the Presidential term to one of eight years (Apuntes sobre mi Vida Pública, page 146).

originally encouraged by Díaz as a tool for his re-election as President, was forced to dissolve itself by 1894, as he considered that any party of whatever nature was an automatic threat to his power.

A second factor of importance comes out of Limantour's Memoirs is that Díaz himself viewed the Científicos as an organized group. On the surface this evidence appears to vitiate the argument made earlier in this work that the 'científicos' could not be regarded as a coherent, let alone a unified, philosophical movement seemingly Limantour's references to them and his emphasis on his cordial relations with the 'científicos' as a group negates this theory. Yet the point is that after 1892, the group only rarely acted as an active force and when they did, as in 1903, it was only to suggest an individual policy point. They might act together in areas which were not regarded as significant by Díaz, as in the field of education.

They were certainly linked to each other by the fact that they were adherents of foreign philosophical movements which shared certain common features such as the emphasis on the industrialized society as being the advanced form of human society. Also they all believed in the necessity of turning Mexico into an industrial state. Yet on a philosophical level they were separated from each other by the different and often conflicting views held by the socio-philosophical schools they belong to, as in the case of the role of the working classes. Macedo *(xxxv), as has been seen, took the social Darwinist position, that those in an inferior economic position should accept their lot with equanimity, whereas Agustín Aragón took the view that the Díaz government should have actively

*(xxxvi) of chapter eight of this thesis.

allied itself with the working classes and that to assure this alliance, it should have enacted an appropriate social policy.

Further in the political context, occurring in Mexico during this period, it was impossible for any group to function as an active political organization even secretly, without being in opposition to the regime and this had always been the choice confronting the 'cientificos' from the very beginning. Hence it would seem that Marqueo Castellano's *(xxxvii) argument presented in an article in 'El Tiempo' on the 10th April 1911, that the 'cientificos' were only a loose group of individual intellectuals and that the supposed monolithic organization with its doctrine of monopoly capitalism was a mere fiction is the correct one. It does fit a society, whose government was based on the dictum *(xxxviii) 'Poca Política,' though not always 'Mucha Administración.'

*(xxxvii) 'Mexican Society during the Revolution' page 191 (John Rutherford (Clarendon Press). This was also Limantour's view as he pointed out that the 'cientificos' and their political party the 'Unión Liberal' lacked any coherent organization.

*(xxxviii) A saying coined by Díaz himself to describe his government: 'Poca Política y mucha Administración.'

CHAPTER ELEVEN.

ECONOMIC DEVELOPMENT DURING THE PORFIRIATO.

Mexico's economy at the beginning of the Porfiriato was of an agrarian nature *(i), though some industry did exist in the form of textile plants, glass-works and sugar mills. The Diaz regime, nevertheless produced a plan for economic development. Vernon in 'The Dilemma of Mexico's Development' was uncertain of the reasons why Diaz adopted a policy of industrialization. He suggested two reasons. The first was that industrialization was a means of *(ii) "pulling together the scattered regions of Mexico into a working political unit which they could control." Secondly, he suggested that the government wished to emulate countries which it considered the 'successful' powers of the world such as the United States and Great Britain.

Both these reasons are correct. There is no doubt that the development of a railway system was seen as a method of centralizing the nation which would also provide a stimulus to development.

*(i) According to Fernando Rosenzweig in 'El Porfiriato -- Vida Económica,' chapter IV, one of the books in the series 'Historia Moderna de México,' the industrial sector was of importance even in colonial times. Jose María Quiroz, secretary to the Real Consulado of Veracruz, quoted for 1810 the following figures relating to the value of the produce of New Spain in that year. (El Porfiriato-Vida Económica' page 312). Total value of produce: 190,000,000. Pesos of which 56% by value appertained to the mineral extraction sector, 19% to the industrial sector and 15% to the agricultural value. Admittedly Humboldt gave estimates which showed a lower percentage for industrial production. Rosenzweig has argued that the late nineteenth century industrial development in Mexico started from this quite solid industrial base. Indeed Rosenzweig stated that this artisan-based industry directly laid the foundation for the textile industry, the first major capitalist industrial sector, which developed in the 1840s.

*(ii) 'The Dilemma of Mexico's Development,' Robert Vernon, chapter III.

*(iii) "But in order to establish peace,.... the establishment of great roads of communication which permitted the circulation of people, merchandise and of correspondence through-out all the territory, was indispensable."

It is also true that industrialisation was seen as a means of progress, as well as being a symptom of the latter. Nations such as Germany and the United States were considered the most advanced countries in the world and they had achieved their position of eminence through industrialization. The latter idea fitted very well into the positivist belief that the positivist society was set in an industrial context.

There was however another reason. Industrialization was believed to be the best means of avoiding national discord. It was thought that if the strength of the Mexican people was directed to the battle against nature, that is industrialization, they would cease to fight among themselves and they would dedicate themselves to the greatness of the country.

The Porfirian concept of the economy was that of a trichotomy. Government had the role of maintaining political and social stability in the country, while foreign capital had the role of promoting the nation's growth. The domestic private sector would benefit both from foreign investment and from better communications. Nevertheless the active element in the development of the economy was to be foreign investment. Although the policy of attracting foreign capital began with Juárez, it was more actively pursued by Díaz, especially in the sphere of mineral extraction.

*(iii) 'La República Mexicana y su regeneración,' por el señor General Porfirio Díaz, 'Mexico D.F. 191, page 5 published in the Sunset Magazine.

In relation to railway construction, a threefold policy was adopted, after the apparent failure of the policy of granting individual concessions to mainly foreign enterprises *(iv). Vicente Riva Palacio, the Minister of Public Works during the period 1877-80 suggested three means of stimulating railway construction; direct government construction of railways, state government construction and the continuance of the Juarez policy of issuing concessions for railway lines to private companies. The first solution was tried out in relation to the building of spur lines of the main Veracruz-Mexico City line and on the 14th of December 1879 the Tehuacan-Esperanza line of 51 kilometres was opened, but due to the low usage level, 13.6 tonnes and 16.5 passengers being the daily average (mean) usage as against an expected 31 tonnes and 30 passengers, this policy was abandoned as there appeared to be a strong possibility that the rest of the enterprise would be as uneconomic as the Tehuacan-Esperanza line. Thence recourse was given to the second solution of granting rail concessions to the individual state governments. Twenty-eight such concessions were granted by the government to twenty states, but only eight such concessions were acted upon and as a result a further 226 kilometres of narrow gauge line was added to the network *(v). The failure of these two solutions resulted in a return to the policy of relying upon private companies to take up concessions. The stimulus only came when during the Presidency of Manuel Gonzalez, the U.S. railway network reached *(vi) the Mexican frontier and thus offered the

*(iv) 'Historia Moderna de México--El Porfiriato--Vida Económica' page 487-90. The section on railways is by Francisco R. Calderón. The cost of the line was 2,7,868 pesos. The Juarez policy of private concessions had not been successful, because of the political instability of the country.

*(v) The longest line being México-Cuautla, 96 Kilometres.

*(vi) The southern Pacific reached el Paso in 1881, the latter was also connected to the Atchison Topeka and Santa Fé line in the same year as was Nogales. The Great Northern line reached Laredo in 1881.

prospect of greater commercial intercourse between the two countries. The stability of the regime itself was also another stimulus. Thus the 1880s saw an explosion in railway construction which in the main benefitted four companies, Central Mexican railways (Ferrocarril Central Mexicano), Mexican National Construction Company (La Compania Constructora Nacional Mexicana), Sonora Railway Company and the Tehuantepec Railway Company.

All of them had one thing in common, North American capital *(vii), and this factor was one which caused much disquiet in the Mexican Congress when the topic of the rail concessions first came up for debate. Alfredo Chavero *(viii), a deputy, expressed the general anxiety felt, in a speech in which he reminded his audience of two historical laws, the first being that states with common frontiers were mutually hostile and that Northern peoples always invaded Southern peoples. It was therefore a very dangerous situation to allow U.S. companies to have such great economic power. Indeed at first the legislature refused to pass the bills allowing the concessions relating to the proposed lines near the northern frontier. In the end however the Porfirio Diaz regime was able to have its way.

In 1876 there were only 640 kilometres of track; by 1880 this figure had only reached 1,073 kilometres. The explosion in the 1880s resulted in a track length of 9,544 kilometres by 1890 and by 1910 there existed 19,280 kilometres of track *(ix). There was however

*(vii) 'El Porfiriato - Vida Económica.' Page 503. Promoters raised the capital required to float the companies (Tehuantepec Railways and the Central Mexicano) in the U.S.S. The 'Central Mexicano' was floated in March 1880 with an initial capital of one million dollars, the majority of which came from Boston business men. From the Central entered the Congress on the 3rd of March 1881, he

*(viii) 'El Porfiriato-Vida Económica' page 511. Central Mexicano' in New York with

*(ix) of Table I.

*(viii) 'El Porfiriato-Vida Económica' page 511.

*(ix) of Table I.

no organized plan in the pattern of railway growth. The railway system tended to operate in those areas where there were the most obvious and pressing commercial needs. Thus much of the track ran through the heavily populated areas of central Mexico to the coastal ports and to the U.S. border. The lack of a general plan in relation to railway construction resulted in a lack of a uniformity as regards to gauge length and hence difficulties in creating connecting lines between the major railways and so the standard of communication left a lot to be desired.

*(x) "The lines which were constructed in various parts of the Republic were built without control by a general plan, and in the main with the exception of three or four trunk routes, were (built) in small pieces without any interconnections between them, and with the serious defect of being of various width..... Their quality for the same reason, from the economic point of view were very unfavourable for the development of the national wealth....."

This policy of unorganized growth of the railways was terminated in 1908 when the government under pressure from one of Diaz's Ministers, Limantour, bought a controlling interest in the major railroads. The initial motive for this policy was that by 1906 the Central railway was in bad financial circumstances and it appeared likely that control of the company by Clay-Pierce would be lost to the Southern Pacific. This probability of a major railway company being absorbed totally by an American company re-enforced Limantour's resolution to ensure general control of the Mexican railway system.

*(x) 'apuntes sobre mi Vida Pública' Limantour, page 80.

*(xi) "There is no one who would consider illusory the danger that our principal railway lines could pass into 'the hands' of some of the American railway systems. One only has to look at the other side of our frontiers to see that daily, combinations are formed to dominate one enterprise by another. The continuous exploitation of more or less monopolized industries and the creation of large entities manipulated by a few individuals on whom depend the economic fortune of vast regions and thus exercise a very powerful influence on the politics of their country...."

Once again ~~a~~ fear of American domination, this time in the economic sphere, motivated action. So on the 18th March 1908 the National Mexican Railways (Los Ferrocarriles Nacionales de Mexico) was formed *(xii). It can be seen that by the end of the Porfiriato, there was a growing fear that the economic domination by American investment could lead to political domination.

Despite its defects, the growth of the railroads was important in that it would help to achieve the objective of easing internal commerce. State and local trade tariffs were abolished under the 1884 and 1886 amendments to the Constitution in order to further internal commerce. The result was that the internal market responded in a strong manner to this breakdown of internal trade barriers, though in some cases in an unexpected manner. This unpredictability can be seen in the example of the pulque *(xiii) market. Thirty percentage of the trade carried by the Veracruz - Mexico line, was in the form of pulque. The character of the trade was altered, The producers of pulque in the Apizaco area expanded their production, once they had gained access to the Mexico City market. The high-cost producers of Mexico City on the other hand lost ground to the Apizaco producers.

