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Carlo Geneletti
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STRATIFICATION RESEARCH IN LATIN AMERICA A REVIEW OF THE LITERATURE AND A PRELIMINARY RESEARCH PROPOSAL

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INDEX

	Page
PART I. STRATIFICATION.....	1
The selection of the rank system.....	3
The selection of indicators and the criteria of inclusion or definition of class boundaries.....	7
PART II. STRATIFICATION AND CHANGE.....	14
The discreet approach.....	15
The continuum approach.....	20
Conclusion.....	26
PART III. EMPIRICAL TESTING.....	28
Statistical analysis.....	29
Conclusions.....	41
PART IV. THEORETICAL CONCLUSIONS.....	42
General considerations.....	43
Change through demand: industrialization, economic growth and stratification.....	45
Supply: urbanization, education and stratification.	48
BIBLIOGRAPHY.....	53
Annex.....	61

The purpose of this work is twofold: first, I will review the literature on stratification in Latin America in the last two decades, with particular reference to occupational stratification and structural (versus exchange) mobility. Second I will submit to empirical testing some hypotheses on the relation between changes in stratification structures and development, which emerge of this literature.

Though it is an un-attractive pursuit, a review is greatly wanted. In spite of the growing interest in this area, there are only three bibliographic reviews of the available literature, one of which (Iutaka, 1965; Urzua, 1969; de Moraes, 1970) - the first - is relatively outdated, and one - the last - very scanty.

I will not cover the entire area of stratification research in Latin America: I will not take into account the issues of racial-ethnic stratification, of political stratification (elite-mass), and of individual mobility, and I will dedicate only summary attention to stratification theory. Neither will I take into consideration studies on individual classes (Lipset and Solari, 1966; Johnson, 1964) since I am interested in total societies, or the effects of status on other phenomena. In conclusion, I will ask what are the features of stratification structures in Latin America, and how sociologists have constructed them and, finally, how and why they have changed in the last two decades.

Since a large section of the literature on stratification is there comprised, such exclusion is costly. But, first, I had to delimit the area under analysis for sake of space, and, second, since this review will be employed as a starting ground for an original analysis of data on occupational stratification, drawn from census data, I came to consider pointless raising questions that could not be answered. It need not be repeated that census data do not tell anything of political, stratification, individual mobility, and little of racial status.

/I intend

I intend to develop my argument along the following steps. First, I will present a brief overview of the literature on stratification in Latin America, organized around some major methodological steps. From the analysis of the extant material, I will draw suggestions as to the construction of stratification structures. Second, I will review the material on changes in stratification; third, I will analyse the data at my disposal.

/Part I

Part I

STRATIFICATION

General overview

No statement shows better perception of the situation of stratification research in Latin America than Iutaka's (1965) that studies in this area are characterized by their abundance and their scarcity. In fact, while analyses of social structures and processes can rarely be made without reference to classes and groups as organizing principles, yet few works have been conducted specifically on stratification. Historians, anthropologists, and economists engaged in the endeavour of explaining social change at the aggregate level, often identify social groups as actors. However, their construction of a stratification structure is not a goal in itself, but, rather it is a necessary selection of the tools of analysis. It comes, so to say, for granted.

Since, however, works which fall in this category, lacking in methodological clarity, are of little use to stratification specialists (Jackson and Curtis, 1968), I will consider only those works which take stratification as the object of analysis. Thus, as Iutaka stated, little is left.

In the literature under analysis two or three periods can be defined by reference to three of the major investigations that have been carried out since World War II: that on middle classes by the Panamerican Union, completed in 1951/1952 (Crevenna, 1951); the four-city project, which studied social mobility in Rio de Janeiro, Buenos Aires, Montevideo and Santiago, conducted at the beginning of the sixties (Hutchinson, 1960; 1965; Ganon, 1961; Costa Pinto, 1956; Graciarena, 1961; Labbens and Solari, 1961); the 1966/1967 Monterrey mobility project (Balan, Browning and Jelin, 1974) and the internal migration occupational structure and social mobility project which is being carried in Mexico City (Muñoz, 1973; de Oliveira, 1973).

/Since the

Since the others will receive attention in later sections of this work, let me dedicate a few brief remarks to the middle class project.

The middle class project

It has been often pointed out that the works collected by Theo Crevenna (1951) are of uneven value. The project itself, nonetheless raises four important issues:

1. On the composition of the middle class. The middle class is a very heterogeneous group that lies in between the more homogeneous lower working class and the upper class. For classificatory and interpretative reasons, the authors connected with this project suggested to distinguish between the "old" middle class, constituted by independent workers, and the "new" middle class, largely composed of employees of private and public enterprises. The theoretical background of the time-bound classification of the two sub-classes is the interesting hypothesis that development affects not only the size of the middle class but its composition as well; specifically, to increase the proportion of dependent over independent workers, and, thus, of the new over the old middle class.
2. On the class-consciousness of the middle class. Due to its heterogeneity, the degree of solidarity of the middle class must be called in question along with its capacity of constituting a unitary pressure group. This hypothesis was later introduced into various analyses of political structures in Latin America (García, 1968; Ratinoff, 1965; Graciarena, 1972).
3. On the employment of census data on occupations as sources for the construction of stratification structures. Though from 1940 to 1950 only a number of countries, including Argentina, Brazil, Chile, Cuba, Guatemala, Honduras, Nicaragua, Panama, Peru and Venezuela, had made national censuses, (Smith, 1973) their potential utility for sociological study was dutifully - and correctly - stressed. The works of Germani (1961), Debuyst (1961), and DESAL (1965), made later extensive use of this tool.

