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The Metropolitan Area Concept and its Development in Lima, Peru

José Luis Mesa

Western Michigan University

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THE METROPOLITAN AREA CONCEPT AND
ITS DEVELOPMENT IN LIMA, PERU

by

José Luis Mesa

A Thesis
Submitted to the
Faculty of the School of Graduate
Studies in partial fulfillment
of the
Degree of Master of Arts

Western Michigan University
Kalamazoo, Michigan
August, 1970
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José Luis Mesa
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Western Michigan University, M.A., 1970
Geography

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<td>7.</td>
<td>The Lima Area: Provincial Districts, 1931</td>
<td>45</td>
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<td>8.</td>
<td>The Lima Area: Provincial Districts, 1940</td>
<td>50</td>
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<td>10.</td>
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<td>58</td>
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INTRODUCTION

The paucity of comparative urban research is of course not due to indifference or lack of foresight on the part of social scientists, but to the absence of comparable or standardized information from one country to another and to the technical problems presented by this deficiency. The units of observation themselves, that is "cities" and "towns," have not been standardized, nor have we had information on a representative sample of these for the world as a whole. Furthermore, the structure of urban communities has changed with increasing urbanization, a change that has gone further in some countries than in others. This dynamic element has meant that definitions or urban places adequate for one region or time have not been suitable for another region or time.¹

This statement, written a little over a decade ago and pertaining to the problems presented by the lack of established standard definitions delimiting world urban areas, still appears to have equal validity. Continued difficulties encountered by social scientists attempting to carry out comparative urban research using population data would seem to offer support to this contention.

The fact that even within individual countries (as is the case in the United States) national census agencies have to continually re-evaluate existing definitions for

the delimitation of urban areas, points to the complex and perplexing nature of the problem of establishing standard concepts for the collection of urban statistics of population.

The problems created by differing operational definitions used by nations for the collection of population statistics in urban areas have for some time concerned students of urban communities; this difficulty, as it has been indicated, "frequently leads to false conclusions on the part of those unfamiliar with these local distinctions." Even for comparison of metropolitan areas between countries sharing similar cultural traditions and historical developments as those of Latin America, the use of national census data, because of differing operational definitions of urban units, can often be misleading. In this connection, the following has been pointed out concerning urban statistical information for the region:

It is probable that the differences (in urbanization) expressed by census figures do not always reflect the real situation. Such figures may Understate or exaggerate the case.}

---

\(^2\) Ibid., p. 3.

The research reported here concerns itself with one aspect of international statistical practice; the areal delimitation of a metropolitan area for the collection of urban population data. The analysis to be presented will provide a detailed account of the historical development of the metropolitan area concept in a Latin American capital city. To undertake this task, a study of the changing spatial nature of the metropolitan area definition throughout the history of the city of Lima, Peru, will be presented. Hence, as the city area and population have grown through time, the territorial criteria established in each census for the collection of urban population statistics has been adjusted to new spatial and human realities.

In attempting to trace the actual conceptions and techniques used for the compilation of urban data in Lima throughout the city's history, the main objective of this study has been to offer a detailed interpretation of the case in question which might serve as an aid in evaluating official urban statistics for comparative studies of other world metropolitan areas. Also, by trying to unravel the developments which led to the adoption of the present metropolitan area concept for the city, and pointing to some deficiencies that still appear evident, it is hoped that the present analysis will prove of value.
for a better understanding of the complexities of the phenomenon of urbanization in metropolitan areas, particularly in the Latin American region.
CHAPTER I

LIMA: A GROWING CITY

Two selected aspects of the urban geography of Lima, the population and the territory, become the most important elements for discussion in this study. It is the purpose of this chapter to provide factual information on the growth of the city's population and area through time, so as to establish a general perspective upon which a more detailed elaboration of the development of the metropolitan area idea can be based.

The Demographic Perspective

"Urbanization is perhaps one of the most overt manifestations of the socio-economic transformation of Peru."¹ This strong trend toward urbanization, a typical characteristic of developing countries like Peru, has made of Lima a Latin American metropolis of

the twentieth century.\footnote{The term metropolis is used here in the "loose" sense of the word, without having in mind any specific definition of what a "metropolis" is supposed to be. Many definitions have been advanced, based on population size criteria and other social and economic factors. For a full discussion of this topic, see Otis Dudley Duncan and others, Metropolis and Region (Baltimore: The John Hopkins Press, 1960), particularly Chapter 4.}

The city's population, as can be observed in Table 1, and in Figure 1, has experienced a dramatic increase in recent years.\footnote{The meaning of the population figures presented in Table 1 will be a subject for discussion in later chapters of this paper. As a matter of fact, the validity of such figures and what they really represent of the Lima area population throughout the city's history will be the crucial matter under discussion in this study. Nonetheless, as suggested by these official figures, the rapid growth of the population of the city in recent times is readily apparent.} As of 1969, the total population of metropolitan Lima, calculated by an official Peruvian source, was set at 2,415,700 inhabitants.\footnote{Perú. Oficina Nacional de Estadística y Censos. Unidad de Análisis Demográfico, "Población de las Mayores Divisiones Territoriales de la República del Perú y de las Principales Ciudades, Estimada al 30 de Junio de 1969." Lima, July 15, 1969. (Mimeographed.)} This figure represents a growth of almost 70 per cent since the time of the last national census taken in 1961.

Annual urban growth rates have been consistently high in the recent past. In the intercensal period (1940-1961), the population of metropolitan Lima grew...
TABLE 1
LIMA: THE DEMOGRAPHIC PERSPECTIVE\textsuperscript{a}

<table>
<thead>
<tr>
<th>Period</th>
<th>Census Year</th>
<th>Population</th>
<th>Years Elapsed since Prior Census</th>
<th>Percentage Increase for Intercensal Periods</th>
<th>Annual Growth Rate for Each Intercensal Period (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Period \textsuperscript{b} (1535-1836)</td>
<td>1535</td>
<td>71</td>
<td>(foundation)</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>1614</td>
<td>26,441</td>
<td>79</td>
<td>37,241</td>
<td>7.79</td>
</tr>
<tr>
<td></td>
<td>1699</td>
<td>37,259</td>
<td>85</td>
<td>41</td>
<td>.40</td>
</tr>
<tr>
<td></td>
<td>1791</td>
<td>52,627</td>
<td>92</td>
<td>41</td>
<td>.37</td>
</tr>
<tr>
<td></td>
<td>1836</td>
<td>55,627</td>
<td>45</td>
<td>5</td>
<td>.12</td>
</tr>
<tr>
<td>Post-Independence Period (1836-1931, population 4.9 times greater)</td>
<td>1857</td>
<td>94,195</td>
<td>21</td>
<td>69</td>
<td>3.50</td>
</tr>
<tr>
<td></td>
<td>1876</td>
<td>100,156</td>
<td>19</td>
<td>6</td>
<td>.32</td>
</tr>
<tr>
<td></td>
<td>1920</td>
<td>173,000</td>
<td>44</td>
<td>73</td>
<td>1.23</td>
</tr>
<tr>
<td></td>
<td>1931</td>
<td>273,016</td>
<td>11</td>
<td>57</td>
<td>4.26</td>
</tr>
<tr>
<td>Contemporary Period (1931-1969, population 9.0 times greater)</td>
<td>1940</td>
<td>524,124</td>
<td>9</td>
<td>91</td>
<td>8.51</td>
</tr>
<tr>
<td></td>
<td>1961</td>
<td>1,433,321</td>
<td>21</td>
<td>173</td>
<td>4.90</td>
</tr>
<tr>
<td></td>
<td>1969\textsuperscript{b}</td>
<td>2,415,700</td>
<td>8</td>
<td>68</td>
<td>6.73</td>
</tr>
</tbody>
</table>

\textsuperscript{a}The population figures and dates of censuses presented here were extracted from a number of publications, all of which are cited in the bibliography at the end of this paper. They are mainly the official Peruvian census reports, particularly for the years 1908, 1931, and 1940. Other figures were calculated for this study.