*(xi) 'Historia Moderna de México: El Porfiriato-Vida Económica,' page 61-13. This was part of a speech made by Limantour to Congress on the topic of the 'Central.'

*(xii) The system had 11,157 kilometres of track, based on the 'Central' and the International Mexican Railways, in Mexico and in Texas.

*(xiii) Pulque is a type of alcoholic drink made from the sap of the Pita (a species of cactus plant). The main maguey 'pita' growing area was in Apizaco.

The cotton production in Mexico was also affected by the growth of the railways. Prior to the development of good communications in the interior, textile plants were located near the coast in cities such as Veracruz. These plants mainly relied on imported raw cotton. The immediate result of better railway communications, was a drop in cotton production, perhaps due to uncertainties of land-tenure during this period. Towards the end of the era, production expanded rapidly in the States of Sonora and Nuevo Leon, as textile-manufacturers switched from imported cotton to home grown cotton. Thus national consumption of imported cloth fell from thirty-two per cent in 1889 to eleven per cent in 1901 and finally to three per cent in 1911. The advent of the railway system, as has been said resulted in a change in the location of the cotton-producing areas, from Veracruz to the northern provinces of Sonora, Sinaloa, Nuevo Leon and Tamaulipas, due to the relative cheapness of producing cotton in the latter areas and because of the ease of access to the main cities in Mexico.

T A B L E I^aRAILWAY TRACK CONSTRUCTION PER ANNUM 1876 - 1890.

<u>Year.</u>	<u>Track (Kilometres)</u> <u>per Annum.</u>	<u>Increase</u> <u>per annum</u>	<u>% Increase</u> <u>per annum.</u>
1876	638		
1877	672	34	5.3 %
1878	737	65	8.8 %
1879	881	144	19.5 %
1880	1073	192	21.8 %
1881	1646	575	53.6 %
1882	3570	1924	116.6 %
1883	5,995	2725	48.3 %
1884	5731	436	8.1 %
1885	585	12	2.1 %
1886	5928	76	1.3 %
1887	7666	1738	29.3 %
1888	7695	29	0.4 %
1889	8294	599	7.8 %
1890	9544	1250	16.2 %
1891	9850	306	3.1 %
1892	10286	436	4.2 %
1893	10451	165	1.6 %

As can be seen from this table, track construction, was at its peak during the period 1880-84, when 4,658 kilometres of track were laid compared to the 435 kilometres laid in the previous quadrienium and 1964 in the next four years. The amount of track in operation in 1884 was more than five times that laid down by 1880. After this period there was a slow decline in the amount of track laid, though the period 1888-91 saw an increase in the amount of track laid, 2591 kilometres.

Source of data: "Historia Moderna de México," chapter V, (Francisco R. Calderón, who used official statistics).

T A B L E I^bRAILWAY CONSTRUCTION, 1893 - 1910.

Year.	Track length in kilometres.	Annual increase.	% Annual increase.
1893	10451		
1894	10571	120	1.1 %
1895	10591	20	0.2 %
1896	10850	259	2.4 %
1897	11516	666	6.1 %
1898	12081	565	4.9 %
1899	12544	463	3.8 %
1900	13615	1071	8.5 %
1901	14533	908	6.7 %
1902	15135	602	4.2 %
1903	16113	978	6.5 %
1904	16521	409	2.5 %
1905	16933	411	2.5 %
1906	17510	577	3.4 %
1907	18068	558	3.2 %
1908	18613	545	3.0 %
1909	19042	429	2.5 %
1910	19180	138	1.2 %

The period 1890-95 had seen a considerable slow-down in track construction which was the result of financial difficulties amongst the rail companies and problems concerning duplication of routes. After this period of stagnation, there was a sustained increase in track construction which only began to taper-off in 1904. By the time of the nationalization of the railways, the country had a virtually complete national network.

Source of data: "Historia Moderna de México-El Porfiriato-Vida Económica," chapter V. The chapter was written by Francisco R. Calderón and the statistics are from official sources.

By 1910 the cotton production was double that of the late 1870, at 43,462 tonnes. *(xiv).

The Díaz regime, like the spokesmen of the Juárez and Lerdo governments, believed that Mexico's economic development would be sided by an expansion of exports. In this connection Díaz's government lowered export taxes and in the sphere of imports a 'laissez-faire' attitude was adopted and import barriers were lifted. However due to a gentle but continuous devaluation of the peso during the Porfiriato, a policy of import substitution could be carried out despite the lack of a tariff wall. The policy of 'laissez-faire' economics nevertheless was not attractive to many of the so-called 'científicos,' such as Dufco *(xv) and even Limantour himself. It is therefore significant that Díaz's government followed a 'laissez-faire' Policy, for it again shows that the influence of the 'científicos' on government policy was limited.

Díaz's policy of trying to attract foreign investment to Mexico was highly successful. In 1897, the United States investment in Mexico totalled 100,000,000 dollars, *(xvii) by 1911 it totalled 1,100,000,000 dollars. It was a similar story with French investments in Mexico. In 1901 they totalled 100,000,000 dollars, but by 1911 they totalled some 400,000,000 dollars. It has been suggested by Vernon that outside handicrafts and agriculture,

*(xiv) 'El Porfiriato-Vida Económica,' page 77. The section on agriculture was written by Luis Cossío Silva. The latter pointed out that the railway development in Mexico allowed access for the Southern U.S. cotton growing area to the Mexican market.

*(xv) Carlos Dufco's article on the economic development of Mexico in Vol. II of 'Mexico, its Social Evolution' while lauding the strides taken in the development of Mexico's industrial base, also showed the ever-present apprehension at the dominant position of American capital. The so-called 'Científico' group had wanted an industrial Mexico, so that it would be strong enough to face any U.S. expansion against it, and not a Mexico which was an economic satellite of the U.S.A.

*(xvii) cf Table III.

foreign investment accounted for two-thirds of all investment. This preponderance of foreign investment, is reflected in another sector of the economy, the ownership of manufacturing companies. The 1914 Mexican Year book reported that of a group of twenty-seven large companies, eighteen were completely foreign-owned and seven others had some measure of foreign ownership.

T A B L E --II.

MAIZE PRODUCTION.

Year	Value /₡	**
1891--2	102,000,000	
1892--3	49,000,000	
1893--4	86,000,000	
1898--9	36,000,000	
1899--1900	7,000,000	

FRIJOLES PRODUCTION.

1891--	4,500,000
1892--3	1,700,000
+1894--5	10,000,000
1895--6	1,000,000
1898--9	4,500,000
1899--1900	11,500,000

+ There was a shift in crop production during the 1890s, hence the increased figures for frijoles.

** Prices per tonne during this period did fluctuate quite strongly and hence the significance of these figures is from a statistical point of view virtually meaningless, acreage would have been a more suitable unit or any other unit of quantity.

This situation was due partly to a reluctance of domestic investors to put capital into industrial enterprises rather than in large estates.

There was however an increasing proportion of Mexicans who did invest in non-agrarian enterprises, especially in the textile and sugar-mill sectors.

The above two sectors were amongst several areas of industry which developed vigorously by the end of the Díaz regime. It was not only textiles, sugar and rum *(xvib) which expanded in production but also import substitute industries such as steel developed. The first modern steel-mill was established in Monterrey in 1903 *(xvii). In general the 'científicos' welcomed Díaz's policy of industrialization, as can be seen in Dufoo's article in "Mexico, its Social Evolution," volume II, apart from a certain apprehension over the amount of foreign control of Mexican firms. Nevertheless it would seem that they had very little impact in the policy-direction in this area of the Mexican economy. Díaz's agrarian policy did raise more criticism by certain of the 'científicos,' than did his industrial policies.

Díaz's major objective in 1876 was to build up a political organization which would ensure the stability and power for his regime. In order to achieve this goal he attempted to make it worthwhile for his potential opponents to support his government. So he allowed the landowners to increase their already vast

*(xvib) of table II.

*(xvii) American domination of the Mexican economy is most evident in the mining sector; The Cananea Consolidated Copper Company which employed a labour force of 6,000 in its Sonora mines had established itself as one of the leading world producers of copper; Guggenheim's Company ASARCO, apart from having large silver and lead interests, had a virtual smelting-charge monopoly in the Mexican mining sphere. 'The Peculiarities of the Mexican North, 1880-1928,' Barry Carr, University of Glasgow, page 4.

landholdings. He eased the anti-clerical laws imposed by Juarez and Lerdo so as to eliminate the incentive of the church to foment rebellion. The one group in Mexican society with whom he made no attempt to conciliate, was the peasant; indeed he continued the process which had been inadvertently started by Juarez, that of separating the peasant from his land.

This policy would bring several advantages for him. The regime would be strengthened by aiding the landowner in acquiring further land and labour, the latter had been in short supply. Foreign investors would also have better conditions for investing their capital, as labour would be made available for the mines in Northern Mexico, and for the plantations on the Gulf Coast. This policy was carried out by means of new land laws. The latter established a method whereby any land whose title deeds were not already known would revert to the state for redistribution. There were few landholders who held clear deeds to their land, due to the constant turmoil in Mexican history up to 1875. Also large areas of land for which there were no title deeds were occupied by squatters. Whenever there was no distinct title deed to the land the occupant was evicted and the land was handed over to a small nucleus of big landowners, both native and foreign.

The result was that by 1910 over eighty per cent of Mexico's rural population were landless and small holding-agriculture was limited to a few areas, mainly in Nuevo León and Oaxaca. By comparison one family in the state of Chihuahua owned an estate of some *(xviii) 33,000,000 acres and in Baja California four

*(xviii) The family in question was the family of Luís Terrazas. All statistical data quoted in this chapter are taken from Robert Vernon's work 'The Dilemma of Mexico's Development,' except those for which specific sources are given.

individuals owned some 28,000,000 acres of land. In Sonora, by 1902, U.S. firms *(xix) owned over 1,000,000 hectares and even more in Sinaloa. The size of these estates can be gauged from the fact that though they only numbered a few thousand, approximately fifty per cent of Mexico's rural population lived on them.

The effect of this situation was that the peasants who lived on these estates were forced to work for the land-holder who was in a position to control their life. Thus there occurred a peonage system based on bondage and perpetual debt. It was not however the native 'latifundistas' who benefitted most from this redistribution of land.

Foreign land companies and individuals mainly Spanish, American and British, by 1910 owned some 72,000,000 acres of land. This acreage was approximately one-seventh of the land surface of Mexico. The question is therefore raised of how this land re-distribution was justified. According to Vernon, the justification of this policy was provided by the 'científicos' themselves.

Vernon's interpretation of the argument was that the superior culture was that of North America and Europe. Their superiority was based on the innate qualities of their inhabitants, whereas the Indian culture was intrinsically inferior and inevitably would have to succumb. Therefore while Mexico was progressing, the Indian population *(xx) had to be harnessed to the only occupations for which it was intellectually suited. These occupations consisted

*(xix) "The Peculiarities of the Mexican North, 1880-1928" by Barry Carr. Occasional Paper No; 4, page 6, published by the University of Glasgow.

*(xx) Although the majority of the population was Non-Indian but mainly Mestizo, the major cultural influence on the bulk of the population was supposed to be Indian.

of agricultural, unskilled mine and factory labour. The superior elements of society were to have the maximum freedom of opportunity, untrammelled by government interference. It would be through the efforts of these superior elements of society *(xxi) that Mexican society as a whole would be elevated. As Vernon expounds it, this doctrine would appear to be based upon Social Darwinism and has been seen Macedo was the prime exponent of this type of doctrine.

