CHAPTER 7

The Ideology of the “Survival of the Fittest” during the *Porfiriato* in Mexico

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“Herbert Spencer is an exception among the great philosophers. His name is celebrated in England, his birthplace, and throughout the civilized world. There is no language into which his works have not been translated, nor book devoted to the development of a moral or political science that does not constantly cite his name. Newspapers, magazines and publications of all types mention him repeatedly.” The preceding paragraph is taken from a newspaper that supported the current Mexican President, Porfirio Díaz, in 1887.¹ It stands out in a long article on Spencer, indicating the importance that his ideas had taken on in Mexico towards the end of the nineteenth century, highlighting above all the scope of his proposal in different disciplines, as well as the impact that it had in different parts of the world (Fig. 7.1).

Spencer’s ideas, promoted predominantly in the press, were of great importance in the establishment and strengthening of Mexican positivism, and at the same time, in a national scientific culture that along with the evolutionary ideas of Charles Darwin, formed a political, social, and educational background that, among other things, set the stage for the foundation of the country’s most important educational and cultural project, the National University of Mexico. The way in which Mexican intellectuals appropriated and used Spencer’s ideas stands out more clearly in this project. In particular, education and social evolution at that time represented a response to Mexico’s political, cultural and social situation, an alternative via peaceful change, in opposition to the imminent revolution, which sought a profound transformation of the country through violence.

This chapter is divided into three sections. In the first, we briefly outline the context in which positivism was established in Mexico, initially within the Comtean tradition, until the consolidation of Spencerism, and particularly among political groups close to then President Porfirio Díaz. Secondly, we focus on the presence of Spencer in the Mexican context, beginning with the

¹ *El Diario del Hogar*, January 29, 1887, 1.
translations of his work, which were few in number compared with other countries and which focused directly on issues related to Mexico, as well as pointing out the extracts that were taken up and translated in various newspapers where Spencerian thought was well received. Finally, we concentrate on Justo Sierra, the most important proponent of Spencerian ideas in the late nineteenth century, who from his position as a politician within the Porfiriato,
and based on Spencerism, laid the groundwork for the foundation of the National University of Mexico.

1 The Background to Mexican Positivism

The nineteenth century was a period of particular importance in Mexico’s history, as it was when the foundations of the country’s future politics, economics and education were laid. After the first quarter century, the period when the country gained its independence from Spain, the new nation adopted the name the United States of Mexico, established the Federal Republic as its system of government, and, in parallel, created a series of symbols that strengthened its emerging identity.

Halfway through the century, as a result of the mismanagement of vulnerable parts of the country, the country’s territory was reduced to slightly less than half its original area. Economic problems emerged in conjunction with independence, making it necessary to resort to loans that burdened the country with crippling debt, leading to successive foreign invasions that made the country’s path to stability far more difficult.

In addition to the fact that Spain had never created a scientific tradition either at home or in its colonies, the state of the sciences in Mexico was particularly precarious because of social instability. It was common for members of the educated Mexican elites to study such careers as law, medicine, architecture, and engineering, because, even though they may have been attracted to disciplines such as mathematics, physics or chemistry, the sciences in Mexico

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2 For this section, we have taken as our reference Leopoldo Zea’s classic work on the introduction of positivism into Mexico. We should like to point out that we seek to present our history from a different standpoint, unlike other recent works such as that by Luz Fernanda Azuela, who proposes a vision based on the relationship between positivism and the scientific research that has developed in Mexico since the Enlightenment, in what she calls a ‘protopositivism’. See Luz Fernanda Azuela, ‘La ciencia positivista en el siglo xix mexicano’ in Otras armas para la Independencia y la Revolución. Ciencias y humanidades, edited by Rosaura Ruiz, Arturo Argueta and Graciela Zamudio (Mexico: UNAM, UAS, UMSNH, HCH, FCE, 2010), 172–188. See Leopoldo Zea, El positivismo en México: nacimiento, apogeo y decadencia (Mexico: FCE, 1968). For another account that considers the influence of positivism in different fields, such as science and culture, see Eli de Gortári, La ciencia en la historia de México (Mexico: Grijalbo, 1980), 298–337. For a study of the place of positivism in the history of philosophy in Mexico, see Elizabeth Flower, “The Mexican revolt against positivism”, Journal of the History of Ideas 10, no. 1 (1949): 115–129.

3 Eli de Gortári, La ciencia en la historia de México (Mexico: Grijalbo, 1980), 201–205.
in the middle of the nineteenth century were barely emerging. Despite the existence of museums and scientific societies such as the Mexican Society of Geography and Statistics (the first scientific society in the Americas, founded in 1833) or the Sociedad Científica Antonio Alzate (founded in 1884) which were disseminators of scientific knowledge, there was no state or national science project. The development of the sciences in Mexico throughout the nineteenth century owed less to institutional interest, and was more indebted to individual efforts, applying methodologies and knowledge brought from Europe.

This social instability also affected the publishing industry. After the Reform, in addition to government censorship, excessively stringent regulations for setting up a printing house made publishing anything nearly impossible. During the Porfiriato, it was only possible to obtain authorization for publications through the government department responsible for encouraging foreign and domestic investment in Mexico (Secretaría de Fomento), subject to criteria set by the government.

In the final quarter of the century, the military leader, Porfirio Díaz (1830–1915) rose to power. He ruled Mexico for thirty-one years from 1876 to 1911, with the exception of a brief interim period when government was nominally in the hands of his ally Manuel González (1833–1893). During this period, the capitalist system was implemented, and, with modifications, has continued until the present.