\textsuperscript{b}Official estimate.
Figure 1

LIMA'S POPULATION GROWTH CHART
(BASED ON OFFICIAL FIGURES - See Table 1)

THE EARLY PERIOD
(1535-1836)

POST INDEPENDENCE
(1836-1931)

THE CONTEMPORARY PERIOD
(1931-present)

1,000,000

100,000

10,000

1,000

1535 1600 1700 1800 1900 2000

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at an annual rate of 4.9 per cent. In 1966, it was indicated in Encuesta de Inmigración, Lima Metropolitana that the population of the city had "doubled in the last fourteen years and would double again in the next fourteen if observed rates of growth continued." These rates of urban growth for Lima, which are presently approximated and in some cases surpassed by smaller urban communities in the country, take on a fuller meaning if compared with a "slower" annual population growth rate for the country as a whole of 3 per cent, calculated for 1968.

The magnitude of the growth of Lima's population at different periods of the city's history is readily evident in Table 1. The three periods shown in the table divide the city's censal history into three distinct segments: the early or colonial, the post independence, and the contemporary.


6Ibid.

7Saravia, El Gobierno Metropolitano, p. 62.

8These three periods will be considered individually in later chapters when discussing the development of the metropolitan area idea.
During the first three hundred years after the foundation of Lima by Francisco Pizarro (1535), population increase, as shown in Table 1, seems to have proceeded at a very slow pace, with the possible exception of the first seventy-nine years of settlement when the population grew from the 71 initial settlers to over 26,000. Growth became somewhat more pronounced in the nineteenth century, during the period following independence from Spain (obtained in 1821). After an initial period of rapid growth, particularly between the years of 1836-1857, the rate of growth appears to have stabilized during the second half of the past century. Although a sizable growth is shown to have been recorded for the early part of the twentieth century, it has been primarily during the last forty years, the contemporary period, that Lima's population has shown such dramatic increase.

This growth has not only been the result of natural increase, but is also due to in-migration to the capital city, particularly of people coming from smaller urban centers located in other areas of the country. It has been calculated that 40 per cent of the city's population increase during the last intercensal period (1940-1961) was the direct result of in-migration, "not counting the indirect effect of such migratory flow through
the offspring of the migrants."

The implications for the study of the development of the metropolitan area concept that these changing patterns in the city's population suggest will be further explored in following chapters. But, beforehand, a general consideration of the spatial aspects of Lima's growth will be needed to place the analysis of the metropolitan area idea in a proper perspective. Obviously, the growth of the city's population through time has meant a significant increase in the urban settlement of land around the early core area.

The Territorial Perspective

In elaborating on the territorial characteristics of Lima, two aspects, urban areal growth and urban territorial units, will be treated separately.

Urban areal growth.--The figures presented in Table 2 have been primarily extracted from an article written by the Peruvian scholar, Víctor M. Oyague, with additions included from other sources to update them to the current times. The periods in the table are roughly separated

9Perú, Encuesta de Inmigración, Lima Metropolitana, p. 4.
<table>
<thead>
<tr>
<th>Year</th>
<th>City Area (in square miles)</th>
<th>Times Increase from Original City Size for Selected Years</th>
<th>Number of Years Elapsed in Each Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1535</td>
<td>.82</td>
<td>1.0 (foundation)</td>
<td></td>
</tr>
<tr>
<td>1797</td>
<td>1.75</td>
<td>2.1</td>
<td>262</td>
</tr>
<tr>
<td>1857</td>
<td>4.25</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1908</td>
<td>5.00</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1920</td>
<td>5.75</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1931</td>
<td>7.83</td>
<td>9.5</td>
<td>134</td>
</tr>
<tr>
<td>1945</td>
<td>21.00</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1966</td>
<td>61.50</td>
<td>75.0</td>
<td>35</td>
</tr>
</tbody>
</table>

according to the historical division previously established (Table 1).

To analyze the general trends of areal growth through the city's history, one may examine the figures presented in Table 2. Their validity for comparison, of course, is subjected to an evaluation of the different operational definitions used each time the area was measured; in other words, what were the spatial limits of the "city" of Lima at the time of each estimate.

In accord with what might have been expected after looking at the population growth figures in Table 1, the areal growth of settled land around the city has increased consistently since the time of foundation. But this increase in the use of urban land has not been a gradual and uniform process, but has occurred rather in response to the historical patterns of population growth experienced in the Lima area. It took a lengthy period of over two hundred and fifty years for the city to double its original areal extent. A sizable areal growth is shown for the post independence period, but,

\footnote{For an interesting account of selected historical aspects of Lima, see Víctor M. Oyague, "Area, Densidad y Población de la Ciudad de Lima a Traves de Cuatro Siglos," published in Boletín de la Sociedad Geográfica de Lima, LIII (2nd and 3rd trimesters, 1936), pp. 175-85.}
by far, the largest increases are shown to be in the twentieth century, particularly during the Contemporary Period (1931-1969). Between 1931 and 1945 the city increased almost three times in area, and another three-fold increase occurred between 1945 and 1966. This growth parallels the large increases in the city's population registered also for the same general period (Table 1). Changes in the operational definitions of the metropolitan area of Lima in recent times, as we will see later on, have been partly responsible for some of these high areal and population growth figures, given in official estimates.

Urban territorial units. -- Whereas it proves illuminating to note the dimensions of the areal development which have taken place in the Lima area throughout the history of the city of Lima, a separate consideration of the urban territorial units, e.g., urban political demarcations, becomes essential. Since these political divisions are the basic territorial units used for the collection of urban population statistics in city censuses, an understanding of the nature and organization of these demarcations is needed to attempt an historical analysis of the metropolitan area idea.

The political divisions of the territory of Peru, as they are found at the present time, have evolved from
those established in early colonial times, with some modifications made during the more recent republican period. Figure 2 gives a very generalized idea of the breakdown of the present territorial organization of the country.

The largest territorial units are the departamentos; these break down into smaller provincias, which in turn are subdivided in distritos. It will be with these latter demarcations, the distritos (districts), that the analysis of the metropolitan area concept will be concerned.

The concept of provincial districts was brought into the official territorial demarcation of Peru by Simón Bolívar in 1825, shortly after independence. Intended as official units of municipal governments and containing a main "seat" having jurisdiction over the

11To present a meaningful comparison, the departamentos and provincias of Peru should be equated, respectively to states and counties in the United States. The districts present a somewhat different concept, since they are the Peruvian version of the better-known Latin American municipio, which perhaps can be compared only to the New England "towns" in the United States, but definitely not to "cities" as they are delimited in this country. As Allan Austin has stated, "The temptation to equate distritos with cities must be resisted. In Peru, urban areas with enough size to be considered "cities" are, in the majority of the cases, made up of several distritos." (In Allan Austin, Estudio Sobre el Gobierno Municipal del Perú, Lima: Oficina Nacional de Racionalización y Capacitación de la Administración Pública, November, 1964, p. 19.)
PERU
Territorial
Divisions

Figure 2
territory comprised within the limits of the district, the area included (in these units) frequently had a great deal of unoccupied and unused land. In many areas of the country, particularly in the interior, many provincial districts still include large areas of rural and "waste" land, although this is becoming decreasingly so in some places as urbanization takes its toll of land use.

In the case of the Lima area, because of the extensive occupation of formerly rural and unused land around the city, a good number of these districts have been fused into a solid and compacted urban mass, although officially each has remained an independent political unit. The area shown in Figure 5 presents the political demarcations as they exist today in the Lima urbanized area and the individual districts are identified by names.