Nevertheless it is highly questionable if all the 'científicos,' particularly the orthodox positivists, actually propounded such a theory and indeed ever expounded it.

In the section on agriculture in Vol. II of 'Mexico, its Social Evolution,' strong criticisms were made about Mexican agriculture of this period. The author admittedly lays part of the blame for the relative lack of progress *(xxii) in agricultural production on the nature of the peasant.

*(xxiii) "The labourer..... does not exercise or develop his own intelligence and faculty of observation nor does he collaborate with the landowners to render the general result more useful..... The indigenous population whose regressive evolution is not yet come to a standstill..... The large bulk of the labour was and continues to be confined to the population, most distant from the general movement."

It is apparent from the article that the author considered that the vast majority of the rural population was encompassed by that section of society which was the least developed morally and intellectually. He went on to criticize in equally stringent terms the 'Latifundistas' and the system of bondage which was prevalent among the former's estates.

*(xxi) This would certainly be the view of Macedo. (of chapter IX of this work, for an exposition of Macedo's view).

*(xxii) cf. Table II. Agriculture was the one sector of the Mexican economy which did not show any significant advance during the Porfiriato.

*(xxiii) 'Mexico, its Social Evolution' Vol. II, chapter III, Mexico D.F. 1904. This chapter was written by Carlos Dufoo.

*(xxiv) "If from the mass of the rural population, we pass on to look at those who direct or manage it, we shall find that the same depressive selection became the head of the business not the ablest or best prepared, but as a rule, those whom heritage, atavism, the weariness of life or the consciousness of being useless for any other kind of existence in the great struggle of activity stirring modern society..... Our agriculture pursues the contrary system, the system of cheap labour. Our farmers eagerly crave the reduction of salaries, either paying them in kind and at higher prices than those of the market..... The consequence ought to be and effectively is, imperious, unavoidable, manifest, although it may seem paradoxical: To a low salary there corresponds a poor agriculture and a dear product....."

These are certainly not the words to be used by a man who would justify and accept the land policy of Porfirio Diaz. Indeed one of the complaints made by the author about the current system of agriculture was that it prevented large scale colonisation by European immigrants.

*(xxv) "..... considerable groups or masses of immigrants neither find abundant markets where to sell their labour at remunerative prices....."

This view of agriculture is a good example of the general middle and late nineteenth century attitude towards rural society.

Both Comte and Marx believed that the rural sector of society represented the reactionary part of society and this applied to both peasant and landlord; rural society was considered to be still largely influenced by medieval attitudes and customs.

Yet the question must be raised as to whether it was a correct analysis of rural Mexico. James B. Cockerott in his work 'The Intellectual Precursors of the Mexican Revolution 1900-13,' has analysed the social-economic structure of the state of San Luis

*(xxiv) 'Mexico, its Social Evolution' Vol. II, chapter II.

*(xxv) 'Mexico, its Social Evolution' Vol. II, Mexico 1904.

Potosi and his conclusion is that Mexican agriculture far from being a 'feudal' 'back-water' as Dufoo suggested, rather it was in a 'capitalist phase.' Of Mexico's total population some eighty per cent were dependent on agricultural wages. Further the economy of the rural North, at least, was not of the closed self-sustaining nature, characteristic of a feudal society, as shown by the concentration on the production of such commercial commodities as cotton, sugar and cash crops such as 'frijoles.' It is therefore not surprising that when Cockcroft examined the economic interests of the 'elite' families in San Luis Potosi, *(xxvi) he demonstrated that those families whose main economic strength lay in their estates, had significant commercial and financial interests outside the agrarian sector.

Thus the Espinosa y Cuevas family whose 'hacienda' 'La Angostura' alone made up one tenth of the land area of the so called 'central' portion of the state of San Luis Potosi, had also important interests in tomato exporting, in mining and in the industrial sector. While another large landowning family the 'Meades' were involved in banking. Cockcroft isolated twenty-one families who dominated the economic life of San Luis Potosi, and more significantly their interests overlapped. This picture of a capitalist economy, particularly of the non-feudal nature of agriculture is confirmed by the analysis of members of Diaz's own government. Both Olegario Molino, Diaz's Minister of Development

*(xxvi) Cockcroft uses the term to describe those families who had a monopoly of economic, social and political power at the state level.

'Intellectual Precursors of the Mexican Revolution,' Cockcroft, University of Texas, page 46. For details concerning the various interests they held and for a full analysis of the social-economic 'set-up' in San Luis Potosi, cf. Cockcroft's work, page 25-34.

and his assistant Lauro Viadas described Mexico's agriculture in terms of a *(xxvii) capitalistic mode of production.

The attitude of this group of entrepreneurs towards the Porfiriato and its policies was critical, as they were regarded as one of the props of Diaz's government. Indeed hacendados' such as Venustiano Carranza *(xxviii) and members of Madero's own family had been members of one or other of the two Chambers of Congress or participated in the administration of Mexico as State Governors. Initially they had welcomed and benefitted from the economic policy instituted in Mexico after 1884 of attracting foreign capital. However the period 1907-11 saw the advent of an economic decline which particularly hit Mexico's native industrial sector. In particular the 1908 credit crisis which came on top of a fall in the export prices of cotton and industrial minerals *(xxix) resulted in a permanent alienation from the Diaz government of many large entrepreneurs. As has been pointed out, a considerable proportion of the latter were landowners or from landowning families. They had tended to secure the capital required for their business ventures by raising mortgages on their lands. Due to the panic in Wall Street in 1907 and the consequent spin-off effect in Mexico, which was to endanger the viability of the financial institutions in Mexico and which for so long had provided ready credit to Mexican entrepreneurs, not only was the flow of credit cut off but Jose Limantour, to save the credit worthiness of the banking system, called

*(xxvii) 'Intellectual Precursors of the Mexican Revolution,' pages 27-28. (Cockcroft).

*(xxviii) Carranza apart from being a lawyer was a wealthy landowner. He was a Senator during the last decade of the Porfiriato. Francisco Madero's grandfather, Evaristo was Governor of Coahuila from 1880-84.

*(xxix) Silver had been declining in price prior to 1907, the crisis point being the 1890s and several native mine-owners such as the Arriaga family never recovered from the crisis, because of their weaker financial position compared to foreign companies.

in many of the existing mortgages and prohibited the issue of long term credit. The result was a strenuous attack upon Limantour and hence upon the 'científicos.' This bitterness over Limantour's policy resulted in men such as Juan Barragan, Esquivel Obregón and perhaps one can include Francisco Madero, all wealthy landowners, to take up an opposition role to Díaz, firstly in the political arena and then by trial of arms.

This adverse criticism of Limantour came to be attached to the so-called 'científicos,' partly because of their supposed association with Limantour but also because of the unequivocal support given by individuals who were thought to be 'científicos' to the policy of encouraging massive foreign investment, the cornerstone of Díaz's economic policy.

*(xxx) "In the course of this task, nothing has been more beneficial to the country than the intimate collaboration between the President's firm resolution and his Finance Minister's application of scientific procedures to financial problems."

*(xxxi) "... and we are with General Díaz..... with whom when the moment arrives, we shall follow to whatever Destiny offers him, if necessary to ignominy."

These types of statements were bound to lead the educated Mexican public to believe quite justly that men like Macedo, Justo Sierra and Francisco Bulnes were supporters and perhaps unjustly the originators of such an economic policy.

This is not to say that the 'científicos' were the originators of the policy of encouraging foreign investment, rather they backed

*(xxx) "The Political Evolution of the Mexican People," University of Texas, 1968, page 367. The passage shows Sierra's approval of Díaz's economic policy prior to 1904.

*(xxxi) "Luis Cabrera;" "Revolucionario e Intelectual", Librería de Manuel Porrúa, 1949 by Armando Porrúa y López, page 24. The quote is from a conversation between Limantour and Don Pablo Macedo and forms part of a eulogy of Díaz by the latter.

it as they generally tended to support Porfirio Díaz's economic policies, until 1907 they appeared to be successful. As Vernon, in his work 'The Dilemma of Mexico Development,' points out the economic policies pursued during the Porfiriato, could in the main be traced back to the Presidency of Juárez. The policy of granting railway concessions to foreigners, had been inherited from the period of the Presidencies of Juárez and Lerdo de Tejada; the difference was that during the earlier period these policies had not produced any significant results, while during the first twenty-five years of the Porfiriato these same policies appeared to be very successful. It is therefore not necessary to invent the myth of a *(xxxii) strongly 'ideological regime' to explain the economic policies and their results during the period 1876-1910. Peter Calvert in an article, 'The Mexican Revolution: Theory or Fact?' in the issue of the 'Journal of Latin American Studies' May 1969, emphasises the idea of such a regime.

*(xxxiii) "Unlike the monarchies of the Ottomans or the Kajars, the Porfiriato was a strongly ideological regime. It was committed not just to a minimum programme of survival, but to a maximum programme of economic growth and self-improvement according to the 'scientific' laws of Auguste Comte....."

Not only is such a view a misrepresentation of Comte's philosophy, for Comte never developed a concrete economic theory, and any close inspection of Comte's philosophy would show that Porfirio Díaz never followed Comte's precepts. Furthermore a programme of economic growth had always been the policy of Mexican politicians from the

*(xxxii) 'The Mexican Revolution: Theory or Fact?' Peter Calvert, the May 1969 issue of the 'Journal of Latin American Studies, page 52.
*(xxxiii) Ibid, page 52.

1850s onwards, if not earlier. Indeed Doctor Mora had been partly motivated in his plan of educational reform in the late 1820s by the belief that an educational system with a more scientific emphasis would be an aid in strengthening Mexico's economy.

Indeed it can be said that from the Vice-Presidential term of Parias *(xxxiv), a policy of favouring economic growth had been a part of the 'Liberal' programme. The reason was very simple, economic growth would help strengthen Mexico against the possible absorption by the United States, the latter, as has been seen was an obsession with Mexican politicians during the latter half of the nineteenth century.

Yet this is not to deny that the capitalist ethic was the dominant ideology during the Porfiriato, but its origins predated the Porfiriato and to ascribe its existence with the rise of Social Darwinism and Positivism is to overlook the economic development during the first half of the nineteenth century. It has been emphasised previously that Positivism as a philosophy was a poor vehicle for a capitalist ideology, because of its 'corporate state' *(xxxv) overtones. Nevertheless it can be stated that there was an essential difference between the Pre-Porfiriato Period and the Porfiriato. It has been argued that economic growth prior to 1876 was seen as a method of safe-guarding Mexico against absorption by its Northern neighbour. Although this view continued during the Porfiriato, the impression is gained that economic policy or the lack of it, was much geared to the self-preservation of the regime; in this sense the Porfiriato far from

*(xxxiv) Gomez Parrias, Vice President, 'doyen' of Mexican Liberalism, 1820-1855.

*(xxxv) Cf chapter III and chapter IX for an outline of the tendencies of Comte's view of society.

being a strongly ideological regime was a highly personalized government, the obverse of Peter Gilvert's view. This view of the Porfiriato has been outlined in chapter Nine, and the author's view is that the economic policies enacted during this period do not contradict that view.

In conclusion, it can be said that the 'Científicos' did not have very much influence over economic policy decisions during the Porfiriato, as most of the policies were inherited from the pre-1876 period. In relation to policies affecting the rural areas, it may well have been that a section of the 'científicos' supported the land policy of Díaz, but others were highly critical of the agricultural system under the Porfiriato, wishing to introduce a small-farmer class and thus break the stranglehold of the large landowners.