This period of the country’s history is known as the ‘Porfiriato’. It is a period that has particularly attracted the attention of historians, specifically because of the advance of positivist thought, which arose in the late 1860s as part of the Liberal Reform of then President Benito Juárez (1806–1872). After a bitter struggle between the Liberals and the Conservatives (whose main stronghold was the Catholic clergy), the Liberal movement was able to take power and then begin a process of readjustment that would make the transition between Liberal theory and what the actual conditions of the country at that time required. An element in this process can be seen in the Reform Laws that enacted the nationalization of the Catholic Church’s property and capital. The advance of the Liberals, who pressed strongly forwards with their agenda, found little support among the Conservatives, who backed French intervention and the coming of Maximilian of Hapsburg (1832–1867) to Mexico in 1864. With the outbreak of war with France, the Juárez government was forced to resell lands to any who could make immediate payment to cover war expenses.

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5 Arnaldo Córdova, La ideología de la Revolución Mexicana (Mexico: ERA, 1975), 17–42.
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This meant, in effect, the return of the old landholding oligarchy, and thus the advance of Liberal social ideals was curtailed.6

In addition, the war led Juárez to seek the support of the Liberals to maintain stability once the war was won in 1861. Although it had been the Liberal model that prevailed, putting it into practice was far more difficult. In fact, Liberal thinking was modified in such a way that it was counterproductive to keep the Liberal conception of freedom, in the sense of laissez faire.7 It became necessary to limit and subordinate it to the country’s real needs. These modifications required an appropriate philosophical corpus that found its clearest expression in the Comtean positivist theoretical ideas of Gabino Barreda (1818–1881).8

As with any process where an idea is introduced and established, Mexican positivism acquired unique and particular characteristics. Beyond adopting a theoretical proposal, the various positivist ideas were put into practice in terms of political activism, and this is explicable when one considers that positivism was introduced into Mexico as part of a specific political plan, Liberalism, providing a sound basis for carrying out a range of different proposals.9 Barreda’s ‘Civic Prayer’ was one of the first indications of this new ideology. He pronounced it on September 16, 1867 in Guanajuato, the birthplace of Mexican patriotism.10 Barreda had been appointed chairman of the Education Reform Commission by President Juárez, and the main objective of the Commission was to standardize the National Preparatory School curriculum around Auguste Comte’s positivism.11

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8 On Barreda’s positivism, Leopoldo Zea’s scholarly work must be mentioned. His work is among the few in the twentieth century that detailed which were the branches of knowledge through which positivism, specifically Comtism, was introduced into Mexico, and the influence of these currents of thought in certain political and educational circles.
11 As Ruiz notes, Barreda’s positivism was the most suitable instrument for establishing liberal order in the country after the bloody French invasion and the Reform War, albeit with differences from Comte’s original proposal. While Comte perceived the forces of disorder in the liberal sectors that drove the French Revolution, Barreda thought that the Mexican liberals were the forces that guided society towards a new order. From this, Barreda
Although considered the most notable advocate of this movement, strictly speaking it was not Barreda who introduced positivism to Mexico. According to the American historian Charles A. Hale, the first Mexican positivist was actually Pedro Contreras Elizalde (1823–1875), a doctor who was also a member of the Education Reform Commission. Contreras was born in Spain to a Yucatecan mother and was able to study medicine in Paris with two of Comte’s followers, even getting to know Comte personally and becoming a founder member of the Société Positiviste de Paris in 1848. He returned to Mexico in 1855 and established a close relationship with Juárez, marrying one of his daughters, and later serving as Minister of Justice and Public Instruction (1861–1863, 1867–1872). As had Barreda, Contreras had studied in France and was a member of the Juárez government, which helped him to circulate his positivist convictions freely, especially among the political class.

Barreda was born in Puebla in 1818 and was a doctor,philosopher and politician. He initially studied law, but his penchant for the natural sciences led him to study chemistry at the College of Mining, and later on, in 1843, to study medicine at the National School of Medicine. After the Mexican-American War, he moved to Paris to continue his medical studies. Before returning to Mexico in 1851, he attended various lectures given by Comte on the evolution of mankind, which prompted an intense interest in Comtean philosophy. From that amended the Comtean principles of Love, Order and Progress in favour of Freedom, Order and Progress, based on considering freedom as being compatible with the laws that determine both organic and inorganic phenomena, and in that sense, subject to the requirements and needs of progress. These ideas were to form the basis for the creation of the National Preparatory School and Benito Juárez’ liberal government’s policies of promoting education. See Rosaura Ruiz Gutiérrez, Positivism and evolution: the introduction of Darwinism into Mexico (Mexico: Limusa, 1991), 145–147. Another clear example of the relationship between positivism and ideology and education in Latin America occurred in Cuba with José Martí. See Pedro Pruna Goodgall, Darwinismo y sociedad en Cuba. Siglo xix (Cuba: Ed. Científico-Técnica, 2010), 95–106.


moment on, Barreda engaged fully with positivist philosophy and became a leading exponent in Mexico.

He did, in fact, write the first positivist essay in Mexico. This was "On moral education," a speech that he gave at the Humboldt Society in Mexico City, published on May 3, 1863 in El Siglo Diez y Nueve, a newspaper of a decidedly Liberal bent. From the Comtean interpretation of the history of mankind, and in line with the provisions of the Reform Laws, he set out the difference between the various religious persuasions and what is correct moral education. In addition to the speech being based on the philosophy of Nicolas de Condorcet, it is also based on the phrenological assumptions of the German physiologist Franz Joseph Gall, providing his proposal with an empirical basis. In general terms, he believed that the moral instincts of man are rooted in his own physiology and not in what he calls “the disastrous influence of a wholly selfish education.” In the final analysis, Barreda’s purpose was to promote educational reform based wholly on Comtean principles. Beginning with the Barreda proposal, positivism managed to penetrate the official circle of President Juárez and the philosophy became the guide for the reorganization of higher education. These developments faced strong opposition, especially from the church, though this situation did not preclude its becoming firmly established within the field of education.