12 Unused and unoccupied territory in Peru is commonly found near urban centers, as a consequence of natural conditions which make land unsuitable for human use. For example, the Lima area is located in the coastal desert of Peru, surrounded by barren hills and mountains on its eastern side. The population of the area is heavily concentrated in urban settlements which, as this author was able to observe, are many times surrounded by extensions of dry and desertic land.

13 The "Lima area" (or Lima "urbanized area"), as it is shown in Figure 3, comprises a number of provincial
THE LIMA AREA
Provincial Districts
1969
A good description on the nature of the political-territorial arrangements in the Lima area is offered by Allan Austin in his book, *Estudio Sobre el Gobierno Municipal del Perú*:

What is usually referred to as the 'city of Lima' is really a grouping of independent and autonomous urban districts, each with its own mayor and council, police and other municipal agencies. The district of Lima, from which the city draws its name, occupies only a small percentage of the total population of the city (and also a small portion of the total area of the city).\(^{14}\)

The district of Lima (see Figure 3) is the seat of the Provincial Council which, aside from its provincial districts, most of them included within Metropolitan Lima for census purposes since 1940. This area has been chosen as the unit for study in this paper and the purpose here is to deal, as closely as possible, with the built-up urban complex known as Metropolitan Lima today. The concept, "urbanized area," as it differs from "standard metropolitan statistical area" (geographic city versus legal metropolitan city), is currently used by the U. S. Bureau of the Census in collecting urban population data to approximate a more precise population count of a given urban complex formed by several legal territorial units. For a clarification on the specific ideas and definitions mentioned above (urbanized area, geographic city, etc.), see Raymond E. Murphy, *The American City: An Urban Geography* (New York: McGraw Hill Book Company, 1966), particularly Chapter 2.

\(^{14}\) Austin, *Estudio Sobre el Gobierno Municipal del Perú*, p. 19. In this connection, similar situations are found in the United States concerning the political fragmentation of contiguous urban areas. (In most large metropolitan areas this is the case, with the exception of the very few which have organized into a metropolitan government, e.g., Dade County, Florida; Cincinnati, Ohio.)
government duties, also exercises its governing authority over the municipal matters of the Lima district.

These political districts are the units which at different times in the city's history have been used to collect urban population data which, in turn, has been reported as the population for the "city" of Lima. The proliferation of these districts within the Lima province, particularly in recent decades, has been an interesting development, one which would appear to be related to the population and areal growth patterns for the city already discussed. Table 3 presents information on the sequential increase in the total number of districts within the Lima area through time, starting in 1876, when the first important census for the Lima province was conducted. Those districts created after 1876 were "carved out" from the territory of the previously existing ones. The multiplication of provincial districts is also shown in the table for the province of Callao, located to the west of the Lima area (Figure 3).

A final point needs to be considered in looking at the political-territorial arrangements of the Lima area. The problems presented by the fragmented nature of the territorial organization of the Lima area for the purpose of defining the "true" city of Lima, which will be explored in detail later on, reach a further level of
complexity in considering the case of the Callao province (population 300,000 in 1968), located adjacent to the Lima area, which for all practical purposes has become an integral part of the Lima urban complex.

### TABLE 3

**NUMERICAL INCREASE OF DISTRICTS IN THE LIMA AREA THROUGH TIME**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Districts</th>
<th>Callao Province Number of Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1876</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>1920</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>1931</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>1940</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>1961</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>1969</td>
<td>23*</td>
<td>6</td>
</tr>
</tbody>
</table>

*Includes districts extending beyond the Lima area shown in Figure 3, which nevertheless have become a part of the urbanized area in recent years.

Source: Dates and number of districts extracted from official census reports, particularly those for 1931.

---

Because of historical reasons pertaining to the specific development of the settlement of the Callao area, the Callao province has, to this day, its own "central city" district, plus additional urban districts within its territory (Figure 3). In the 1961 census for metropolitan Lima, the Callao area was not considered as part of the Lima metropolitan area.

Thus, in regards to the question of what the territory of metropolitan Lima actually is, it would be valid at this point to raise the following questions: How many urban districts of the Lima area have been considered to be a part of the "city of Lima" when official population statistics have been given for the city of Lima, Peru, in past national and provincial censuses? What would account for the process of political fragmentation of the urbanized area which appears to have developed in recent years, and how are these newly formed districts fitted into the metropolitan area of Lima? Have the official city population figures for some of the censuses been greatly altered from one period to the next by adding territory to the city area and thus adding urban growth that was already there at the time of previous censuses?

These are all questions which will be considered in the pages which follow, and answers for them will be
inferred as we look into the historical development of the metropolitan area idea for the city of Lima. To do this, the censal history of the city will be examined. Three main historical periods, already mentioned in preceding pages, will be individually analyzed. These are: The Early Period (1535-1836), The Post Independence Period (1836-1931), and The Contemporary Period (1931-1969).
CHAPTER II
THE LIMA AREA IN THE EARLY PERIOD

For the study of the development of the metropolitan area idea undertaken in this paper, an analysis of the urban growth that occurred during the early period of the history of Lima proves of little significance when compared to a similar study of urban expansion in more recent times. Nonetheless, a brief consideration of the early censal history of the city becomes of value when trying to interpret the developments which led to the adoption of the present metropolitan concept.

The tradition for collecting urban population statistics for the city of Lima dates almost from the time of its foundation. Practically all of the censuses taken during the first three hundred years following the founding of the city were carried out, as the Peruvian writer Arca Parró has indicated, for purposes of "Taxation and to determine how many Indians were available to work for the encomenderos (Spaniards granted royal lands in the New World)."¹

Early Urban Development

As pointed out previously in Chapter I, the urban development of Lima during the early times proceeded at a very slow pace. Certain interesting developments regarding the occupation of urban land occurred during those years which were to have an effect in the future settlement patterns of the city.

Figure 4 presents a series of illustrations depicting the areal extent and patterns of the urban development which took place in Lima throughout the colonial period. Contrasted to the square grid pattern on which the city was first laid out by Pizarro in 1535 (Figure 4A), are the later urban settlement patterns extending in several directions from the initial square. Father Bernabé Cobo, a Spanish missionary writing in 1629, makes reference to the fact that "the town does not look at all the way it was intended to look at the time of the foundation," adding that "the main lay-out is still very much the way it was planned towards the center of the city,

2The original lay-out of the city consisted of 117 square blocks, each measuring 450 feet to a side. For a detailed description on the events concerning the foundation of the city of Lima, see Padre S. J. Bernabé Cobo, "Fundación de Lima, año de 1639," Biblioteca de Autores Españoles, Vol. 92 (Madrid, 1956).
Figure 4. Areal development of the city of Lima in the early period. The outer limits of the urban districts making up "metropolitan" Lima in 1940 enclose the area shown. The city of Callao, located to the west, is not shown in the diagrams. Source: Juan Bromley and Jose Barbagelata, Evolución Urbana de la Ciudad de Lima, Lima, 1945. Lámina (Illustration) No. 33.
but towards the outskirts everything is very disorderly."

He also indicates that "they (the founders) had never thought the city would expand so much." 4

Later, in 1688, the city became somewhat confined within its own urban perimeter by the erection of a wall encircling the town (Figure 4C), which was built for the purpose of "defending the city from the attacks of corsairs and pirates." 5 Two hundred years later (1870), with the push of an expanding city, the wall was demolished.

The censuses taken in the early period were not as much concerned with "delimiting" the Lima urban area, which was obviously confined to the immediate area around the initial core (Figure 4), as they were simply with enumerating the population mainly for fiscal purposes. Very little information on the territorial delimitation of the city during colonial times and on how political divisions were used for census purposes was available for this study. As a matter of fact, a good


4Ibid. It was in this early period, in 1566, that the fishing village of Callao was founded as a city.

deal of confusion seems to have existed in those early times as to the exact territorial delimitations of the area of Lima (and, for that matter, internal boundaries in all of Peru, as indicated below). Nonetheless, this factor did not seem to present any difficulty for the enumeration of the city population, since probably most of the town dwellers resided within a confined area (see Table 2 for figures on areal extent of Lima in early times).