However they were unable to get their views implemented, one more further evidence of Díaz's hostility to group initiatives. The latter is the reason why they could never act effectively together. Thus the 'científicos,' apart from Limantour, were limited to writing about the need for industrial progress and its virtues and that was their only tangible contribution to the direction of the economy.

CHAPTER TWELVE.

JUSTO SIERRA: A SOCIAL DARWINIST VIEW OF HISTORY.

A general analysis has been given of the 'científicos' and of 'positivism' in particular. It has been argued that the 'científicos' formed a rather loose circle of intellectuals whose common bonds were a belief in 'progress,' the need for Mexico to follow the example of industrial powers such as the U.S.A., Germany and the U.K. if she was to become a strong integrated nation, a strong faith in the power of a science-orientated education and finally a belief that Porfirio Díaz was the man to transform Mexico. Positivism however, was not the creed of this group, rather it was amongst three or four systems of belief to which individual 'científicos' attached themselves. Thus Macedo was a Social Darwinist, while Agustín Aragón was a believer in Positivism. Indeed one of the main suggestions of this work is that Positivism in Mexico reached its zenith prior to the Porfiriato, during Juárez post 1867 presidency.

In order to gain some insight as to what the beliefs of an individual 'científico' were, this chapter will present a brief analysis of Justo Sierra's work 'The Political Evolution of the Mexican People,' first published as part of a larger work 'Mexico, its Social Evolution' which was written by several members of what has come to be known as the 'científico' group. While the next chapter will give a brief outline of Sierra's educational philosophy and thus allow a comparison with Gabino Barreda's ideas.

The most striking difference between their conception of Mexican history is their starting point. Gabino Barreda, as revealed by the 'Oración Cívica,' Mexico's history as a Nation started with the Spanish Conquest.

Justo Sierra on the other hand began his history with the origins of the American 'Indian,' an area not even touched on, by Barreda. For Justo Sierra, Mexico as an entity came into being at the beginning of the nineteenth century. However Edmundo O'Gorman states in his introduction *(i) to the English translation of 'The Political Evolution of the Mexican People,' that Sierra believed that the origins of the Mexican people were not to be pinpointed in either the Pre-Cortes Indian past or in the Viceroyalty of New Spain, rather that it was a new entity, neither Spanish or Aztec.

*(ii) "On September 27, 1821 the chapter of three hundred years of Spanish history came to a close. Then began the history of a people who were born of the blood and soul of Spain, but whose physical and social environment were 'sui generis.' Both environments affected the evolution of this people: the physical, by forcing it to adapt itself to biological conditions that were markedly, though not entirely different from those on the Peninsula; the social, by the native family's slow but sure ethnic fusion, which transformed it into the Mexican people....."

The Mexicans were in other words *(iii) 'the sons of the two races' and this was the major fact which *(iv) "dominates our whole history, to this we owe our soul."

In essence therefore the Mexican was the product of a long process of racial and spiritual amalgamation which began with the conquest and continued through the colonial period. It was this process which produced the 'mestizo' who for Sierra was the essence of the Mexican people.

- *(i) 'The Political Evolution of the Mexican People' by Justo Sierra, University of Texas Press, page 17.
- *(ii) 'The Political Evolution of the Mexican People' page 169.
- *(iii) O'Gorman quotes Sierra in 'The Political Evolution of the Mexican People,' page 17.
- *(iv) 'The Political Evolution of the Mexican People,' page 17. O'Gorman quotes Sierra.

*(v) "One of the first Viceroy's ordered that the illegitimate sons of Spanish-Indian parentage be gathered up and given proper education. This was the first attempt to bring together the mestizos, the new family born of the two races, the real Mexicans..... They increased but slowly, it appears, the systematic isolation of the two races causing it. Here we have the Mexican nationality which would form a nation, growing out of the nucleus of mestizos, as the Viceroy's called them--of Mexicans, as we prefer to call them....."

Through this view of the mestizo, Sierra is able to achieve a unified concept of the three distinctive periods of Mexico's history. The mestizo is able to claim the pre-conquest past as his own, and also he is able to claim the colonial period as belonging to his past and thus its Spanish culture as part of his culture. The significant point about such an interpretation of Mexican history is that it is clearly 'evolutionary' in outlook. The third phase of Mexican history, the story of the fully-fledged Mexican nation, evolved out of the first two. The Mexican people developed from the union of the Spaniard and the Indian and the Mexican culture was also the product of this union.

The evolutionist attitude explicit in Sierra's historical interpretation is demonstrated throughout the work. Thus when discussing the antipathy between Criollo and Spaniard, Sierra mentions the criollo's dislike of the latter's churlish manners, when compared to his own and then explains the Criollo's good manners in terms of a characteristic gained through adaptation.

*(vi) "..... that is, without the good manners, the suave amiability of the subject race, the honied courtesy insocial intercourse which the Indian's speech and immutable poise had taught the creole-manners influenced also, perhaps by the climate, so soft, warm and caressing."

*(v) 'The Political Evolution of the Mexican People,' page 101. Mestizo means more than its normal racial connotation, the mestizo was per se Mexican because he reflected the attitude and culture which became those of the Mexican nation,

*(vi) 'The political Evolution of the Mexican People,' Page 101.

In describing the War of Independence Sierra writes in style which conveys to the reader the impression that he is watching a difficult but inevitable child-birth.

*(vii) "In the War for Independence the period of eclipse and depression, which always follows the initial period of expansion in great revolutions, began in 1814....."

*(viii) "When six million inhabitants are determined on independence, there is no need for them to work in harmony or come to an agreement among themselves."

Yet Sierra's interpretation of Mexican history is not simply a mechanical evolutionary explanation; for he introduces the concept of the 'hero,' the man who activates the longings, the frustrations and the desires which are pent up in the souls of the masses. As O'Gorman explains it in his introduction, this is the second meaning of the term 'mestizo' as used by Sierra. This idea of the super-hero is best demonstrated by the descriptions used by Sierra to describe these 'Mestizos.'

*(ix) " (Miguel Hidalgo y Castillo) His purpose was dictated by his love for a country that did not exist outside this love, thus it was he who engendered it: he is the father of his country, our father."

*(x) "For in Morelos he executed the Insurrection in its most energetic, implacable and fearless embodiment: the hero who was most self-possessed, the greatest of them all."

Nevertheless Sierra himself states clearly and categorically the basic nature of his view as being that of an evolutionist.

*(xi) "In short, whether political or economic or juridical or moral, the sometimes tiny and always inconspicuous fact which, emanating from heredity and environment, really determines the visible structure of social history eludes us more often than not....."

*(vii) 'Political Evolution of the Mexican People,' page 159.

*(viii) Ibid, page 161.

*(ix) 'The Political Evolution of the Mexican People, page 152.

*(x) Ibid, page 160. It would appear that in Sierra's view the hero was the embodiment of the nation's unexpressed wishes, it was he who unlocked them.

*(xi) 'The Political Evolution of the Mexican People,' page 342.

He was not only an evolutionist in the general sense, he was also an evolutionist in the social Darwinist context and again Sierra himself openly stated this fact.

*(xii) "We have taken as our premise the concept that society is a living being and consequently grows, develops and undergoes transformations; these transformations are continuous, and their celerity is in ratio to the internal energy with which the social organism reacts to external elements, assimilating them and utilizing them in the course of its growth."

The above passage is striking for it echoes directly Spencer's own views *(xiii) concerning the nature and development of societies.

*(xiv) "Are the attributes of a society..... or are they in any way like those of a living body? The second question is to be answered in the affirmative....."

Further Sierra argued that this process of social evolution had now been effected drastically by a new factor, science. Those societies which took advantage and utilized the latter, developed much more rapidly than before and hence became dominant in the world, while those which did not, ran the risk of becoming subordinate societies and so faced the possibility of extinction.

*(xv) "Science, converted into an amazingly complex and efficient tool, has accelerated a hundredfold the evolution of certain peoples. The other human groups either become subordinate and lose self-awareness and personality, or else finding strength in ideals, in moral forces (which are every bit as real as physical forces) tend to absorb every foreign element, in the process of rounding out their own personality, thus quickening the pace of their evolution, which, while still not equal to the pace of those who have been advanced by peculiar circumstances to the forefront of human progress, is still lively enough to insure self-preservation and well-being....."

*(xii) 'The Political Evolution of the Mexican People,' page 343.

*(xiii) For an examination of Spencer's views see chapter V of this work.

*(xiv) The quotations taken from 'The Inductions of Sociology' by Spencer, reprinted in 'Reasons for Dissenting from the Philosophy of Monsieur Comte and other essays' page 50, published by the Glen Press.

*(xv) 'The Political Evolution of the Mexican People' page 343.

Evidently Mexico was a country which could not be equated with its powerful northern neighbour which had undergone an Industrial Revolution. Mexico fell into the category of societies which found strength in ideals and moral forces and thus would be assured of its self-preservation.

*(xvi) "And we have inferred that, since all the facts in our possession point to a recent forward movement impelled by a conjunction of internal and external factors, this movement is equivalent to Mexico's social evolution....."

*(xvii) "In the course of this task, nothing has been more beneficial to the country than the intimate collaboration between the President's (Porfirio Díaz) firm resolution and his Finance Minister's application of scientific procedures to financial problems. To this collaboration we owe the revival of our credit, the balancing of our budget, the freedom of internal trade, and the concomitant increase in public revenue....."

"Our progress, made up of foreign elements, reveals, on analysis, a reaction of our social body to those elements in order to assimilate and make use of them in developing and intensifying our life....."

The period during which this 'social evolution' has taken place, is that of the 'Porfiriato' and although it would have occurred any way, it was the government's determination to facilitate and exploit to the best advantage the changes which heralded the social revolution that ensured the quickening step of the latter.

The differences that existed between Comte and Spencer are echoed in the differences between Gabino Barreda and Justo Sierra. To Gabino Barreda, Mexican history was to be interpreted in terms of the evolution of ideas, those 'noiseless abstract forces' which produced social changes.

*(xvi) 'The Political Evolution of the Mexican People,' page 343.

*(xvii) Ibid, page 367.

There is no mention in the 'Oración Cívica' of the pre-conquest past, the history of the Mexican people commenced with the conquest for at that point 'New Spain' became part of Comte's greater 'European Society' subject to the laws of history ascertained by Comte. There is no concept of the Mestizo, for in Barreda's mind there was no reason for him; Mexico like the United States was a European Society and hence subject to the same general processes as France or Spain.

As has been seen in chapter six, the three periods of Mexican history are seen in terms of ideas or patterns of thought, theological, metaphysical and finally scientific. For Barreda, society is not a living organism, it is a product of patterns of thought, and hence there is no room for the 'hero.'

This chapter has shown in part that it is a fallacy to view the 'Científicos' as forming a group with a basic doctrine. Both Sierra and the followers of Barreda such as Agustín Aragón had been lumped together as intellectuals sharing the same core of ideas, and the latter described as positivism. Yet it has been demonstrated that the influences on those intellectuals, known as the científicos were varied. Sierra, like Macedo was a Social Darwinist, whilst Aragón like Barreda, was a positivist.

A further question that can be tackled by looking at Sierra's view of Mexican history concerns the support given to the authoritarian rule of Díaz by the Científicos. Sierra always placed a strong emphasis on his belief in liberty.

*(xviii) "Thus our duty is plain: to educate, which means to make strong. Liberty, the marrow of lions, has always been, among nations as among individuals, the patrimony of the strong; the weak have never been free. Mexican Social Evolution will have been wholly abortive and futile unless it attains the final goal: Liberty."

Yet Sierra, knew from his own experience, *(xix) that Díaz would never tolerate opposition in politics, even of a mild nature, let alone the establishment of a liberal democracy.