Although the main positivist tradition was Comtean, several historians have pointed out the importance of Herbert Spencer’s ideas in the Mexican setting. It is worth remembering here that Spencer himself sought to distinguish between his proposal and Comte’s, a situation that did not stop his generally being considered a positivist. Positivism also advanced in Mexico in parallel with evolutionary ideas of Charles Darwin, and was subsequently referred to as social Darwinism. Some features of positivism that became known in Mexico were both Comte’s and Spencer’s. Although Spencer used Comte’s term “positivism”, his version differed significantly from the Comtean proposal, as it suggested that a universal law could account for the progressive development of the society, in short, for evolution. Spencer’s proposal provided Mexican intellectuals like Justo Sierra with a theoretical basis that was much more

suitable to their political ends, since Spencer’s position lent support to Sierra’s ideas of gradual, non-violent change, the inverse of Comte’s non-evolutionary positivism. Positivism in Mexico derived from the Comtism that Barreda proposed, but it was his students particularly who took to Spencerism as an improved vision of the positivist method, and which could be incorporated into a scheme for the progressive evolution of Mexican society.

Their ideas laid the groundwork for the general ideas about humanity and society that were discussed in Mexico. Of these, the idea of society as a natural organism stands out, and that, like any organism in nature, it is subject to evolution, that is, to gradual change over time. Humans are a fundamental part of this changing organism, and their ideas, beliefs, and behaviors can only be understood through science, in other words, through the observation of social phenomena via the medium of experimentation, and the search for social laws. Another fundamental idea was that progress was the highest social law. In Comte’s interpretation at least, this outlined an optimistic message of progress and even the regeneration of the human species. It must be emphasized here that one of the main elements of positivism in Mexico was its relationship with Darwin’s ideas, which were introduced into Mexico in the mid-1870s. This introduction came separately, but the relationship between the two sets of ideas was consolidated jointly and it is, therefore, not surprising to find ideas and speeches in which we can identify characteristic elements of both positivism (whether Comtean or Spencerian) and Darwinism. At the time, Darwin’s original ideas were revealed through other authors’ interpretations, as in the case of Ernst Haeckel or of Spencer himself, a situation that frequently meant that when evolution was mentioned, it could be related to either Darwin or Spencer.17

2 Spencer in Mexico

Positivism in Mexico, then, developed from two sets of ideas, those of Comte and those of Spencer. As mentioned above, Comtism is first documented in 1863 in a text written by Barreda, while Spencerism principally emerged in the press from the beginning of the 1870s. The case that concerns us here, that of Spencer, has in fact been studied relatively little by historians, even though the importance and particularly the influence of Spencerism on both politics and

science in Mexico during the Porfiriato have been recognized. Among the authors who have analyzed the work of Spencer in Mexico, we have already mentioned Leopoldo Zea. Within his broad explanation of positivism, he highlights Spencer’s contributions and influence on national politics and culture. Charles A. Hale, meanwhile, also highlights the role played by Spencer’s ideas in the consolidation of liberal thought towards the end of the nineteenth century. Other authors have pointed out the influence of Spencerism in politics, not just in Mexico but throughout Latin America during the nineteenth century. A case study of the direct influence of Spencer’s ideas on culture is to be found in the work that Carmen Ramos Escandón has done on Genaro García, one of the translators and disseminators of Spencer in Mexico. She highlights his influence in the case of the history of feminism in Mexico, where she analyzes Genaro García’s intellectual development. Unlike the authors who have analyzed Spencer’s ideas in Mexico, what we should like to emphasize is that Spencer was an evolutionist who believed in ideas such as the survival of the fittest; Sierra argued that education was the most important way of creating the fittest individuals. Spencer’s vision of Lamarckian inheritance explains how education contributes to individual change and from this to the transformation of society.

Despite the repeated references to his importance, the presence of Spencer – in terms of publications or references – was limited until the mid-1870s. One of the first references to Spencer in the Mexican press was in La Iberia, a newspaper published by the Spanish writer Anselmo de la Portilla and, in his own words, a "newspaper of culture, literature, science, arts, agriculture, trade, industry and material improvement". The first reference to Spencer was made on June 15, 1875, and rather than highlighting any of his proposals or ideas, he is merely mentioned as an example, being considered one of England’s great

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theorists seeking solutions to national problems. There is another reference on April 19, 1876, to the publication in England of *Mind*, the quarterly journal of psychology and philosophy, stating that it was edited by George Henry Lewes, George Croom Robertson and Spencer, with no further details as to the content.\(^{20}\)

As regards Spencer’s various publications, it should be noted, as Hale points out, that reading Spencer in Mexico meant reading him in French translation.\(^{21}\) The works in French were distributed by such publishers as Garnier Frères, Félix Alcan, Hachette, Scheleicher Frères, Guillaumin, whose head offices were all in Paris. Very few of Spencer’s works in English arrived in Mexico and, as in the case of Darwin, it was thanks to French influences that his work became known.\(^{22}\) Apart from three particular exceptions, there have never been large-scale publications of Spencer’s work: in 1894 *Resumen sintético de los principios de moral* (The Principles of Ethics), translated and edited by Ezequiel A. Chavez, was first published.\(^{23}\) It was reprinted three times (1905, 1910 and 1922), and consisted of a summary of Spencer’s works on issues of ethics and morality, particularly his *Principles of Ethics*. What Chavez did, rather than transcribe the four volumes, was to pick specific topics, such as the development of social morality.