Territorial Demarcations of the Early Period in the Lima Area

In a well documented description of the manner in which the political demarcation of the territory of Peru has evolved from the conquest to recent times, the Peruvian writer J. M. García Bedoya discusses the infinite number of local and regional units of territorial demarcation (both political and religious) which existed in colonial times. It was not until the end of the eighteenth century that this territorial "mess" became

6J. M. García Bedoya, "Antecedentes Históricos," in Censo de las Provincias de Lima y Callao: 1931, Junta Departamental de Lima Pro-Desocupados (Lima: Imprenta Torres-Aguirre, 1932), pp. 287-89. Writing on this subject Bedoya points out that "defining the many units of demarcation used in early colonial times would be extremely difficult and would have little value in terms of relating them to present concepts of territorial divisions" (p. 287).
somewhat organized when some of the large political divisions of modern Peru (departamentos and provincias) were officially established by one of the Spanish viceroys. The minor political divisions (those subdivisions of the provinces) remained ecclesiastical in nature until little after independence was gained from Spain in 1821. Finally, the republican constitution of 1823 established that the national provinces would be subdivided into districts. Originally, seven of these were established in the province of Lima by Bolívar in 1825; later, many more were added, as shown in Table 3. These districts are thus the same type of political sub-units found in the modern demarcation of the Lima area. There remained still a smaller form of local divisions within the districts, known as parroquias (parishes), which, as Bedoya points out, ceased to exist as political subdivisions shortly after independence.7

In judging by the information available on the censal history of Lima for the early period, that is from founding of the city to national independence, the delimitation of the city's area for the collection of population statistics in local censuses did not present a

---

7 Ibid., p. 288.
significant problem, given the small and localized nature of the urban settlement in that period. In light of this, it is hypothesized that the metropolitan area idea must not have posed much difficulty to census officials of the times. It is interesting to note, however, that some urban development did occur during the period, and that towards the end of the colonial times, new population nuclei, which were ultimately to become fused with the metropolitan area, had begun to develop to the south of the city of Lima (Figure 4D). Growing at a distance of a few miles from the heart of Lima, these new small urban centers were still far from being considered as a part of the "city" of Lima and thus were not included in the population totals given for the capital city when the last census for the early period was conducted in 1836.
CHAPTER III

THE POST INDEPENDENCE PERIOD:
GROWTH TOWARDS THE CENTER

Peruvian Statistical Practice in the
Eighteenth Century

In examining the population censuses taken for the Lima area during the post independence period and in order to proceed with the historical analysis of the metropolitan area idea for the city, a brief mention must be made of some of the conditions of the times which affected statistical practice for the country as a whole.

With the coming of independence in 1821 and the establishment of the republic, new forms of social and political organization began to take shape in Peru, reflecting the new orientation of the nation's life. It would appear, however, that it took several decades before modern statistical practices were to be introduced into Peruvian censal techniques. With the establishment of the National Directory of Statistics in 1873, national statistical practice in Peru gained in importance and systematic data collecting methods were employed in subsequent national and regional censuses.
The national censuses of population taken during the first fifty years of the republican period (to 1875), as they are described by an official publication of the National Directory of Statistics in 1944, "do not inspire confidence because they were taken in a period of revolutions and political and economic crises."¹ During this same early republican period, a total of five local censuses were taken for the city of Lima.² However, the data provided by these was sketchy and of little value for our purposes here.

The censuses to be examined in this chapter in tracing the development of the metropolitan area idea during the post independence period include those of 1876, 1920, and 1931; the first one a national census and the last two conducted only at the provincial level (including only the Lima and Callao provinces).³

¹Perú, Ministerio de Hacienda y Comercio, Dirección Nacional de Estadística, Censo Nacional de Población y Ocupación, 1940 (Lima: Imprenta Torres Aguirre, 1944, p. xxv.

²Ibid., p. xxxvii. The dates of these five censuses are: 1836, 1856, 1857, 1860, and 1866.

³Censuses of the Lima area were also conducted in 1903 and 1908. Not much information in the 1903 census reports could be found for use in connection with this study. Although the 1908 census was a fairly important one, it became impossible to use it in this analysis because of problems of comparability of its data with that of other censuses. The population totals registered for the City of Lima in 1903 and 1908 were as follows: 130,289 and 142,997.
The Areal Definition of the City of Lima in the Censuses of the Post Independence Period

The Census of 1876.--"The most important republican census up to 1940"⁴ (a national census) was taken in 1876, a short time after the creation of the Peruvian National Directory of Statistics. The six districts existing then in the Lima area are shown in the map in Figure 5.⁵ The circles shown for each district give the location of the main concentrated settlement within each unit, and also indicate the approximate total population of the individual districts at the time. The extent and distribution of settled land in the Lima area are indicated by the shaded portions on the map. The "urban" nature of these districts, for the purpose of assessing whether they did or did not represent a "metropolitan" area for

⁴Perú, Censo Nacional de Población y Ocupación, 1940, p. xxxi.

⁵The district boundary lines drawn for the Lima area for this and other maps (excepting those for the most recent years) were approximated using written historical records, since no graphic information was available depicting "official" delimitations. In many instances, official Peruvian publications point out the lack of precise definitions on the territorial units of the area which has led to much confusion when the use of this information has been needed. (See, for example, Peru, Censo Nacional de Población y Ocupación, 1940, p. 4).
THE LIMA AREA
Provincial Districts
1876

1. Lima
2. Barranco
3. Chorrillos
4. Magdalena
5. Miraflores
6. Surco

*Approximate Boundaries
the City of Lima in 1876, can be observed in Table 4. The population totals for the six provincial districts of the Lima area are given in the table, with a separate column showing the degree of urbanization (per cent urban) for each district. In addition to Lima, three other districts show over 50 per cent of their total population as urban. The Lima district (containing the City of Lima in 1876) shows a total population of 100,156 inhabitants, indeed a large figure when compared to the population of the surrounding districts. This large difference points to the prime importance of the main settlement in the Lima area urban setting at the time.

^The definitions of "urban" and "rural" population adopted for the 1876 census were as follows: (a) urban population: any grouping of houses, from the capital of the department where the superior authority resides, to the town or hamlet (caserío) where there is a district "mayor" (gobernador), (b) rural population: those isolated settlements which, being of no great importance, do not have even a Teniente Gobernador (a representative of the provincial authorities in a small locality where there was not a gobernador). Perú, Censo General de la República del Perú Formado en 1876, Vol. VI, Lima, Loreto, y Moquegua (Lima: Imprenta del Teatro, 1878), p. XIII.

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6 The term City is capitalized here and will be henceforth when used in the expression City of Lima. It refers to the settled area of the core settlement in Figure 5 and in similar maps of the area to be presented in the study.