*(xx) "In short, the political evolution of Mexico has been sacrificed to other phases of her social evolution. This is proved by the plain fact that not a single political party, exists in Mexico, nor any group organized around a program rather than a man. Every move in this direction has been blocked by the government's distrust and the general apathy"

Notwithstanding this, Sierra was prepared to serve in Díaz's cabinet. Martin Quirarte in 'Gabino Barreda, Justo Sierra y el Ateneo de la Juventud' suggests that a possible answer was that Sierra realized the impossibility of successfully opposing Díaz and therefore that it was better to compromise and achieve his goal through Díaz which was to re-organize the Mexican educational system.

*(xxi) "He had the necessary intelligence to judge the political reality of his times....."

Indeed Sierra was well aware of the deficiencies and dangers involved in the 'Porfiriato.'

*(xviii) 'The Political Evolution of the Mexican People,' page 368.

*(xix) The fate of the 'Unión Liberal' of chapter Ten.

*(xx) 'The Political Evolution of the Mexican People,' page 366-367.

*(xxi) 'Gabino Barreda, Justo Sierra y el Ateneo de la Juventud': Martin Quirarte, Universidad Nacional Autónoma de México, 1970, page 59.

*(xxii) "..... And this nation that as one voice acclaims the man (Porfirio Díaz) has composed his power with a series of delegations, of abdications, extra-legal if you like, since they are of a social nature, without his having solicited them, but..... And this is dangerous? Terribly dangerous for the future, because it forms habits that are incongruous with self-government, without which there can be great men but no great peoples. But Mexico has confidence in that future, as the President has in his star, and believes that everything *(xxiii) will come later, will come in its own time. Let us hope we are not wrong!....."

The truth may well be that men like Sierra felt that if they were to achieve anything not only for themselves, but also for Mexico, then they had to accept the reality of the current political situation and adapt to it. *(xxiv)

This meant supporting the Porfiriato and working through it, there was no other way with a firmly established quasi-military dictatorship, to oppose it meant political extinction *(xxv) and to give up all hopes of achieving one's ambitions.

*(xxii) 'The Political Evolution of the Mexican People,' Page 366.

*(xxiii) 'everything' referred to democracy and liberty, the goals to which Mexico's 'Political Evolution' would take her eventually. (cf 'The Political Evolution of the Mexican People,' page 366).

*(xxiv) It is to be noted that Sierra was first active in the late 1870s and 1880s, a period when Díaz and his regime had not fallen into the political senility which occurred in the 1900s. A 'Madero' would not have succeeded in the 1880s or the 1890s in defeating the Porfiriato.

*(xxv) Sierra also admired the President as a Man 'And finally he must have moral authority that indefinable power deriving from personal character, manifest in Díaz's exemplary home life and his absolute freedom from pride and vanity.....' 'The Political Evolution of the Mexican People,' page 365. Díaz was a member of Sierra's pantheon of Supermen.

"..... Three phases of our evolution. In order to realize this last one we needed a man, a conscience, a will to unify our moral forces and transmute them into normal progress; this man was President Díaz."

'The Political Evolution of the Mexican People,' page 366.

This was not merely flattery, it was a role that fitted in with Sierra's view of history with its mixture of social and moral forces and individual 'colossi' who were the agents of these forces and who gave them expression.

CHAPTER THIRTEEN."JUSTO SIERRA'S VIEWS ON EDUCATION -- THE SOCIAL DARWINIST APPROACH.

The previous chapter aimed to show the differences between the views of Gabino Barreda and *(i) Justo Sierra, through the medium of their respective interpretations of the history of Mexico. Further, by examining Sierra's interpretation of the historical development of the Mexican people; the aim was to demonstrate clearly that the term 'científico' was not a synonym for a 'Positivist.' This chapter will continue the analysis of the differences between Barreda and Sierra, and thus the differences between genuine 'Positivists' and 'Social Darwinists,' but on this occasion the emphasis will be on the sphere of education.

In *(ii) 'Un Plan de Estudios on Ruina,' Justo Sierra stated his acceptance of the general basis of the 'preparatory school system,' as established under the auspices of Gabino Barreda during the period 1867-69.

*(i) Justo Sierra born 26th of January 1848 in Campeche. He was the first son of Doctor Justo Sierra O'Reilly and of Dona Concepcion Mendez Echazarreta whose father was the Governor of Yucatan (Santiago Mendez Ibarra). His father apart from being a medical practitioner was involved in the political affairs of Yucatan, being from 1852 to 1855 the Federal Commissioner of Public Works in that state and afterwards the publisher and editor of a bi-weekly political Journal 'La Unión Liberal.' In 1861 the family moved to Merida, where Dr. Sierra O'Reilly made his house the intellectual centre of the city, among those who frequented the Sierra house were the Rector of the University, Manuel Jose Delgado, General Cepeda, the doctors O'Horan and Solis, writers such as Garcia Morales and Perfecto Solis, Clerics such as Carillo and Dominguez. Justo Sierra received his secondary schooling at the Liceo Franco Mexicano and his higher education at the 'Academia de Derecho Natural del Colegio Nacional de San Ildefonso.' For further details on his life, 'vide' "Don Justo Sierra" a biography written by Agustin Yanez; Universidad Nacional Autonoma de Mexico, 1962.
 *(ii) Published as part of 'La Educacion Nacional,' Vol. VII of the collected works of Sierra, U.N.A.M. 1948.
 'The Plan de Estudios en Ruinas' is Barreda's preparatory school system.

*(iii) "The primary element of the plan (for the preparatory school system) is eminently rational and practical....."

Nevertheless he believed that the system did suffer from a major weakness and this lay in the syllabi that was set down. This weakness was the omission of philosophy from the list of subjects to be taught. *(iv)

*(v) "But the great, the true gap in the Plan of Studies, is the lack of a department of philosophy....."

By philosophy, Sierra meant a subject which encompassed psychology and moral studies as well as conventional philosophical studies.

*(vi) "..... and it cannot be conceived how one can conceive of the study of law without the indispensable skills (knowledge), not only those of logic, but those of psychology and those of morality....."

The only subject taught which in any way was equivalent to his conception of philosophy was logic, but this subject, a one year course based on John Stuart Mill's 'Logica,' was as far as he was concerned, totally inadequate.

It was not only that Sierra wished to replace logic by 'philosophy,' as the subject that synthesizes all the other subjects, but he also criticized the exclusively positivist nature of the course in Logic. Apart from believing that the "Logica" was an unsound basis for a course in Logic, he also felt that this rigidity in the syllabus represented a despotic trend in education.

*(iii) 'Un Plan de Estudios en Ruinas' - Vol. VIII. Collected works of Sierra, U.N.A.M. Page 11.

*(iv) Sierra also complained of the lack of a History chair, the poor standard of literary subjects. Nevertheless Sierra approved of the method of teaching scientific subjects and even approved of the 'Positivist' spirit behind them.

"This theory (Classification of sciences) is exact, rational and just. It is the daughter of the Positivist spirit to which all the scientific conquests which characterize modern civilization, owe a debt....."

'Un Plan de Estudios en Ruinas,' page 12.

*(v) Ibid, page 13.

*(vi) 'Un Plan de Estudios en Ruinas,' page 13.

*(vii) "At this point we touch the spirit of Positivist exclusivism which reigns in the unfolding of the 'plan of studies,' where it relates to secondary education. In the subject-matter of the study of philosophy, the 'Logic' of John Stuart Mill was sufficient for its (the plan of studies) authors. But if there is a subject-matter in which liberty must be scrupulously respected, it is in this one of the Science of First Principles. To create around the student a special atmosphere, to tell him magisterially that metaphysics is useless, is, in the last resort (analysis), to exercise a despotic pressure over minds, against which all that there is of independence and dignity in the soul, revolts.

This is a monopoly which does not reconcile itself with human conscience, nor with the spirit of our institutions

Although Martin Quirarte in 'Gabino Barreda and Justo Sierra' emphasises the point that Sierra's position 'vis a vis' Barreda changed several times during the period 1880-1910, on one point he never changed his views and that was on the 'exclusivist' and 'despotic' nature of the 'Syllabi' established in the preparatory schools in 1869.

This point cannot be overemphasised, for it showed Sierra's scepticism concerning the 'Positivist' tenet that ideas rule the 'world.!' In one sense Sierra is akin to Littré; both attacked the exclusivist nature of Orthodox Positivism, whereby all works and subjects which were not imbued with the positivist spirit were worthless and worse, dangerous. Yet Sierra even parted company with Littré on perhaps the crucial tenet of positivism.

The first part of the thesis demonstrated that as far as Comte was concerned science was defined as the systematized knowledge of

*(vii) 'Un Plan de Estudios en Ruina,'' page 14.

what exists and of what can be known. *(viii) It was this concept of science with which Littré was in agreement, that Sierra attacked.

*(ix) "We may doubt: in the first place, because if science is nothing more than the systematic knowledge of what there is, if objects cannot be understood intrinsically, if we can only know their permanent relationships, if the latter is true science? Why is it (science) in perpetual evolution, under constant discussion..... What great fundamental truth has not been argued about in the scientific field, or is not being argued over presently?"

This is clear unequivocal proof that Sierra was not a positivist.

Yet Martín Quirarte and Leopoldo Zea regarded him as such and the reason is very simple, they both were convinced that Spencer's social Darwinism and Comte's positivist philosophy were one and the same thing, as has been shown in chapter V, they were not.

*(x) "The two books, entitled 'El Positivismo en México' and 'Apogeo y Decadencia del Positivismo' are of indispensable use to those who try to understand the vicissitudes which the Thought of COMTE and SPENCER suffered in its application to education and political action....."

Granted Sierra's criticisms of the Barreda reforms, the question is raised as to whether his objectives were different to those of Barreda. Sierra's ideas concerning education are clearly set out in the final chapter of his work 'The Political Evolution of the Mexican People' and also, but in greater detail in *(xi) 'Apuntes

*(viii) Comte's position was that science could only deal with 'objects' that could be understood with certainty. Phenomena which could only be subject to speculation could not be its subjects of science. It was Spencer's contention that the sciences continually expanded in their subject matter and further all so-called 'laws' of science were not immutable for they could be challenged when contrary proof was discovered viz.: Lamarck's theory of evolution which was challenged by Darwin's findings. Comte on the other hand believed that all the basic laws of science had been discovered and were immutable.

*(ix) Part of Sierra's eulogy to Gabino Barreda, given on the 22nd of March 1908. 'Obras Completas' vol. V, U.N.A.M., 1948, page 310. Sierra was criticizing Barreda's adherence to the static view of science.

*(x) 'Gabino Barreda y Justo Sierra,' Martín Quirarte, U.N.A.M. 1970, page 68.

*(xi) 'Pro Domo Mea y Apuntes,' vol. VIII - 'Obras Completas del Maestro Justo Sierra,' U.N.A.M. 1948.

Diversos.' Barreda had seen education as the tool by which Mexico would produce educated citizens with the skills and attitudes to develop and participate in an industrial society. Further education had the function of creating a literate and homogeneous society, a 'pre-requisite' of a strong nation. These objectives appear to have been shared by Sierra as well.