The other two were: “The Ancient Mexicans” (1896) and “Ancient Yucatan” (1898), both translated into Spanish by the García brothers, David and Genaro (7.1). In fact, in both cases the García brothers not only translated the work of Spencer, but also made several corrections to dates, data and complementary information that they believed added to and enhanced Spencer’s work (Fig. 7.2). This case serves to distinguish between two types of appropriation that took place in Mexico: one via the translations and modifications applied to Spencer’s work; and the other via the particular interpretations made by different readers through newspaper articles or books, such as Sierra himself.

\(^{20}\) The first editor of the magazine was actually Robertson. Lewes and Spencer contributed articles to the first issue, respectively: “What is Sensation?” and “The Comparative Psychology of Man”.


\(^{22}\) It should be remembered that the translations into French by French writer Clémence Royer (1830–1902) were highly controversial because of Royer’s particular interpretations of Darwin’s ideas, particularly his alteration of the meaning of ‘natural selection’. See Thierry Hoquet, *Darwin contre Darwin: Comment lire L’Origine des espèces?* (Paris: Editions du Seuil, 2009).

In any event, it should be noted that possibly many of Spencer’s mistakes were understandable given that he could not read Spanish. Although the variety of Spencer’s writings was remarkable, it is striking that it was books focusing on Mexican topics that were considered for translation into Spanish, rather than other, far better-known works, especially in light of the importance and influence of Spencer’s ideas in Mexico, mentioned above. The three works were published by the Printing Office of the Ministry of Development, a government ministry in charge of economic issues in the country. On the topic of Spencer and the nineteenth century Mexican press, there were many newspapers that reported and discussed his ideas and work (some examples are given in Table 7.2 at the end of this chapter).

24 The originals of the works translated by the García brothers were a series of essays included in seventeen volumes of ethnographic and historical data by Spencer, called Descriptive Sociology.
The fact that great authors such as Darwin, Spencer and John Stuart Mill were read in French and not in English or via translations into Spanish, suggests that the influence of these authors was limited to a rather small intellectual community, and that the impact of their ideas in Mexican society was really through the occasional and sometimes brief mentions made in the press. To the present day, most of the works of Spencer that are preserved in Mexican libraries are original copies published in France, a few English twentieth-century originals and recent translations into Spanish, produced in other Spanish-speaking countries such as Spain and Argentina. Despite Spencerism’s powerful influence in the development of science, politics and education in Mexico, serious interest in the dissemination of his work has been minimal.

An example of Spencer’s political appropriation can be seen in the press. One element contributing to the thrust of positivism as a political movement was that many of its leading exponents held important positions that helped the spread of Spencer’s ideas. This occurred through the creation of mass media newspapers whose vision was based on Spencerism, a situation that helped to spread these ideas across a broad social spectrum that had no access to literature which was specialized and not in Spanish. La Libertad was one such newspaper, published between January 5, 1878 and December 2, 1884. Founded by a group of young positivists led by Justo Sierra, the newspaper’s aim was to publicize a political point of view rather than a philosophical vision, but a political standpoint that was invariably based on positivism. It was originally built on Barreda’s outlook, but quickly moved towards Spencerism, because of the country’s social needs, as these positivists argued for a new social order based on scientific ideas, because the position that Barreda took, although liberal, was perceived as conservative by students. In other words, they extolled the need to know the laws of nature and the relationships between them, in order to establish well-ordered conditions that would be suitable for the development of society. In addition, many of those who actively

25 We should note that the information does exist in the catalogues, but unfortunately access to the physical copies is complicated and in some cases, due to cataloguing problems, impossible. The exception is the works translated in Mexico, which are also available in electronic format through sites such as the UNAM’s. Of the works translated into Spanish that do appear in the catalogues, there are three outstanding translations by the Spanish philosopher Miguel de Unamuno (1864–1936) made in the late nineteenth century.

26 This policy, as mentioned above, was maintained by supporting the Díaz dictatorship. See Carmen Sáez, “La Libertad: periódico de la dictadura porfirista”, Revista Mexicana de Sociología (1986): 217–236.
participated in *La Libertad* were also prominent as politicians, for example, Justo Sierra, Pablo Macedo, Rosendo Pineda and Francisco Bulnes, all members of the Chamber of Deputies in 1880. The debates that were disseminated in *La Libertad* were the bases of many of the arguments that Sierra used in his books, particularly his concern for Mexico to be a well-educated nation, where science was the cornerstone of progress and one of the principal elements of education.27

In general, this group, which was known as the ‘Scientists’,28 thought of progress as a gradual process, and came back to the idea of natural selection as a framework to then speak of a struggle for existence between two different states, the primitive and civilized. These ideas consisted of a clear combination of both Spencer and Darwin’s fundamental ideas, a situation that occurred continuously among various authors who saw in them a perfect blend of ideas for justifying the application of social Darwinism, by joining Darwinian natural selection to the Spencerian struggle for existence. Above all, the editorials of *La Libertad* sought to highlight the need to know the laws of nature, and especially the relationships between them, thus to establish, clearly and irrefutably, the correct order for the development of Mexican society.