7 The definitions of "urban" and "rural" population adopted for the 1876 census were as follows: (a) urban population: any grouping of houses, from the capital of the department where the superior authority resides, to the town or hamlet (caserío) where there is a district "mayor" (gobernador), (b) rural population: those isolated settlements which, being of no great importance, do not have even a Teniente Gobernador (a representative of the provincial authorities in a small locality where there was not a gobernador). Perú, Censo General de la República del Perú Formado en 1876, Vol. VI, Lima, Loreto, y Moquegua (Lima: Imprenta del Teatro, 1878), p. XIII.
### TABLE 4

**DISTRICTS OF THE LIMA AREA: CENSUS OF 1876**

<table>
<thead>
<tr>
<th>District</th>
<th>Total Population</th>
<th>Per Cent Urban</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lima</td>
<td>100,156</td>
<td>100</td>
<td>City of Lima in 1876</td>
</tr>
<tr>
<td>Barranco</td>
<td>894</td>
<td>97</td>
<td>Existing 1876 districts included in</td>
</tr>
<tr>
<td>Chorrillos</td>
<td>4,329</td>
<td>100</td>
<td>Metropolitan figure for City of Lima</td>
</tr>
<tr>
<td>Magdalena</td>
<td>1,439</td>
<td>17</td>
<td>in 1940.</td>
</tr>
<tr>
<td>Miraflores</td>
<td>636</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>Surco</td>
<td>1,980</td>
<td>39</td>
<td></td>
</tr>
</tbody>
</table>

*Districts of adjacent Callao Province are not included.*

**Source:** Extracted and calculated from: *Perú, Censo General de la República del Perú Formado en 1876, Vol. VI, Lima, Loreto, y Moquegua.*

By looking at the map of the area (Figure 5), it can be observed that there existed extensions of empty land between the main settlement of Lima and those settlements of adjacent districts. The distance separating the latter from the capital city was rather short (about eight miles from Chorrillos, the farthest settlement from the City of Lima). Even though the relative closeness of these minor settlements to the larger city would suggest that some kind of activities, economic and/or cultural, must have taken place at the time directly
tying the small communities with the City of Lima, census officials in 1876 found no justification for including the population totals of these small towns with that of Lima in reporting the official population for City of Lima in 1876.

As will be seen later, the settlements (and the territories) of the peripheral districts surrounding the capital city in 1876 were not included in the census definition of the City of Lima until the census of 1940. It is to be realized, however, that a sizable population of these districts later to be added to the city total already existed in 1876 and was equal to 9.6 per cent of the total figure given for City of Lima of that year (excluding the population of the Callao province).

Clearly then, the population of Lima, Peru, for the purposes of the national census of 1876 included only the principal agglomeration located within the Lima district. Other censuses taken during the post independence period, those of 1920 and 1931, also provided a population total for the city. This analysis now turns to an examination of the City of Lima area definition used in the first of these two censuses.

The Census of 1920.--When census officials who conducted the 1908 census of the Lima province indicated that the
official population figure for the City of Lima given at that time "did not include the population of the 'beach towns' (e.g., the settlements of Chorrillos, Barranco, Miraflores, Magdalena, and Callao), which nonetheless 'moved' within the population of the City of Lima," they were aware of the fact that the Lima area was rapidly urbanizing. This suggests that the City of Lima was greater, areally and population-wise, than the official census figure indicated for that year.

By the time the census of 1920 was conducted (a provincial census of Lima and Callao provinces), the population of the peripheral districts of the Lima area was shown to have increased substantially since the year of 1876; it was also shown to have become more "urban" (Table 5). Two new districts, those of Magdalena del Mar and San Miguel, had been created in the Lima area, carved out of territories of previously existing political units. The new map for the area, showing the newly created districts, is presented in Figure 6. Small letters have been used on the map to designate the new districts; the preceding numbers indicate the old district from which the new unit was carved.

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### TABLE 5

DISTRICTS OF THE LIMA AREA: URBAN GROWTH BETWEEN 1876 AND 1920\(^a\)

<table>
<thead>
<tr>
<th>District</th>
<th>Total Population 1876</th>
<th>Total Population 1920</th>
<th>Per Cent Increase</th>
<th>Per Cent Urban 1876</th>
<th>Per Cent Urban 1920</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lima</td>
<td>100,156</td>
<td>173,007</td>
<td>76</td>
<td>100</td>
<td>100</td>
<td>City of Lima in 1920</td>
</tr>
<tr>
<td>1a. San Miguel(^b)</td>
<td>-</td>
<td>382</td>
<td>-</td>
<td>-</td>
<td>71</td>
<td>Existing 1920</td>
</tr>
<tr>
<td>2. Barranco</td>
<td>894</td>
<td>9,827</td>
<td>999</td>
<td>97</td>
<td>100</td>
<td>districts included in metropolitan figure</td>
</tr>
<tr>
<td>3. Chorrillos</td>
<td>4,329</td>
<td>6,575</td>
<td>52</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>4. Magdalena</td>
<td>1,439</td>
<td>2,774</td>
<td>235</td>
<td>17</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>4a. Magdalena del Mar(^c)</td>
<td>-</td>
<td>2,047</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>for City of Lima</td>
</tr>
<tr>
<td>5. Miraflores</td>
<td>636</td>
<td>6,428</td>
<td>911</td>
<td>57</td>
<td>86</td>
<td>in 1940</td>
</tr>
<tr>
<td>6. Surco</td>
<td>1,980</td>
<td>2,341</td>
<td>18</td>
<td>39</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Districts of adjacent Callao Province are not included.

\(^b\) New district carved from Lima district in 1920.

\(^c\) Percentages for this district are included with those of Magdalena, from which it was carved in 1920.

Source: Official Census Reports for 1876 and 1920.
The Lima Area
Provincial Districts
1920

1. Lima
2. San Miguel
3. Barranco
4. Chorrillos
4a. Magdalena
5. Miraflores
6. Surco

*Approximate Boundaries
**New Districts since 1876

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As Table 5 indicates, the City of Lima in the 1920 census was defined as being that settlement contained in the Lima district, this resulting in no change from the definition used in 1876. But, as urbanization of the Lima area proceeded during the inter-censal period, the open spaces which had existed between the main core settlement and surrounding urban towns were gradually occupied by the urban structures of an expanding population. By 1920, the population of those districts surrounding the City of Lima had come to equal 17.5 per cent of the total figure reported for the main city in that year.\(^9\) What is more, the population of the adjacent Callao province had by this time grown to over 50,000 people\(^10\) (close to 30 per cent of that for the City of Lima), and settlement in the area as a whole was thus converging towards the center of the Lima area, not only from the south and southwest but also from its western fringe. This growth was taking place, of course, as the main settlement of the Lima district itself kept

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\(^9\) This percentage figure and similar ones given later were calculated from the original census reports in each case. Table 8 in Chapter IV summarizes all of these calculations.

\(^10\) Total population for the province of Callao in 1920 was 52,258, according to the census conducted in that year.
expanding outwards in various directions. Still, the official definition of the City of Lima in 1920 remained what it had been in past censuses: that portion of the Lima urbanized area contained within the boundaries of the Lima district.

The Census of 1931.--The last census to be examined for the post independence period was conducted in the year of 1931. A provincial census, it also covered the population of the province of Callao.

This time, the population total given for the City of Lima included not only the main district of the Lima area, but also the districts of Rimac and La Victoria; the two latter districts had been created in 1921, both having been carved from the district of Lima (see Figure 7).

Since these two new districts had been separated from the territory of the main district of Lima, no true additions in area or population were actually made to the official City of Lima definition in the 1931 census as compared to the previously existing one. Whatever growth was shown for the Lima district (City of Lima) in that census was indeed due to natural increase and immigration from areas outside the main district. The growth recorded in the 1931 census for the other districts of the Lima area (those which were to be...
THE LIMA AREA
Provincial Districts
1931

1 - Lima
1a - San Miguel
1b - Rimac
1c - La Victoria
2 - Barranco
3 - Chorrillos
4 - Magdalena
4a - Magdalena del Mar
5 - Miraflores
5a - San Isidro
6 - Surco

*Approximate Boundaries
**New Districts since 1920
considered as part of the City of Lima in 1940) is presented in Table 6; the table also shows growth for the Lima district. As can be observed in the table, several of the peripheral districts had registered a spectacular growth between 1920 and 1931 and were becoming "urban" in nature. The population of the peripheral district this time was equal to 23.8 per cent of the total population reported for the City of Lima in 1931.