*(xii) "..... We need to bring about a complete change in the indigenous mentality through education in the school. This is our great, our urgent obligation, and we must comply with it promptly or we are lost. To convert the native into a social asset (and it is the fault of our apathy that he is not one) to blend his spirit and ours in a unity of language, of aspirations, of loves and hates, of moral and mental criteria, to place before him the ideal of a strong and happy country belonging to all--to create, 'in toto,' a national soul is the goal assigned to the future, the program of our national education....." *(xiii)

Yet the words which Sierra uses point to a subtle difference between him and Barreda. The latter saw education as providing the necessary skills required by a modern state, such as literacy, scientific and technical knowledge; he never saw education as fulfilling a moral-cultural function. The latter, however, was perhaps the prime objective of any 'good' educational system, as far as Sierra was concerned. It was to be the means by which the 'mestizo' culture was to be fed and strengthened and so able to safeguard the Mexican nation from extinction, the penalty suffered by weak societies in Spencer's description of social evolution.

*(xii) 'The Political Evolution of the Mexican People,' Justo Sierra, page 368.

*(xiii) For Sierra, the survival of the nation is a constant struggle, whereas for Barreda the struggle had been won with the victory over Maximilian in 1867. In this passage Sierra was also referring indirectly to the evolution of political democracy which would only be attained through the development of a literate homogeneous society. This aspect never interested Barreda.

*(xiv) "For the nation!..... may each school be a temple and in it, may the nation be adored, and because of this, we wish to erect in each school an altar at the foot of our flag and there, in turn, (shall be) the orations and songs of young children, and there the great maternal shadow of the nation, enthusiasm, and there, the great intellectual light of the nation, illuminating minds. And all this we dream of..... because there is no indication that we will have time to grow, in order to live, to go forward, to neutralize with the character, *(xv) (moral strength) with the will, with the spirit, 'the geographical mischance' which binds us with a sinister knot to an enormous body *(xvi) which presents a singular example of an organism which lives an intense life, in spite of its disproportionate size and which still does not present clear symptoms of an inevitable dismemberment *(xvii)....."

Thus Sierra laid the greatest emphasis on reorganizing primary education, he had been a leading figure behind the 1891 Reform, *(xviii) but the results had not satisfied him. It was therefore his intention on being appointed 'Under-Secretary for Public Education' to concentrate on the reorganization of primary education. It was his aim to transform the ethos of primary education from simple instruction to that of education. Hence the old emphasis of primary education on the 'three Rs' was to be replaced by stressing the development of the child into the man.

Sierra when he became under-secretary for Public Education in April 1901 *(xix) and later when he was made Secretary of Public Education and Fine Arts, *(xx) received from the Congress extra-ordinary powers to revise and reorganize public education.

- *(xiv) 'Apuntes Diversos' - Vol. VIII 'Obras Completas,' page 495.
- *(xv) A nation's character was the touchstone of its moral strength.
- *(xvi) The nation referred to, is the U.S.A. Sierra's social Darwinist views concerning the development of nations is clearly demonstrated in this passage i.e. the organic nature of society.
- *(xvii) Nations like animals had to struggle for survival, if they were to avoid extinction, a fate which eventually would befall all societies.
- *(xviii) of Appendix IV
- *(xix) Barranda's retreat as Minister of the Interior had resulted in the appointment of Don Justino Fernandez as his successor. It was the latter who introduced legislation which created the two sub-ministries of Education and Justice.
- *(xx) The Ministry of Education came into being under the Law of the 16th of May 1905 with Sierra as the Secretary of Education. In addition increased funds were allocated to the new Ministry.

This he proceeded to do with the Law of 1908, promulgated on the 15th of August. The law was concerned with the restructuring of primary education in the Federal District and the Federal Territories and its articles clearly demonstrate Sierra's conception of education and its role in Mexican society.

*(xxi) Article (1) "State schools will be essentially educative, formal instruction will be considered only as a means of education."

Article (2) "Apart from being free, secular and compulsory, education must be homogeneous, that is to say it must produce the complete and harmonious development of the pupil in relation to his physical, moral and intellectual facets, similarly with his being able to sense beauty and in awakening and perfecting his good taste. It must be national, that is to say that it will try to differentiate the Mexican pupils from those of other countries, by the fact that it will not create from the former beings in whom the supreme concept of humanity will be magnified, but also it will mould them into citizens, in particular Mexican citizens. Because of this and to attain this, the Law expressly recommends that teachers should inculcate a developing love of the Mexican Nation in the hearts of their pupils....."

Article (4) "By education, should be understood the harmonious development of each pupil, in a way that his personality so often indecisive and shapeless, is given vigour in a way that his habits are strengthened and through them the individual spirit of initiative is intensified and at the same time he is instilled with the powerful feeling of patriotism."

In brief Sierra saw education as a means of reinforcing and developing the individual pupil's personality and by turning him into a 'good' citizen, the nation would benefit. More important it was only through education that all the Mexican people could be changed into a citizen body whose energy and devotion to the country would enable it to prosper and at the same time maintain its identity. This view of the role of education is directly linked to Sierra's analysis of Mexican history. It was shown in the last chapter that

*(xxi) 'México y su Revolución Educativa' Vol. II, (Insidro Castillo), Academia Mexicana de la Educacion A.C. 1965, page 137.

Sierra' concept of history was based upon 'Social Darwinism' and that the history of the Mexican people was essentially one of struggle, a struggle to survive and assert the identity of the nation. In a letter *(xxii) to Limantour, Sierra clearly stated the role of education in the future of the nation.

*(xxiii) "The railways, factories, loans, future immigration and current trade tie us and subordinate us to a great measure to foreigners. If thus drowned by this circumstance of dependence, we do not seek the way to maintain ourselves throughout it, and to grow and develop ourselves by means of cultivating man in the generations to come, the Mexican plant will disappear in the shadow of others, infinitely more vigorous. Only education and nothing else than the former, can achieve this, which is now very urgent and great. Nothing, achieved without education, will be worth the material effort. Nothing (apart from education) can do this to save us as a people against others more powerful. Without education, all that which is done for material and economic progress will be a disaster for national autonomy."

Whilst Barrera had regarded education as the means of providing the knowledge and technical skill upon which the nation would develop, Sierra saw education as a crusading psychological force which would create a homogeneous entity, the Mexican Nation. The question is now posed as to what type of structure was envisaged by the Law of 1908 which was to be the tool for achieving such a mighty objective. 'Article 10' outlined a seven year course. The first five years comprised the primary schooling, and the last two years related to the secondary schooling element. Primary education was to be divided in two parts. The first part consisting of the first two years, was spent by learning the three (Rs), almost exclusively. The next three years would see the pupil being taught grammar, the metric system *(xxiv), line drawing, geography, 'good manners,' moral and

*(xxii) The letter was written in 1907.

*(xxiii) Quoted by Isidro Castillo in 'México y su Revolución Educativa,' Vol. II, page 141.

The botanical metaphor encapsulates succinctly Sierra's Social Darwinist outlook. The emphasis is on survival, not only economic, but also the spiritual survival of Mexico as a Nation State.

*(xxiv) The metric system became the standard system in Mexico in 1896.

political precepts and in the case of girls, sewing.

In practice the curriculum followed the normal sequential pattern. Thus in the case of arithmetic, numeracy was taught in the first year, followed by the teaching of the four arithmeti-
-cal operations in the second year. The third year, the pupils were being introduced to fractions and decimals and in the fourth year, the metric system was the main subject, whilst ratios, roots and powers of numbers were taught in the final year. Once the pupil had gone through the primary phase of his education, he went on to the secondary phase (Elementary School) which after 1909 was supposed to give him some vocational instruction. Thus in a rural area, agrarian studies would be a major study at school, whereas mercantile subjects and technical skills were taught in an urban school.

Although the 1908 law was never fully carried out in practice, due to the outbreak of the Revolution in 1910, the main parts of the structural reorganization envisaged, were carried out. In 1910, President Diaz was able to announce the following details concerning the State Educational Establishments in the Federal District and Territories.

In that year, there were 641 primary schools of which 52 were higher primary schools, 524 elementary schools and 55 night schools. In all *(xxv) 83,824 pupils were inscribed at these schools and they had at their disposition 2,371 teachers, that is a ratio of one teacher per thirty-five pupils.

*(xxv) Quoted from 'México y su Revolución Educativa,' Vol. II, page 151.

It is perhaps unfair to judge and criticize the practical results of the 1908 Law, because of the short time during which it was implemented, but nevertheless certain general criticisms can be made and these apply to all the previous Laws on education. The most obvious one was that due to Mexico's Federal Constitution, they only applied to the Federal District and the Federal Territories. So any reform would only have an impact on a limited geographical area and of course on a small percentage of the population. It can be argued that the impact was bound to be large as the individual state governments would tend to adopt the politics of the Federal Government and this is what happened in the case of the 1867 Law.

While this is true, nevertheless the Federal government by law, could not oversee the effective implementation of educational policies outside the territories it directly controlled. An individual state government might enact a law similar to that of the Federal Government, but how far it implemented it was up to it and the enthusiasm of local state officials.

Furthermore, as Isidro Castillo has pointed out, the 1908 Law and previous laws envisaged an educational structure which was suited to an urban environment. This is not so strange, for the laws were initially drawn up for the Federal District and Territories, and in terms of population and political and economic importance, the Federal District was the major area. Therefore any law on education promulgated by the Central Government would be tailored to fit the urban environment of the Federal District. The inherent weakness of this situation was that Mexico was still an agrarian country at the turn of the century.

The result was that the impact of reforms designed to be implemented by public officials who were also to act as the supervisors, based in urban centres, were blunted from the start. Indeed it was implicit in most of the laws on educational reform between 1867-1910 that much of the resources for rural education would be provided by the landowners, indeed the 1867 Law had made this explicit. The weakness of this in rural education is obvious, it depended for its effectiveness on the goodwill and favour of private individuals. It is therefore not surprising that the rural education remained a backwater during the Porfiriato.

Thus despite the high hopes placed on education as the device of social engineering, the circumstances affecting the promulgation of each new law meant that it could never achieve the target set for it. Indeed if the actual methods of teaching are examined, a discrepancy between the theory of education, as propounded in say Articles one and four of the 1908 Law and that actually put into operation, is to be seen. Jesus Romero Flores in his book 'La Educación en Michoacan,' pointed out that teaching was on the monitor method. The normal primary school would have one teacher, akin to the 'Domini' schools in rural areas of Scotland. The pupils at the school would be split up into groups from each of which one pupil would be chosen to act as the monitor for the group. Each monitor was instructed in the lesson to be given to his fellow-pupils, by the teacher. Then the monitor would regurgitate the lesson to the group. The main technique used for instruction was learning by 'rote.' These methods did not appear compatible with such advanced concepts of education as stated in Articles one and four with their emphasis on the harmonious development of the child's personality.

The second aim of Sierra during his period in government, was to reorganize the system of higher education in Mexico. The details, concerning the organization of the 'Universidad Nacional de México' *(xxvi) are given in Appendix eleven ('Ley Constitutiva de la Universidad Nacional'). Three articles of its constitutions will suffice to show the general framework of the new system.

*(xxvii) "An educational body whose primary object will be to achieve, in its higher levels, National Education, instituted with the name of 'National University of Mexico.'"

*(xxviii) "The University will be created from the union of the 'National Preparatory Schools' of Jurisprudence, Medicine, Engineering, Fine Arts (relating to the teaching of Architecture) and of Higher Studies." *(xxix)

*(xxx) "The Secretary of Public Education and Fine Arts will be the Governor of the University..... the Rector of the University will be chosen by the President of the Republic."