For example, in the January 6, 1878 editorial, in his discussion of the importance of school as a factor in individual development and social transformation, Justo Sierra quotes *The Social Organism* to indicate that the state should only administer justice. All will then understand that a government “being a correlative function of the immorality of the governed,” a phrase from Spencer’s *The Social Organism*, is the result of a social state and will seek to improve it, improving society; the only way to obtain it.29

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29 Justo Sierra, “La Escuela Preparatoria”, *La Libertad*, January 6, 1878. The quotation from Spencer that Sierra mentions in his speech is not a literal quotation from *The Social Organism*, *The Westminster Review*, January 1860. It is rather Sierra’s own interpretation based on this and other texts where Spencer underlined the role of education and
Other examples that we might mention as regards the spreading of Spencer's ideas is *Revista Positiva*, a journal edited by a group of positivist enthusiasts headed by Justo Sierra and published between January 1st, 1901 and December 3, 1914. It is noteworthy, however, that use of the concept of "Spencerism" was limited, not only in this journal, but in general. It is only mentioned once in *Revista Positiva* – on December 3, 1907 – in a brief article where the editor refers to his contact with Spencer's ideas during his youth, using the term 'Spencerism'. There were two other references to the concept, one in the December 1, 1909, issue of *Revista Moderna de México* and one in *El Abogado Cristiano Ilustrado* (The Illustrated Christian Lawyer) of March 7, 1918. In more substantial works, references are similarly few and far between. Highlights include “The Great Maderista Mystification: Jesuits and Pseudoscientists in the presence of Morals and Science” (1911) by Jesus Ceballos Dosamantes.30 In this work, Ceballos makes a reference to the positivist school, using it as an example, as he saw it, of the corruption of science. There is also the case of “Philosophical Problems” (1915) by Mexican philosopher Antonio Caso, which mentions the concept when referring to the various philosophical schools, by way of a reaction against Spencer, which arose in many places after 1890.31

The case of Genaro García is also relevant. He was another politician, who, like Justo Sierra, was greatly interested in both Spencerian positivism and education. García was a member of the House of Representatives from 1892 to 1898, when he was appointed Secretary of the Chamber, holding the position until 1912, in addition to being, in his later years, director of the National Preparatory School. García acknowledged the influence of Spencer's thinking, especially in his translations, but what we want to emphasize here are his feminist convictions. As Ramos Escandón points out, García was introduced to Spencer's work through French translations.32 His Spencerian vision can be seen in such works as "The status of women according to Herbert Spencer", knowledge as drivers of social change, among these being *Social Statics* (London: John Chapman, 1851) and *Essays on Education and Kindred Subjects* (1861).

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30 Jesús Ceballos Dosamantes, *La Gran Mistificación Maderista: Jesuitas y pseudo-científicos, ante la moral y la ciencia* (Mexico: Imp. de A. Carranza e Hijos, 1911).
32 Carmen Ramos Escandón, "Genaro García, historiador feminista de fin de siglo", *Signos Históricos* 5 (2001): 87–107. In the University of Texas, there are located Spencer's books which belonged to García, such as *Essais de politique*, Paris 1890; *Essais sur le progress*, Paris 1891; *Essais scientifiques*, Paris, 1889, among others.
which emphasized ideas such as the rights and freedom that every woman should have, all within a vision of nineteenth-century liberalism.\textsuperscript{33}

As discussed below in the case of Sierra, French spiritualism had a huge influence on Antipositivist circles, but it turned out that many of those involved in the discussions, both for or against positivism, displayed an eclectic attitude by equally accepting different sets of ideas, which in other contexts could have been incompatible. Another author who contributed to making Spencer's ideas, and positivism in general, more widely known was the journalist, writer and politician José María Vigil, although it was consistently his intention to strongly criticize the positivist model that the Científicos ("Scientists") hoped to establish in education policy. As a member of the National Preparatory School, he was involved in a bitter dispute with the physician and philosopher Porfirio Parra on which textbooks were to be used in courses, for example, of Logic or Ethics, where authors such as Spencer and Mill were the most widely used.\textsuperscript{34} Instead, Vigil promoted texts based on spiritualist ideas or those of Krause, which were based on French spiritualism, and despite the criticism that they were merely favoring a fashion, really meant an extension of French educational discussions. Vigil's critique on Spencer rested on two arguments: that positivism was a philosophy that was tantamount to empiricism, and, as a philosophy, that it was defective because of the basic conflicts between those who defended it. For example, in an article published in Revista Filosófica on February 1st, 1882 and in La Libertad on the May 1st in the same year, he assumes responsibility for dissecting "positivist anarchy" and to do this, selects the works of the three most important positivists: Classification des sciences, Spencer (Paris, 1881), Auguste Comte et le positivism, Mill (Paris, 1879), and La philosophie positive: M. Auguste Comte et M.J. Stuart Mill, published in Revue des deux mondes, on August 15, 1866, by Émile Littré, demonstrating the disagreement on the question of cause between the three pillars of positivism.\textsuperscript{35}

To a large extent, Vigil was criticizing Spencer's attempt in First Principles to unite science, philosophy and religion, as, in his opinion, they should be linked to positivism only by empiricism.\textsuperscript{36}

\textsuperscript{34} Charles Adams Hale, Justo Sierra: un liberal del porfiriato (Mexico: FCE, 1997), 266–268. See also Charles Adams Hale, "El gran debate de libros de texto en 1880 y el krausismo en México" Historia Mexicana (1985): 275–298.
\textsuperscript{35} Charles Adams Hale, Justo Sierra: un liberal del porfiriato (Mexico: FCE, 1997), 266–319.
\textsuperscript{36} Charles Adams Hale, Justo Sierra: un liberal del porfiriato (Mexico: FCE, 1997), 273.
3 Justo Sierra: Spencerian Positivism as the Basis of Education