In coming thus to the end of the post independence period, we find that no substantial change occurred in the definition of the City of Lima for the purposes of collecting urban data. Nonetheless, the practice introduced in 1931, whereby more than one provincial district was to be included, for census purposes, as a part of the City of Lima, was to be an important one, for it opened the way for future significant territorial additions (for statistical, not political, purposes) to the Lima metropolitan area as distinct from the Lima province.

A Summary of the Post Independence Period

In examining the censal history for the Lima area between the years of 1837 and 1931, we find that the city area definition for purposes of enumerating the population of the City of Lima remained essentially the same throughout the period. Nonetheless, considerable urban
<table>
<thead>
<tr>
<th>District</th>
<th>Total Population 1920</th>
<th>1931</th>
<th>Per Cent Increase</th>
<th>Per Cent Urban 1920</th>
<th>1931</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lima</td>
<td>173,007</td>
<td>201,311</td>
<td></td>
<td></td>
<td></td>
<td>City of Lima in 1931.</td>
</tr>
<tr>
<td>1b. Rimac</td>
<td>-</td>
<td>39,576</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1c. La Victoria</td>
<td>-</td>
<td>35,021</td>
<td>59</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Barranco</td>
<td>9,827</td>
<td>13,984</td>
<td>42</td>
<td>100</td>
<td>100</td>
<td>districts included in metropolitan figure</td>
</tr>
<tr>
<td>3. Chorrillos</td>
<td>6,575</td>
<td>7,293</td>
<td>11</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>4. Magdalena</td>
<td>2,774</td>
<td>2,657</td>
<td>-5</td>
<td>59</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>4a. Magdalena del Mar</td>
<td>2,047</td>
<td>7,812</td>
<td>281</td>
<td>100</td>
<td>100</td>
<td>for City of Lima in 1940.</td>
</tr>
<tr>
<td>5. Miraflores</td>
<td>6,428</td>
<td>25,028</td>
<td>322</td>
<td>86</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>5a. San Isidro</td>
<td>-</td>
<td>2,131</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>6. Surco</td>
<td>2,341</td>
<td>4,806</td>
<td>105</td>
<td>20</td>
<td>27</td>
<td></td>
</tr>
</tbody>
</table>

*Districts of adjacent Callao Province not included.*

*Percentages for these districts are included with those of Lima, from which they were carved in 1921.*

*New district carved from Miraflores in 1931.*
growth had taken place in the area during those years, which was going to affect the city area delimitation in future censuses. Much of this growth was occurring "inwards," that is, towards the center of the Lima area, tending more and more to fuse the core city with the surrounding urban settlements, thus creating a single, large urban mass.

In light of this kind of growth, it was only logical that a radical change in the metropolitan area definition for the City of Lima would come in the immediate future. The national census of population of 1940, the first census to be examined in the Contemporary Period, brought about that change.
CHAPTER IV
THE CONTEMPORARY PERIOD:
A NEW METROPOLITAN CONCEPT

A few months before the national census of 1940 was to be conducted, the Peruvian national government drafted the Supreme Decree of February 9, 1940, declaring that the City of Lima was to be officially known as "Greater Lima," and, for all practical (statistical) purposes, the latter was to include the area containing the main city (Lima, Rímac, and La Victoria districts) plus that of surrounding provincial districts. By virtue of this official decree, a significant amount of territory was added to the metropolitan area definition of the City of Lima.

The Census of 1940

The districts of the Lima area included in the official "Greater Lima" definition of 1940 are presented in Table 7. The sum of the entire population of all these districts constituted the official population figure for the City of Lima that year, a combined total

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1Juan Bromley and José Barbagelata, Evolución Urbana de la Ciudad de Lima, p. 112.
<table>
<thead>
<tr>
<th>District</th>
<th>Total Population</th>
<th>Per Cent Increase</th>
<th>Per Cent Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1931</td>
<td>1940</td>
<td></td>
</tr>
<tr>
<td>1. Lima</td>
<td>201,311</td>
<td>269,738</td>
<td>47</td>
</tr>
<tr>
<td>1a. San Miguel</td>
<td>2,101</td>
<td>3,961</td>
<td>88</td>
</tr>
<tr>
<td>1b. Rímac</td>
<td>39,576</td>
<td>57,154</td>
<td>44</td>
</tr>
<tr>
<td>1c. La Victoria</td>
<td>35,021</td>
<td>55,134</td>
<td>57</td>
</tr>
<tr>
<td>1d. Lince</td>
<td>--</td>
<td>25,636</td>
<td>--</td>
</tr>
<tr>
<td>2. Barranco</td>
<td>13,984</td>
<td>18,625</td>
<td>33</td>
</tr>
<tr>
<td>3. Chorrillos</td>
<td>7,293</td>
<td>6,996</td>
<td>-4</td>
</tr>
<tr>
<td>4. Magdalena</td>
<td>2,657</td>
<td>5,859</td>
<td>120</td>
</tr>
<tr>
<td>4a. Magdalena del Mar</td>
<td>7,812</td>
<td>16,057</td>
<td>105</td>
</tr>
<tr>
<td>5. Miraflores</td>
<td>25,028</td>
<td>45,489</td>
<td>82</td>
</tr>
<tr>
<td>5a. San Isidro</td>
<td>2,131</td>
<td>8,778</td>
<td>312</td>
</tr>
<tr>
<td>6. Surco</td>
<td>4,806</td>
<td>7,101</td>
<td>48</td>
</tr>
</tbody>
</table>

520,528 . . . . . . . . City of Lima, 1940

\(^a\) Districts of adjacent Callao province not included.

\(^b\) Territory added to the City of Lima in 1940 Census for Metropolitan Area definition.

\(^c\) New district carved from the district of Lima in 1940. Percentages for Lince are included with those of Lima.
of 524,124 inhabitants.\(^2\)

Figure 8 presents in graphic form the territorial changes introduced by the new metropolitan concept of 1940. As the connected circles on the map indicate, this sudden territorial enlargement of the city meant, for statistical purposes, a significant increase in the number of people counted as inhabitants of Lima. Obviously, a large proportion of this population had been living in the Lima area at the time of previous censuses but, because of a different operational definition of the city area used in the past, this population had not been reported in the official figure for the City of Lima prior to 1940.

Table 8 presents a new set of "adjusted" population figures for the City of Lima corresponding to those censuses reported in Chapter III. All City of Lima population totals experience substantial increases if the operational definition for the city area used in 1940 is projected back in time (see columns 2 and 4). This increase would have been particularly evident in the census figures of 1920 and 1931.

\(^2\)The small discrepancy found between this official figure and the total given for the city in Table 7 can be most likely explained in terms of last minute corrections made in the official count by Peruvian census authorities.
THE LIMA AREA
Provincial Districts
1940

1 - Lima
1a - San Miguel
1b - Rimac
1c - La Victoria
1d - Lima
2 - Barranco
3 - Chorrillos
4 - Magdalena
4a - Magdalena del Mar
5 - Miraflores
5a - San Isidro
6 - Surco

*Approximate Boundaries
**New Districts since 1931
<table>
<thead>
<tr>
<th>Census Year</th>
<th>City of Lima</th>
<th>Other Metropolitan Districts&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Total Lima Area</th>
<th>Per Cent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940</td>
<td>524,124</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1931</td>
<td>275,908</td>
<td>65,782</td>
<td>341,690</td>
<td>23.8</td>
</tr>
<tr>
<td>1920</td>
<td>173,007</td>
<td>30,374</td>
<td>203,381</td>
<td>17.5</td>
</tr>
<tr>
<td>1876</td>
<td>100,156</td>
<td>9,649</td>
<td>109,805</td>
<td>9.6</td>
</tr>
</tbody>
</table>

<sup>a</sup>Population of Callao province was not included in Metropolitan Lima in 1940.
Table 9 shows how much greater this increase would have been if the population of the adjacent Callao province, not a part of Greater Lima in 1940 (but truly a part of the Lima urbanized area), were also to be added to previous census totals. The basis for not proclaiming the province of Callao as a part of metropolitan Lima in 1940 appears to be related to the political organization of the Lima area. Since the Callao province was in 1940 and remains a "constitutional province," it is therefore an independent and autonomous territorial unit enjoying a political status similar to that of a departamento.  