*(xxvi) It was Justo Sierra's intention to create a National University system akin to the French pattern i.e. it was to be under the control of the Minister of Education, but it would have some autonomous powers. This system was chosen because it was different from that of the old Pontifical University and from the American system. Although he admired the latter, he felt it was dependent on a bourgeoisie which was committed to education and this he felt was not the case in Mexico. "..... the egotism or impotence of our wealthy bourgeoisie which has hardly ever shown any concern for public education, force a distinct form to the idea we intent to achieve....." (Speech given in 1910 at the founding of the New University on the 22nd of September, 1910). Quoted from 'Mexico y su Revolucion Educativa,' Vol. II, page 143.

*(xxvii) 'Ley Constitutiva de la Universidad de México' Article One, 'Obras Completas,' U.N.A.M., vol. VIII, page 417.

*(xxviii) Article two of the 'Ley Constitutiva.' 'Obras completas' - (Justo Sierra) Vol. VIII, page 417.

*(xxix) This was a new faculty, whose direction was Porfirio Parra. Apart from engaging three foreign academics, Baldwin, Boas and Reiche, the latter a well known botanist, the faculty was almost purely a paper one. Its function was to be one of research. The role of the University was to be in line with all other educational establishments, that of creating and sustaining the identity of the Mexican Nation.

"It falls to the National University to show that our personality (the Mexican people) has indestructable roots in our environment and in our history....."

The speech made by Sierra on the eve of the foundation of the University is quoted from 'México y su Revolución Educativa,' page 144.

*(xxx) Article three of the 'Ley Constitutiva.' 'Obras Completas' vol. VIII, page 417.

Significantly by setting up *(xxxii) a university structure for higher education, Sierra was clearly demonstrating his non-'positivist' outlook. Comte in Volume IV of the 'System of the Positive Polity' had stated unequivocally, that one of the steps to be taken in the transition to the full 'Positivist State' was the abolition of Universities and all degree-giving institutions. The latter was seen as bastions of 'metaphysical thought' by Comte, incapable of reform because of their formalistic structures. The whole idea of degrees and of the University structure with its concept of generalized education was a complete anathema to Comte. Thus those non-French Positivists who were involved in educational reform in their respective countries such as Gabino Barreda and Tejeira Mendes had been adamant in setting up a non-University higher education system. Thus Brazil and Mexico, both of whose educational systems had been reorganized by Positivist intellectuals were without any Universities during the whole of the late nineteenth century.

Before an analysis of Sierra's views on higher education is given, it is worthwhile pointing out that what was set up in 1910 was not a new University structure but rather a co-ordinating body only. The reason for Sierra's desire to retain centralized control of the University is once more related to his view of education as a means of 'social engineering,' a purpose never envisaged in such an overt manner by Barreda. Both primary and higher education were but facets of one homogeneous plan of 'Social Engineering,' as the faculties of higher education were to provide

*(xxxii) Sierra had first attempted to introduce a bill to set up a National University in the Chamber of Deputies on the 7th of April 1881. Details of this still-born bill are given in Vol. VIII of the complete works of 'Justo Sierra,' U.N.A.M. 1949, pages 65-69.

the social engineers of the future. The products of the new University were qualified to be social engineers, because of the science-orientated education they would receive at the new University. *(xxxii)

*(xxxiii) "The scientific investigation will be absolutely objective (disinterested) but continually developing from Mexican elements and it will be necessary to apply its results constantly to the social progress of Mexico Its intellectual mission consists in handling the helm during the sailing of the ship to the 'Port of Reason' This constitutes the ceiling of the educational objective of the University..... The acquisition of science in the first place contributes to the realization of this object....."

No attempt has been made in this chapter, to analyse in detail the actual particulars of Sierra's reforms of 1910, because they were in the main structural changes and not changes in the syllabi. The Revolution also cut short the implementation of his ideas on the major aspects of education, centering as they did, around the sphere of primary education,

One problem faced Sierra, if he was to achieve his objective of using education as the medium of 'social engineering' and that was the Federal nature of the Mexican Constitution; for Sierra, as Secretary of Education and Fine Arts, had only the constitutional power to remodel the educational system of the Federal District. Sierra to achieve his goal would require the active support of all the State governments. This he tried to do through the holding of

*(xxxii) The strong bias towards scientific teaching which had characterized the National Preparatory Schools was to be continued in U.N.A.M. (Universidad Nacional Autonoma de Mexico).

*(xxxiii) Quoted from 'Ciencia y Universidad, Apuntes Diversos: vol. VIII 'Obras Completas,' page 497.

This passage is typical of Sierra's style when writing about the theme of education and Mexico's social evolution, the emphasis being placed on rhetoric rather than on a 'concrete' analysis. However this essay 'Ciencia y Universidad' does demonstrate Sierra's theoretical devotion to democracy.

"Democracy, not in its concrete legal form, but in its human form is to achieve the evolution of a Universe, every time larger groups until it embraces the whole community."

'Apuntes Diversos': Vol. VIII 'Obras Completas,' page 497.

national congresses on educational topics. Thus a National Congress was held in September 1910 on the subject of primary education.

The invitation asking the individual state governors to appoint delegates to the conference, declared that the purpose was to have a clear presentation of the condition of primary education throughout the country and to lay the foundations for regular conferences on primary education through the whole of the Republic.

*(xxxiv) "..... and it will have as its principal objectives, to present information concerning the state of primary education in whole country and to indicate the basis upon which conferences of representatives from the primary education sector can be continued to be held annually throughout the Republic."

Whether this policy would have succeeded in attaining a uniform nationwide educational policy is purely speculative, as the Revolution was to put an end to Sierra's political career. He resigned on the twenty-fourth of March, 1911.

This chapter has attempted to delineate Sierra's most important ideas concerning education and its function within Mexican Society. Perhaps the most succinct summary of Sierra's attitude as regards the development of Mexico is found in his own writings *(xxxv) and these are given on table I, of which number seven sums up his educational policy and number five his aim and vision of Mexico's future.

*(xxxiv) Part of Sierra's invitation sent out to the State Governors, dated 31-3-1910 'Obras Completas,' Vol. VIII, page 434.
 *(xxxv) The 'primarios' or guiding principles are quoted from 'Apuntes Diversos,' 'Obras Completas': Vol. VIII, page 497. The first six (primarios) certainly could be said to form a concise summary of the beliefs of the Social Darwinists amongst the 'Científicos,' and the former formed most probably a majority of the latter.

T A B L E - I.

SIERRA'S 'PRIMARIOS' (Precepts).

- (1) 'No recriminations.'
- (2) 'Sentimentalism cannot be a factor of renewal.'
- (3) 'The self-identity must be renewed, by reviving its moral strength.'
- (4) 'From the indigenous passiveness, an essential element of the (national) character can be made: discipline!'
- (5) 'Roosevelt -- Bismarck, the cult of force: the one on behalf of German Supremacy; the other on behalf of the triumph of Civilization: the guiding nations.' *(i)
- (6) 'Let us accept the doctrine. Let us be strong, all the rest is lost time and dignity.'
- (7) 'There are fourteen million inhabitants; there are nine million who are not Mexicans because they do not participate within the soul and consciousness of the nation. To make fourteen million citizens of Mexico is the objective that must be attained at all costs; quickly; in the space of one generation. The federation of schools must be achieved; a truly national integrated and laicized education.'

*(i) Sierra was not specifically pro the U.S.A., but he admired the way the U.S.A. had grown to be one of the strong nations of the World.

CHAPTER FOURTEEN.CONCLUSION: POSITIVISM IN MEXICO!

The previous eight chapters have examined the nature of the ideas expressed by what has been traditionally described as the 'científico' group. It has been shown that there were at least two main influences within this group, and that it was not as homogeneous as many authors have made out. Indeed it has been a theme of this thesis that, because of the personalised nature of the 'Porfiriato,' it was not possible for the 'científicos' to work effectively as a group, the fate of the 'Unión Liberal' being ample evidence of this. Finally the argument was put forward in chapter eight that Zea's contention that Positivism formed the basis of the prevailing 'capitalist' ideology during the major part of the 'Porfiriato' was not tenable, not only because of Zea's rather mechanistic view of the term 'ideology,' but because the corporate nature of the positivist philosophy made it rather unsuitable to act as a corner-stone of a 'laissez-faire,' or even a monopoly, capitalist doctrine.

Nevertheless, Zea is correct in viewing those Mexican intellectuals who proclaimed themselves to be Positivists as advocates of a quasi 'laissez-faire' capitalist doctrine. The adherence, however of these intellectuals except for a few, such as Agustin Aragon, consisted only of the acceptance of the 'scientific method' and not the positivist system of philosophy as a whole. There is no other conclusion to be drawn from statements by individual 'científicos' such as Porfirio Parra.

*(i) "We, the Mexican Positivists, are eclectics in the Positivist method, and if a doctrine arises from Spencer, Mill or Comte, we accept it, if it is in accord with the common method which all of them have proclaimed, rejecting it if it does not....."

Such a declaration only confirmed José María Vigil's own acute observations about these 'Positivists.'

*(ii) "Our Positivists declare that Positivism is not a doctrine or a philosophy among others, but a method; the method fit for considering our social reality and for the establishment of a valid order for all the Mexicans. By affirming this, Mexican Positivism is establishing its own school..... Neither Comte, nor Littré, nor (J.S.) Mill have understood Positivism as such a doctrine."

Thus the question of the extent of positivist influence during the 'Porfiriato' becomes somewhat meaningless, as there is no conceivable manner whereby the term 'Positivist' can be used about men who were not interested in the doctrine. The significant aspect of this eclectian attitude held by many of these 'Positivists' is that it allowed them to 'pick and choose' the doctrines they held from a fairly diverse source, as long as they were in line with the 'scientific method.' This is probably the reason why authors such as Leopoldo Zea, Isidro Castillo and James D. Cockcroft have tended to view the doctrines of Spencer and Comte as forming one general philosophy.

Such a view is only plausible, because intellectuals, like Parra and Macedo who called themselves 'Positivists,' did not themselves see or bother to see major differences between the two philosophical systems.

*(i) 'México y su Revolución Educativa,' Vol. II, Isidro Castillo, page 98.

*(ii) Quoted in 'México y su Revolución Educativa,' Vol. II, page 98.

That such a 'bizarre' situation should exist is due to the way that 'Positivism' came into the mainstream of Mexican philosophical thought. The main exponent of Comte's system, in Mexico, was Gabino Barreda and it has been shown in chapters six and seven that he was a Positivist in that sense. Yet it is equally clear that he only emphasized certain aspects of the Positivist philosophy, principally its application as the means of interpreting the history of Mexico and as the basis for reorganizing education which he emphasized as the means of social engineering. In essence, therefore, what was being stressed was the method of analysis rather than the complete philosophy as against the case in Brazil, where the whole of Comte's system was introduced. Both Littré and Comte had some conception of what the positivist state should be like, although they had differing views, it is not at all clear if Barreda had such a conception.

This truncation of Positivism would lead to the development of an eclectic viewpoint. Therefore men who claimed to be followers of Barreda, in holding that the scientific method, when applied rigorously, would be a tool in the development of a strong Mexico, naturally would see themselves as Positivists. As a consequence of the fact that these men, including Barreda, supported Diaz, it was normal to regard Positivism as the creed of the 'Porfiriato.' Thus the situation was attained, whereby a term which described a specific philosophy was used to describe the doctrines and beliefs which in many cases, being derived from Spencer's works, were in contradiction to Comte's beliefs.

It is, thus, possible to say that Positivism, as defined in 'Part I' of this work, reached its zenith in Mexico during the 1860s with the 1867 law on education.