Moving on from this description of the general atmosphere of positivism, we will now focus on Justo Sierra, a man who stood out among all the positivists of the last quarter century. He was the main driving force behind Spencerian positivism,37 and as we saw in general in the previous section, the battlefield between the various positivist camps was politics and education. As part of the reconstruction of the country after the War of Reform, President Juárez’s plan to reform education led to the prominence of Gabino Barreda and his Comtean positivism, but over the years this influence declined, giving way to a Spencerian vision, and as already noted at the beginning of this section, by this time a position that was sufficiently distinguished from its Comtean predecessor. This was in turn deeply influenced by Darwin’s ideas, which had been introduced into Mexico in the mid-1870s. In this regard, it should be emphasized that Sierra thought that gradual changes, such as those that occur in a Lamarckian-Darwinian evolutionary process were desirable for a country. Such changes should be based primarily on the education of the people, and would over time lead to progress. In Sierra’s case, these are ideas that undoubtedly have a Spencerian origin.

Sierra can be described as an evolutionist, a public official, an active member of the group of the ‘Scientists’ and a supporter of Porfirio Díaz, all of which leads to his being a historically crucial character, if one is to understand the revolutionary phenomenon by observing the processes that occurred during the years of the Porfiriato. One of Sierra’s main interests was the advancement of higher education. From 1881 onwards Justo Sierra was actively involved in the quest to establish a free and secular, public university, a huge achievement that was finally reached on September 22, 1910, when the National University of Mexico was inaugurated, coincidentally the same year when the Porfiriato came to its end at the outbreak of the Revolution.38 Sierra reworked ideas like integration and differentiation in his desire that education in Mexico reach the level of Western countries.39 Such ideas had their origin in Spencer’s work on

37 In Mexico, Comtean positivism was understood as a system that took as its primary instrument of knowledge and transformation science and its method; while Spencerian positivism was similar to Comtism but with the addition of a general evolutionary view, going from the physical to the organic, from homogeneous to heterogeneous, from organic to the biological, from biological to social, and from social to moral.

38 Then in 1929 autonomy was granted to the University, in the sense of having full freedom to organize and provide education. Since then it is known as National Autonomous University of Mexico (UNAM for its acronym in Spanish).

sociology, where their implications and impact on education are broadly explained.

At the opening ceremony, Sierra revisited Spencerian positivism, highlighting the importance of science and establishing the commitments that must be honored by future university students:

> When a young man becomes an adult, it is correct for the University to either throw him into the struggle for existence in a higher social field, or raise him to the sublime circles of scientific research, never forgetting, however, that all contemplation should be the foreword to action, that it is not right for a student to only think for himself, and that, while you may forget spirit and matter at the door of the laboratory, as Claude Bernard said, morally we can never forget either humanity or our country.40

Another example, from the same speech in which Sierra incorporates Spencerian elements on education from an evolutionary perspective, is when he refers to the process of change that the individuals in a society undergo:

> Because for individuals, as we have already said, to be strong is to encapsulate their whole development – physical, intellectual, ethical and aesthetic – in the determination of a character. It is clear that the essential element of a character is in the will; forcing it to evolve intensely, by cultivating it physically, intellectually, morally, growing from child to man: this is the sovereign role of the primary school.41

As we have already stressed, Sierra regarded education as a fundamental element in the transformation of the individual, and for this, inspired by Spencer,42 he proposed and encouraged this thought as a slow and gradual process, thinking it would be the only way that Mexican society could evolve. He clarified education's plural and secular character specifying the tasks and commitments of those who give life to the university, necessary elements for proclaiming its autonomy:

40 Justo Sierra, “Discurso en el acto de la inauguración de la Universidad Nacional de México”, in Justo Sierra, Prosa (Mexico: UNAM, 1990), 118.
41 Justo Sierra, “Discurso en el acto de la inauguración de la Universidad Nacional de México”, in Justo Sierra, Prosa (Mexico: UNAM, 1990), 112.
42 Landa mentions that in the “National University Project” proposed in 1881 by Sierra, he considered that our country could now enter that phase of evolution almost simultaneous with what Spencer calls integration [... and differentiation]. Josu Landa, La Idea de Universidad de Justo Sierra (Mexico: UNAM, 2005), 43.
The University that is born today cannot, therefore, have anything in common with the other [referring to the Royal and Pontifical University]; both derive from the desire of representatives of the State to entrust men of high science with the mission to use the country’s resources in education and scientific research, because they are the most appropriate body for these functions, because the state knows of no more important function, nor considers itself the best able to perform them. The founders of the University of long ago said, “The truth is defined, teach it.” We say to the students of today, “The truth is being defined, seek it.” They said, “You are a select group charged with imposing a religious ideal and a policy summarized in these words: God and King.” We say, “You are a group perpetually selected from within the popular substance, and have been entrusted with the realization of a political and social ideal summarized thus: democracy and freedom.”

The principles that characterized Justo Sierra’s thought were compulsory education and the non-intervention of the state in the struggle between individuals as the condition of the possibility of social progress, society as the result of natural laws that govern every living thing, and history as the result of the natural movement of society and independent of the will of men. These principles were taking form in the social reality of the Mexican people, thanks in large measure to Sierra’s political role.

Inspired by Barreda’s teachings, Sierra was a positivist who, in Spencer particularly, found scientific methodology to be a crucial element for supporting his political standpoint, which since the mid-1870s had merged with evolutionary thinking. In 1881, as a member of Congress, he proposed the creation of the National University; in 1894, he was made a Minister of the Supreme Court, where he later became president; and in 1910, as Secretary of Public Education and a founding member of group of the ‘Scientists’, he finally realized the founding of the National University of Mexico.