In examining thus the 1940 census, we find that a new metropolitan area concept for the City of Lima had been officially introduced, in an effort to deal more realistically with the true urbanized area of Lima for statistical purposes. Nonetheless, the exclusion of the Callao area from the "Greater Lima" concept, given its physical proximity to the City of Lima and its highly

---

3Allan Austin writes on this point: "In many aspects (the province of) Callao is considered as a departamento. This Constitutional Province is so proud of itself and so conscious of the advantages of its autonomous classification that it would resist any attempt of inclusion in a classification as general as that of metropolitan Lima." (Austin, Estudio Sobre el Gobierno Municipal del Perú, p. 22.)

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# Table 9

**Population for the Total Lima Area and the Province of Callao: 1940, 1931, 1920, and 1876**

<table>
<thead>
<tr>
<th>Census Year</th>
<th>Population</th>
<th>Total Lima Area--Callao</th>
<th>Per Cent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lima Area&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Callao</td>
<td></td>
</tr>
<tr>
<td>1940</td>
<td>-</td>
<td>82,287</td>
<td>606,411</td>
</tr>
<tr>
<td>1931</td>
<td>341,690</td>
<td>70,881</td>
<td>412,571</td>
</tr>
<tr>
<td>1920</td>
<td>203,381</td>
<td>52,843</td>
<td>256,224</td>
</tr>
<tr>
<td>1876</td>
<td>109,805</td>
<td>23,548</td>
<td>133,353</td>
</tr>
</tbody>
</table>

<sup>a</sup>From Table 8, column 4.
concentrated urban population (Figure 8), seemed to remain as a flaw in the metropolitan definition of Lima, Peru.

The results of the census of 1961, the most recent national census taken in Peru, reported a tremendous growth for the Lima area since 1940. We now turn to the examination of the last census to be studied in this paper.

The Census of 1961

The metropolitan area definition for the City of Lima used in the 1961 census remained essentially unchanged from that of 1940. Three new districts were created during the inter-censal period but none of these involved any addition to the territory of the city, since they had been carved from previously existing units. Figure 9 presents the official delimitation of the Lima area as it existed in 1961. As is evident from the map, the amount of settled land in the Lima area increased substantially after 1940 (Figure 8). The numerical increase in population that took place in the area during the 21-year interval may be observed in Table 10.

The pace of the urban growth recorded in the last inter-censal period for the Lima area suggests that the 1940 metropolitan area definition is inadequate for
THE LIMA AREA
Provincial Districts
1961

1 - Lima
10 - San Miguel
1b - Rimac
1c - La Victoria
1d - Lince
1e - Breña
1f - San Martín
2 - Barranco
3 - Chorrillos
4 - Magdalena
4a - Magdalena del Mar
5 - Miraflores
5a - San Isidro
6 - Surco
6a - Surquillo

*New Districts since 1940

Urbanized Area POPULATION

350
300
250
200
150
100
in Thousands

0 2 4 6 Miles

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<table>
<thead>
<tr>
<th>District</th>
<th>Total Population 1940</th>
<th>Total Population 1961</th>
<th>Per Cent Increase</th>
<th>Per Cent Urban 1940</th>
<th>Per Cent Urban 1961</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lima</td>
<td>269,738</td>
<td>338,918</td>
<td>81</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1a. San Miguel</td>
<td>3,561</td>
<td>23,233</td>
<td>486</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1b. Rímac</td>
<td>57,154</td>
<td>144,320</td>
<td>152</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1c. La Victoria</td>
<td>55,134</td>
<td>204,926</td>
<td>272</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1d. Lince</td>
<td>25,136</td>
<td>83,393</td>
<td>225</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1e. Brena</td>
<td>-</td>
<td>99,810</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1f. San Martín de Porres</td>
<td>-</td>
<td>97,040</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2. Barranco</td>
<td>18,625</td>
<td>42,449</td>
<td>128</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>3. Chorrillos</td>
<td>6,996</td>
<td>32,376</td>
<td>362</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>4. Magdalena</td>
<td>5,859</td>
<td>68,560</td>
<td>1,070</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>4a. Magdalena del Mar</td>
<td>16,057</td>
<td>55,737</td>
<td>247</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>5. Miraflores</td>
<td>45,489</td>
<td>88,446</td>
<td>94</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>5a. San Isidro</td>
<td>8,778</td>
<td>37,925</td>
<td>332</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>6. Surco</td>
<td>7,101</td>
<td>48,958</td>
<td>1,591</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>6a. Surquillo</td>
<td>-</td>
<td>71,540</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

City of Lima, 1961

\[1,433,231\]... City of Lima, 1961

\[a\]No addition of new territory to the metropolitan area definition was made between 1940 and 1961. The districts of the adjacent Callao province are thus not included in the table.

\[b\]The 1961 census reported 1 per cent "rural" population for metropolitan Lima. Given the small significance of this figure, it was not taken into account for urban percentages in the table.

\[c\]New districts in the 1961 census. Percentages in the table for Brena and San Martín de Porres are included with those of Lima, and Surquillo with those of Surco.
purposes of population data collection in the City of Lima for the 60's. This is probably why, in official population estimates given for Lima in recent years (no census has been taken since 1961), a new metropolitan area concept for the City of Lima is being used by Peruvian authorities.

A "Newer" Metropolitan Concept

The Unidad de Análisis Demográfico, a Peruvian statistical "team" working for the National Directory of Statistics, has officially defined the area of the City of Lima in 1969 as comprising those districts used in the 1961 census for "Greater Lima" (including several "new" units subsequently carved out of the territory of the City of Lima) plus two additional old units of the Lima province (Ate and Lurigancho) located adjacent to the city on the east (Figure 3). The total population of Lima thus defined was officially estimated at 2,415,700 inhabitants as of June 30, 1969. Figure 10 shows the magnitude of the urban settlement of the region in 1969. It is evident that peripheral areas adjacent to

Figure 10

THE LIMA AREA
Provincial Districts
1968

Source: Soria, El Gobierno Metropolitano (Cover Map)
metropolitan Lima are rapidly becoming urbanized.

In light of such spectacular large-scale occupation of land for urban use, it is no wonder that the area definition for the City of Lima has been officially revised. And, in most likelihood, the metropolitan area concept to be used in the next census to be conducted for the area (planned for the early 70's) will be significantly different, encompassing a much larger territory than the "new" metropolitan area definition used for Lima in 1940.5

However, the official exclusion of the Callao province (population 321,700 in 1969) from "Greater Lima," for statistical purposes, still points to a basic weakness in the current operational definition in regards to its actual representation of the true urbanized area of the City of Lima, Peru.6

5 Saravia has already proposed that metropolitan Lima should include all of the province of Lima (see Figure 2), see Saravia, El Gobierno Metropolitano.

6 For academic and other scholarly and private purposes, many students of the Lima area have added the population of the Callao province to that of Lima in research works. The expression, "Metropolitan Lima-Callao," has been used in this connection. (See, for example, Inter-American Economic and Social Council [CIAP], "Urbanization in Metropolitan Lima-Callao.")
CHAPTER V

POPULATION GROWTH OF THE CITY OF LIMA AND URBAN STATISTICS: A PERSPECTIVE ON THE METROPOLITAN AREA CONCEPT THROUGH TIME

For any study of the historical patterns of population growth in the City of Lima, Peru, the implications offered by the preceding analysis of the development of the metropolitan area concept are obvious. The changes in the official operational definition of the city area introduced since the census of 1940 have indeed affected the validity of official population statistics given for Lima in previous periods.