After this point, Positivism as a philosophical movement, if it can be called that, lost its vigour and was replaced by a group who though they were called 'Positivists' only shared a belief in the 'scientific method' as the means of analysing Mexico's social and economic position and of achieving a strong and industrialized Mexico. Apart from this, the group, called the 'cientificos,' did not have a common coherent philosophy; some such as Vigil were followers of Littré, others such as Aragon followed Comte, while the majority were Social Darwinists, as in the case of Sierra and Macedo. In no case is it valid to consider this group as the propagators of Positivism.

CHAPTER FIFTEEN.

CONCLUSION: THE IMPACT AND THE ROLE OF THE 'CIENFÍFICOS.'

In the previous chapter, the question of whether a positivist movement could be said to have existed in Mexico during the period 1867-1910, was discussed. The conclusion was that it was a misnomer to regard the 'científicos' as constituting such a body, because by the 1870s and 1880s Positivism, in the sense of the philosophy created by Comte, had ceased to be the prime influence on Mexican intellectuals. Indeed, if a major influence can be detected in a group of intellectuals who had adopted a rather eclectic view in their regard to philosophical systems, it is Social Darwinism rather than Positivism.

The point has been reached where it is necessary to summarize the conclusions concerning the second major theme of this thesis; the impact of the 'científicos' on Mexico during the 'Porfiriato.' The first major concern is whether they expressed an ideology which was the ideology of the 'Porfiriato.' Zea's argument was that this was the case. In so far as individuals such as Macedo and Francisco Cosmes avidly defended the authoritarian style of the Diaz government as being a justifiable necessity, Leopoldo Zea is correct in arguing that the 'científicos' individually and collectively provided a coherent 'apologium' for the 'Porfiriato.' As has been mentioned in previous chapters, what united the 'científicos' was their belief that Mexico could only survive as an independent state by becoming a strong industrial power.

This could only be achieved, in their opinion, by the application of the scientific method and through strong personal government which would rid Mexico of the anarchy that had weakened it in the past. Thus they strongly supported Porfirio Diaz, for he had promised order and had implemented it.

Francisco Cosmes emphasized this belief in a personal authoritarian government in a clear and harsh *(i) manner, while Justo Sierra also did precisely the same, though in a more gentle *(ii) tone. Yet there is a marked difference between providing an 'apologia' for a regime and actually supplying it with an ideology. Although the criticisms of Zea's reasons for the existence of a specific positivist ideology during the 'Porfiriato,' have been detailed in chapter nine of this work, there is one major point that has to be re-emphasized. Both Abelardo Villegas and Robert Vernon have pointed out the continuity in attitudes and policies between the period of the 'Porfiriato' and the era of the presidencies of Juárez and Lerdo de Tejada. Vernon has shown in his work 'The Dilemma of Mexico's Development' that most of the general economic policies implemented during the 'Porfiriato' had their origins in the preceding period. Villegas, in his work, 'La Filosofía en la Historia Política de México,' argued that the authoritarian style of Díaz's government was derived from the increasingly personalized rule of Juárez. It is suggested therefore that the 'Porfiriato' evinced the culmination of trends that had already manifested themselves prior to 1877.

*(i) of chapter eight of this work.

*(ii) of chapter nine of this work.

Hence, if it is to be argued that the period 1877-1910 witnessed the manifestation of a coherent capitalist ideology; then it was an ideology which had developed at least two to three decades earlier with the increasingly dominant role of the Mexican Liberal party.

Three areas were chosen for analysis to see if the 'científicos' actually influenced the policies of Diaz, education, the economy of Mexico and political development in Mexico. If the 'científicos' played the role, ascribed to them by authors such as Peter Calvert and Hubert Herring, then it should be demonstrated that in these areas policies, advocated by them, were carried out by Diaz.

Yet the evidence is such as to suggest that Diaz's government was of a highly personalized nature, and that as a result of this, he did not brook any overt political action by friend or foe. The fate of the 'Unión Liberal' is instructive in this respect. Chapter ten of this work described the reasons for the formation of the 'Unión Liberal' and how initially it found favour with Diaz, mainly through its patronage by Manuel Romero Rubio, Diaz's father-in-law. After the death of Romero Rubio, Diaz increasingly harboured suspicions about it and it was through his covert instigation that the two proposals, presented by the 'Unión Liberal', one concerning the creation of an immoveable supreme court and the other, the creation of the post of vice-president, were lost. Apart from his personal dislike of the bills, the motive for Diaz's actions has been made clear by Limantour in his autobiography.

*(iii) "At the beginning the 'científicos' had few opportunities for getting in contact with the President.

*(iii) 'Apuntes sobre mi Vida Publica,' by Jose Yves Limantour, page 95.

In spite of the numerous proofs of their loyalty..... General Diaz harboured a certain fear that the group, on taking on greater impetus, it would be able to acquire an influence upon the conduct of public affairs, so much so that it would one day allow it to follow a policy line distinct from the official one....."

There can be no clearer statement that Diaz was inimical towards any group or movement which might, in the future, be a power base, not under his control. Again proof of Diaz's suspicions towards the 'científicos' as a quasi-organized group can be found in his attitude towards Ramon Corral, his vice-president from 1904 onwards. He just simply ignored Corral, whenever political decisions were to be made. Limantour again found the reason in Diaz's distrust of the 'científicos' as a group.

*(iv) "In my view, the only satisfactory explanation, capable of helping to decipher the enigma, is the following: General Diaz, as is well known, viewed the majority of the 'científicos' with suspicion..... It is thus possible that the president feared that the said group would exercise such an influence on Corral that he would be carried beyond the limits marked out by the President....."

This attitude of suspicion on the part of Diaz was inevitable, considering that the basis of his power was his continual personal exercise of it. The personal nature of his power allowed him to manipulate different groups, often against each other, in their search for political influence, and it was in this context that the 'científicos' gained or lost prominence. Indeed Díaz had acquiesced to the formation of the 'Unión Liberal,' only because in 1892 he wished to give himself a democratic facade in the presidential election for that year. Once this function had been fulfilled, he became antagonistic towards the party, as it attempted to turn itself into a genuine political party.

*(iv) 'Apuntes sobre mi Vida Publica,' page 151.

Any such attempt would lead the founders of the party into opposition to the regime, because of the personalized nature of the government. The result was that instead of forming a cohesive political grouping, all the 'científicos' could create, was a loose body of individuals who had more or less similar ideas.

*(v) "The trick suffered by the instigators of the 'Unión Liberal' brought unforeseen consequences. The most important of which was that in place of forming the great Liberal party, strong and permanent, so desired by the initiating group, a unique aggregation was born, as from nothing without any form or organization, without any greater bonds of union than the ideal of that political goal and the proposition of achieving it within the limits which their firm adhesion to the government of General Diaz set them....."

A situation which was to the liking of Diaz who wished to prevent the party from influencing public affairs as a party.

In the sphere of economic and social policy, Diaz merely developed and intensified the policies of Juarez. There is no evidence of any positive influence on policy-making by the 'científicos.' Indeed several individuals were worried by policies which appeared to be encouraging maximum growth at the price of foreign domination of Mexico's economy. Justo Sierra, in a letter *(vi) to Limantour in 1907, argued that education was the only hope of saving Mexico's autonomy in a situation where her total economy appeared to be dependent and subordinate to foreign interests. Another 'científico,' Carlos Dufoo was highly critical of an agricultural policy which allowed ever increasing concentration of land into fewer and fewer hands which resulted in a vast landless peasantry and thus facilitated a system of cheap labour. The latter he condemned as being the chief reason for Mexico's relatively poor agricultural performance.

*(v) 'Apuntes sobre mi Vida Publica,' page 27.

*(vi) of Chapter eleven of this work for an extract from the letter taken from Vol. II 'Mexico y su Revolucion Educativa.'

*(vii) "Our farmers eagerly crave for the reduction of salaries, either paying them in kind and at higher prices than those of the market..... The consequence ought to be and effectively is..... to a low salary there correspond a poor agriculture and a dear product....."

Dufoo went further in attacking the monopoly of land by a few families and land companies, for he was an advocate of large scale emigration to the rural areas of Mexico which was effectively prevented by the lack of unclaimed land and the existence of debt labour. Yet another 'científico' was highly critical of Díaz's economic policies. Agustín Aragón always felt that Díaz should have interfered in the economic arena, by allying his regime with the working classes and, hence, adding a strong social element to his economic policy. Indeed there is a suggestion in his two volume work 'Porfirio Díaz' that there should have been some action on the part of Díaz to ensure a better distribution of wealth. Even if Aragón was an exception, being a genuine positivist in the mould of Professor Beesly *(viii), nevertheless the majority of the 'científicos' were disquieted by the domination of the Mexican economy by non-national interests, especially by American interests. They were amongst the many who called for Mexican control of the railways, achieved by 1910. It is an error to see them, as Peter Calvert does, as advocates of economic expansion at all costs. Their objective was economic expansion to achieve a strong Mexico, not one dominated by foreign concerns,

*(vii) 'Mexico, its Social Evolution,' Vol. II, Chapter three (Mexico D.F. 1904).

*(viii) Beesly was an English Positivist who was very active in helping the Trade-Union movement in the U.K. in the last third of the nineteenth century, both politically and legally. Cf 'The Common People' by G.D.H. Cole and R. Postgate, USP. 22.

in particular from the U.S.A. In any case their influence on the economy was limited, as Diaz was following policies, initiated before his period of rule; although he used the economic sphere as a means of placating powerful social groups, such as the landed and financial classes. His personal rule had need of their acquiescence.

The only area of government policy which individual 'científicos' could influence was education. In a general context, it was the least contentious sphere of government. The period was marked by a continual attempt to broaden the impact of education and attain the goal of (ix) universal and compulsory education, a task never fulfilled. This concentration on this objective was due to the belief that Mexico would only attain the status of a great nation through the 'panacea' of universal education. Indeed Justo Sierra was convinced that it was the only means of preserving the soul of the nation. Not only that, but without universal literacy in Mexico, he was of the opinion that Mexico's political development towards being a homogeneous democracy would never be achieved.

Yet it is in the sphere of education that it is most easily demonstrated the fallacy of describing the 'científicos' as a positivist group. Mexico, by the opening of the 'Porfiriato,' had an educational system which had been created in the positivist mould by a Positivist. By the end of the 'Porfiriato,' this system had been reorganized to a great extent by the most respected of the 'científicos,' Justo Sierra. Many of the positivist features of the system, such as the rigid syllabi of the 'Preparative Schools,' had been abolished. Justo Sierra even committed the positivist 'heresy' of re-establishing a university. Further there was no

(ix) Per the Census of 1900, one sixth of the 13,600,000 Mexicans were literate and, in theory, schooling was available to 30% of children.

attempt to completely secularize education, the objective of Barreda. Clerical schools still formed an important section of the educational facilities in the country. Again this was due to Díaz's political needs, as the Catholic Church was one more powerful body to conciliate.

What appears from this analysis of the 'Porfiriato' is that far from being an ideological regime, the Diaz government fell into the same pattern as the previous governments of 'caudillos' in Mexico. It was a highly personalized form of rule, dependent on the wishes of one man and on the conciliation of the powerful forces in the country and the repression of those who did not count or who would not be placated. Diaz's rule lasted so long, because he was an expert manipulator and conciliator, and amongst those whom he conciliated and manipulated were the 'científicos' through his power to appoint individuals to office. When the system collapsed in 1910, it was because of the frailty of Diaz himself, and the economic blows Mexico received in the middle and latter part of the decade which alienated from him, many of the powerful groups on whose acquiescence, the regime rested upon. Once Diaz faltered, the whole system fell down like a 'pack of cards,' a fate that was bound to happen to a regime which was based on one man only.