As mentioned in the section above, Sierra’s concern for education can be seen from the debates that appeared in La Libertad.44 One of the fundamental disciplines, in his view, was history and, in fact, his major works took history as the starting point of the new education. Standing out among these works are his “General History,” “Juárez, his Works and his Time” and “The Political Evolution of the Mexican People”. This last was an edition of two essays he

44 Leopoldo Zea, El positivismo y la circunstancia mexicana (Mexico: fce, 1985) 398.
wrote for *Mexico: social evolution*, the work which he directed between 1900 and 1902: “Political History” and “The Current Era”.

The positivism that Sierra displayed over the years was distinctly Spencerian, with hints of the Comtism that dominated politics and education in Mexico from Barreda onwards, for Sierra had been a pupil of the latter. Yet it is clear that by 1874 it was Spencer’s work that dominated his thinking. Additionally, as Hale notes, Sierra’s philosophical thought was equally dominated by French spiritualism, which makes it clear how arbitrary it can be to delimit Sierra’s conceptual thinking to a single sphere. Despite this mix of ideas, his discourse clearly shows the influence of Spencer.

Closely following Spencer’s ideas, Sierra regarded society as an organism that was subject, as such, to natural laws that, in turn, were not under any circumstances to be questioned and were not therefore subject to change. The main work in which Sierra reveals these ideas is in his *Political Evolution of the Mexican People*, a work considered by the philosopher Antonio Caso to be the best example of the kind of discourse resulting from the Juárez Reform. In the same way that his teacher Barreda had outlined Mexico’s history according to the Comtean vision, in his own work, Sierra outlined a tour through the various stages of Mexican history: from pre-Hispanic civilizations, through the colonial period and independence, up to the Reform. From an evolutionary and progressive standpoint, Sierra describes the steps by which the Mexican people has progressed, stressing at the end the final stage: how this period of change will lead Mexico towards a better state, based on, clearly, foundations derived from positivism. We can thus point out that Sierra specifically used Spencer’s evolutionary theory to comprehend the social history of Mexico, something that Spencer himself never did.

As director of this work, we may observe how he reconciled historians of great stature with common politicians and, in the same way, observing the

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45 We strongly emphasize that Sierra adopted the idea of survival of the fittest to justify his stance on the permanent quest of individuals for freedom under a scheme of evolutionary thought.


complex nature of history, made pre-revolutionary and revolutionary historical processes fit together. He translated the idea of biological evolution to social and political evolution. Sierra took his concern for educating Mexicans into the political arena, knowing that the problems the country faced were no longer external. To Sierra’s mind, Mexico’s biggest problem was to be found in the internal conflicts that disarticulated the social body and did not allow it to function properly. The evolution of the country should be marked by the passage of social evolution, and society should be seen as a body that works in an articulated way, in continuous dialogue with the problems that derive from a scarce scientific culture.

Sierra, in this sense, was an influential character who, from the political sphere, influenced the evolution of Mexican society and the institutional consolidation of a cultural space, that being the University. Sierra’s importance does not lie in conceptual revolutions or major changes but in the importance that his thought and political practice had in discussions and in building a strong educational policy, which came to fruition in its institutionalization.

4 Conclusions

At the same time that positivism was progressing, during the final quarter of the nineteenth century, evolutionary ideas were being widely disseminated within groups of intellectuals, while education as a means of progress and freedom was becoming established as a fundamental element for an independent life. The followers of this program, José Ives Limantour, Francisco G. Cosmes, Eduardo Garay, Teléforo García, Francisco Bulnes, Justo and Santiago Sierra, among others, such as Michael S. Macedo, Joaquin D. Casasús, formed a political group known as the ‘Scientists’.\textsuperscript{50} This group saw Díaz as someone who

\textsuperscript{50} This group was a small consolidated nucleus of members of the bourgeoisie holding political power, a situation that led to weighty discussions of the position of the various groups in society, such as the case of indigenous groups, the subject of a discussion of a notoriously racist nature, and which was strongly influenced by the evolutionary interpretations that began to be discussed in the last quarter of the century. On the specific case of positivist attitudes to indigenous peoples, see William Dirk Raat, “Los intelectuales, el positivismo y la cuestión indígena”, Historia Mexicana 20, no. 3 (1971): 412–427. For a broader study of the subject of indigeneity during the Reform and the Porfiriato, see Martin S. Stabb, “Indigenism and Racism in Mexican Thought: 1857–1911”, Journal of Inter-American Studies 1, no. 4 (1959): 405–423. For a different view, on how Spencerian positivism was the basis of Mexican criminology, see Gerardo González Ascencio, “Positivismo y organicismo en México a fines del siglo xix” Alegatos (2010): 693–724.
could and should be useful to their interests, hidden behind their apparent acceptance of the government (in other words, they wanted the dictatorship). Their real purpose, however, was to ally themselves with the government to promote their ideal of social progress, an idea inherited from Spencer. The strategy they followed was a defense of the Constitution, seeking to convert it into an impersonal authority of order, which would serve as a law to guide Mexican society towards progress.

The discourse of these intellectuals was constructed from positivist and evolutionary elements. A paradigmatic example is the case of Justo Sierra, who has been an important symbol in the structuring of public education. He was a key player in the discussions that took place in the newspapers and formal discussions in Congress, a character who allows us to go back into the past, touching on various turning points in the social construction of Mexico, a man of interdisciplinary style, committed to teaching and education, whose intellectual basis was Spencerism.