In light of these conceptual changes in the territorial definition of the city, the adjusted figures presented in Tables 8 and 9 represent the population of Lima more accurately than the available official census figures for corresponding dates. Based on these adjusted figures, annual population growth rates for the city can be re-calculated for the intercensal periods previously studied.¹ These new rates are presented in Table 11. Column 3 in the table shows adjusted annual growth rates

¹Annual growth rates for Lima were calculated in Table 1 using official population data.
### TABLE 11
A COMPARISON OF OFFICIAL AND ADJUSTED ANNUAL RATES OF POPULATION GROWTH FOR THE CITY OF LIMA: 1876 TO 1969 (in per cent)

<table>
<thead>
<tr>
<th>Intercensal Period</th>
<th>Rates Computed Using Official Census Figures a</th>
<th>Rates Computed Using Adjusted Figures (excluding Callao)</th>
<th>Rates Computed Using Adjusted Figures (including Callao)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1876-1920</td>
<td>1.23</td>
<td>.16</td>
<td>.16</td>
</tr>
<tr>
<td>1920-1931</td>
<td>4.26</td>
<td>4.37</td>
<td>4.45</td>
</tr>
<tr>
<td>1931-1940 b</td>
<td>8.51</td>
<td>5.71</td>
<td>4.37</td>
</tr>
<tr>
<td>1940-1961</td>
<td>4.90</td>
<td>4.90</td>
<td>5.18</td>
</tr>
<tr>
<td>1961-1969 c</td>
<td>6.73</td>
<td>5.75</td>
<td>5.77</td>
</tr>
</tbody>
</table>

a See Table 1.

b A new metropolitan area definition introduced in the census of 1940. See Chapter IV.

c No census in 1969. Official estimate used for computing annual rates of growth for the period.
computed from adjusted totals that do not include the population of the province of Callao; in column 4 the rates were computed from the figures obtained after adding the population of Callao to the adjusted totals of Lima (see Table 9, columns 2 and 4).

In looking at Table 11, the differences between official and adjusted annual growth rates for similar intercensal periods become readily apparent, suggesting new insights for a better understanding of the historical patterns of population growth in Lima.

For example, in the case of the intercensal period between the years of 1876 and 1920 the adjusted rates indicate a much slower pace of annual growth (.16 per cent a year) than shown by the official rate for the same period (1.23 per cent a year). The official rate, of course, indicates annual growth only for the central district of Lima, since the operational definition of the city area during those years was restricted to that district, as pointed out previously (see Chapter III). The inclusion of the population of adjacent districts (City of Lima in 1940) for purposes of computation lowers annual rates of increase to .16 per cent, whether including or excluding the population of the Callao province. Besides allowing for a more accurate gauge of the pace of the urban growth taking place in the Lima
area during the 1876-1920 intercensal period, the comparison of official and adjusted growth rates also indicate which specific sectors of the Lima area grew most rapidly. From the figures cited it can be ascertained that growth in the core district during the period occurred at a faster pace than in surrounding districts.

Another interesting development is suggested in Table 11 when we look at the rates shown for the 1931-1940 intercensal period. The official figure shows a rate of annual growth of 8.51 per cent for the nine-year period. This rate was computed by using the official City of Lima population figures reported by the censuses of 1931 and 1940. Since the census of 1940 utilized an operational definition for the city which added a considerable amount of territory and population to the previous definition in effect in 1931 (see Chapter IV), the high annual rates of growth shown in column 2 can be explained in terms of this change in the metropolitan area delimitation of the City of Lima. Indeed, the true annual rates of growth for this period are better represented by the adjusted rate of 5.71 per cent (or better yet by the 4.37 per cent rate computed when Callao is included), which corrects for proper comparability of city population figures for the
mentioned dates.

The same "leveling" effect occurs for the rates shown for the 1961-1969 period, after official totals are corrected to include in the 1961 figure the population of those districts added in the "unofficial" definition of City of Lima in 1969 advanced by the Unidad de Análisis Demográfico (see Chapter IV). The growth rates which appear less affected by the changes in the metropolitan area definition of Lima are those shown for the 1920-1931 intercensal period. This uniformity despite adjustments suggests that the urban growth that took place in the peripheral districts of the Lima area during those years must have occurred at a pace similar to that recorded for the Lima district.

Finally, for the period between 1940 and 1961, the growth rates shown in columns 2 and 3 in the table are identical. This is obviously because the operational definition of the city area (Greater Lima) remained unchanged throughout the period and thus needed no adjustment. For this same period, column 4 shows the growth rates to be somewhat higher if the population of the province of Callao is added; this factor suggesting a rapid growth for the Callao area during these years.

General trends of population growth through time can also be clarified by comparison of the official and
adjusted rates shown in Table 11. The adjusted rates, especially those computed including the population of the province of Callao (column 4), show a gradual increase in annual growth patterns through time, suggesting a much more uniform process of urban growth in the Lima area than that evidenced by the official figures. Indeed, the latter erroneously suggest successive periods of "ups" and "downs" in Lima's annual population growth patterns between 1876 and the present (column 2).

At this point a question could be raised based on the preceding observations and concerning the use of urban population data for Lima in future research: if with continued urbanization of the Lima area the operational definition of the City of Lima is further expanded to include new territory, does this mean that new adjustments of official statistical data must be made to allow for comparability of population figures? The answer would indeed appear to be in the affirmative. Any new metropolitan area definition will in all probability mean addition of new territory (most likely in the form of political units) and population to the metropolitan area previously established. If a study necessitates comparability of urban statistical information through time, it is obvious that census figures will have to be adjusted in order to deal with the newly-defined area.
from a proper perspective, as has been done in this paper up to the 1961 census. These adjustments can and must be made. This kind of analysis would thus prevent significant flaws which will otherwise occur if research conclusions are based on official rather than on adjusted population figures.

Conclusion

Peter Hall has observed that "In the light of modern technology and economic organization, the rise of the giant city appears natural, even inevitable." This statement refers to contemporary patterns of urban growth in world metropolitan areas, and finds ample support in the example of the city of Lima, Peru, studied in this paper. With a population of almost 2.5 million people in 1969, which continues to increase at a very rapid rate, metropolitan Lima is indeed a "rising giant."

The main objective of this study has been to analyze in detail the historical development of the metropolitan area definition for Lima, a Latin American capital city. The results obtained in this analysis have shown that official urban population statistics are not always the

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best representation of populations of urban areas. Conceptual changes in urban area definitions by national agencies or governments, as has been shown for the case of Lima, render some official population statistics useless (unless they are properly adjusted) for purposes of urban research.

This is not to say, however, that in the case of other large cities the situation need necessarily be similar to that demonstrated for Lima. Indeed, among other Latin American capital cities, the historical development of the metropolitan area concept may have well been totally different for reasons of local distinctions and peculiar national patterns. The same could be the case for other world metropolitan cities.

In any event, an important point to be stressed here concerns the limitations that exist in the value of official urban population statistics for comparative research, particularly for historical analyses of metropolitan growth patterns. The urban researcher must be aware of these limitations and must do his best to utilize sound statistical information in order to reach valid conclusions.

It becomes obvious, of course, that obstacles for a proper standardization of international urban population data are presented not only by national distinctions and
peculiarities but also by the ever-expanding nature of large urban settlements of contemporary times. These aspects were pointed out in the introductory section of this study. If we are to study cities, not as an academic exercise but so as to better understand the many aspects of the complex phenomenon of world urbanization, finding a way for obtaining a sound statistical base, properly standardized for purposes of comparability, would necessarily appear to be the first task ahead.
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