In general, historians have emphasized the importance of Spencer’s ideas in both Mexican science and politics, despite the lack of in-depth studies. There is no doubt that positivism, firstly in its Comtean expression, and subsequently the Spencerian version, marked the evolution of politics and education in Mexico in a definitive way. The most outstanding propagator of Spencer’s ideas was Justo Sierra, who, from taking key elements such as the idea of evolution and progress, and the conception of society as an organism, suggested a number of vital changes for the country, one of the most important being the foundation of the National University of Mexico, a bastion of science and culture to the present day, not only in Mexico but in Latin America.

In the late nineteenth century, Spencerism blended with other ideas, especially with Darwinism, based on Haeckel’s interpretation, thereby producing an evolutionary ideology, which primarily permeated education and politics, to the detriment of the natural sciences. In the text, we have noted the influence that Spencerism had on the educational and political arena. It has not been possible to establish a direct relationship between Spencer’s ideas and scientific practice in Mexico: firstly, because of the incipient nature of Mexican science, and secondly, because of the outbreak of the Mexican Revolution.

52 For a more in-depth analysis of the interests of the “Scientists” in defence of the Constitution, see Charles Adams Hale, La transformación del liberalismo en México a fines del siglo XIX (Mexico: FCE, 2002), 166–220.
which changed social, political, economic and educational relationships in the
country between 1910 and 1920.

Apart from certain individual efforts and some institutions whose function
was the dissemination of mainly European scientific advances rather than
research, science in Mexico in the late nineteenth century was virtually non-
existent. To a large extent, this lack of development of Mexican science was
influenced by the turbulent state of society, which governments had attempted
to deal with since the mid-nineteenth century, and for which science was not
an answer. The “Scientists”, for example, give an idea of how science was used
as a means to achieve political ends.

The publishing industry in Mexico was dominated by government control,
and apart from agreements with French and Spanish publishers, book publica-
tion was infrequent and invariably controlled by the government. Newspapers
became the principal means of freedom of expression, but interest focused
mainly on political discussions, which as time went by led to the field of
education.

Justo Sierra’s thought was thus a clear example of these political and educa-
tional discussions looking to Spencerism as their philosophical basis (just as,
in his day, Barreda had found justification for his proposals in Comtism). This
was the case of the National University of Mexico, to the present day the coun-
try’s greatest social and cultural project. Sierra’s appropriation of Spencer’s
ideas can be seen in his description of the supremacy of certain races in
Mexico’s history, where he considers the important role to be played by some
of them: “... that the new population, the mestizos, were those who were fit to
form a social group destined to be increasingly important.”

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53 Justo Sierra, Evolución Política del Pueblo Mexicano (Caracas: Biblioteca Ayacucho, 1977),
79.
“Survival of the Fittest” during the Porfiriato in Mexico

Table 7.1  Mexican translations of Herbert Spencer’s works into Spanish

<table>
<thead>
<tr>
<th>Year</th>
<th>Language</th>
<th>Original Title</th>
<th>Publisher</th>
<th>Translator</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1894</td>
<td>Spanish</td>
<td><em>The Principles of Ethics</em>, all volumes</td>
<td>Oficina Tipográfica de la Secretaría de Fomento, 159 pages + iv pages (Index)</td>
<td>Ezequiel A. Chávez</td>
<td>This is a summary of Spencer’s works on morality.</td>
</tr>
<tr>
<td>1898</td>
<td>Spanish</td>
<td>Descriptive Sociology, volume II, 1874</td>
<td>Oficina Tipográfica de la Secretaría de Fomento, 156 pages</td>
<td>Daniel and Genaro García</td>
<td>The book is dedicated to Porfirio Díaz.</td>
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</tbody>
</table>

Table 7.2  Some examples of published notes on Mexican newspapers by the end of nineteenth century

<table>
<thead>
<tr>
<th>Newspaper</th>
<th>Date</th>
<th>Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>El Mundo Científico y Literario</em> (Sunday edition of La Libertad)</td>
<td>12/05/1878</td>
<td>Comments on M. Cazelles’ translations on Spencer.</td>
</tr>
<tr>
<td><em>La Libertad</em></td>
<td>13/09/1879</td>
<td>A letter in Spanish from Spencer to Emile Alglave is published.</td>
</tr>
<tr>
<td><em>El Minero Mexicano</em></td>
<td>9/10/1884</td>
<td>A brief critique of Spencer’s ideas of generation and development.</td>
</tr>
<tr>
<td><em>La Patria</em></td>
<td>10/04/1885</td>
<td>A speech by José María Vigil speech in which he criticizes Spencer.</td>
</tr>
<tr>
<td>Newspaper</td>
<td>Date</td>
<td>Commentary</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td><em>El Siglo xix</em></td>
<td>19/03/1886</td>
<td>A text on Bismarck’s socialism criticized by Spencer. This note appeared again in <em>La Convención Radical Obrera</em> (<em>The Radical Labour Convention</em>, December 18, 1887).</td>
</tr>
<tr>
<td><em>El Economista Mexicano</em></td>
<td>08/04/1886</td>
<td>A comment on social stability and <em>Social Statics</em>.</td>
</tr>
<tr>
<td><em>El Tiempo</em></td>
<td>05/10/1887</td>
<td>A critique of positivism by Ramón Valle.</td>
</tr>
<tr>
<td><em>La Juventud Literaria</em></td>
<td>25/11/1888</td>
<td>On hypnotism, critiques from different scientific and philosophical positions, including that of Spencer.</td>
</tr>
<tr>
<td><em>México Intelectual</em></td>
<td>01/01/1889</td>
<td>On physiology and hygiene in the schools.</td>
</tr>
<tr>
<td><em>El Foro</em></td>
<td>13/07/1889</td>
<td>A speech on the regulation of wills and the role of the State.</td>
</tr>
</tbody>
</table>