/4. On

4. On the relation between stratification and economic development. Industrialization, urbanization, growth in per capita income, so was argued, produce a change in the stratification structure, and, specifically, the growth of the middle class. While the mechanisms intervening between changes in the economic structure and stratification were not defined, the issue was correctly focussed, and this hypothesis would be one of the major standpoints in the history of Latin American stratification research.

In conclusion, the project has by and large been a very valuable contribution to stratification theory in Latin America. Its merit however lies more on asking the right question than on supplying correct answers. The later research, to which I will turn next followed, in fact, these leads.

I will organize my review according to the theoretical and methodological decisions that must be taken to construct a stratification structure. Knowing which decisions have been taken in individual studies, we may obtain a fairly correct map of the stratification literature.

The first basic decision is, in my opinion, the selection of the rank system; the second, of the indicator(s) of status, and the third, of the criteria of inclusion. Let us take up these issues in order:

The selection of the rank system

The basic distinction between the two mayor approaches to stratification - usually associated one with marxism and the other with North American social science - lies as Ossowski (1963) well notes, on whether the selected rank system (the property along which we wish to classify individuals) defines relations of dependence (classes) or ordering relations among classes (strata). Similarly Dahrendorf (1959) stated that while classes are analytically defined, strata are arbitrarily arranged: Marx's classes are related by matter of definition, whereas the criteria of inclusion of strata vary according to the purpose of the classifier.

In turn, this distinction is based on the belief - defended by the first school and criticized by the second - that relations of

/dependence define

dependence define homogeneous social classes, while ordering relations do not create such entities. Thus, it is argued, since stratification structures serve primarily as tools for understanding social phenomena, the first approach is better.

It seems to me however, that this distinction has been greatly overemphasized. Stratification structures are classifications, and the methodology for their construction is identical for marxist and non-marxist alike.

Grossly, whether classes are analytically or orderly defined depends on the nature of the rank system selected. (Stavenhagen 1967, 25) If it is measured on a nominal scale that implies relation (property of the means of production, position on an authority scale), one obtains a class structure; if on an interval scale (income, education) a stratification of strata. On no logical grounds is one preferable to the other. The issue of the selection rank is an empirical question, and must be solved on this ground. In this connexion it may be useful to recall that rank systems are chosen so that the classification thus obtained reduces to the minimum the within-class variation on another dependent variable (political activity, attitudes towards socialization, etc.) (Maynt, 1967). There is no obvious reason why classes defined adopting a relational rank system guarantee the homogeneity of the class on all or even a number of social actions. The claim of primogeniture must be justified.

My impression is, on the contrary, that post-factum homogeneity becomes for the defenders of this rank system, the unspoken criterion for the definition of classes. In other words, the investigator observes who acts alike to assign him to the same class. The ensuing classification depends, therefore, on the vagaries of history rather than on previous theoretical considerations. Or classes are defined - again a posteriori - according to the similarity of the actions of their members to the patterns of action attributed by traditional marxism to the classes he defined. For instance, who participates in a radical movement must be a proletarian, by heart if not by condition.

/Analytical rank

Analytical rank systems (ownership of the means of production, position in the authority scale) have the right of citizenship in sociological research. They do, but on condition that their definition is clear and consistent and the criteria of inclusion are specified.

Unfortunately - although generalizing is dangerous - the literature I have examined that falls in this category, shows lack of this methodological accuracy. Sociologists of this allegiance, in fact often transplant Marx's stratification structure to settings that are historically and ecologically different from his own. That such hierarchies may possess as predictive a value as they did in Marx's times is very unlikely, and, in any event, needs empirical support. For Marx, in fact, the bourgeoisie is as homogeneous as the working class; and the small bourgeoisie was supposedly doomed to disappear. Since these statements do not apply to contemporary Latin America it is at least doubtful his stratification structure may fit present conditions.

Some works are exclusively political pamphlets (Glazerman and Smeonor, 1968; Romeo, 1968). The stratification structure they propose is composed of classes whose boundaries are as blurred as their political ideology. Quijano's (1968) identification of five classes (the dependent bourgeoisie, the middle class, the labouring population, the peasants, and the urban marginals) though more respectful of the diversity of statuses in Latin America, faces the same methodological problems. What rank system did he choose? What is the boundary line between the first and the second, and the third and fourth class? Does the industrial bourgeoisie include the managers of large enterprises or exclusively the owners? The stratification he suggests lacks the definition of rank system, of indicator, and of the criteria of inclusion. Any statement drawing upon imputed patterns of activity of these classes, is thus pure speculation.

/Of course

Of course lack of methodological accuracy is sometimes justified by the lack of data needed to measure statuses and define boundaries. Historical analysis of stratification structures (Torres, 1965; de Mendizabal, 1968) are thus more often a methodological - if I may use this ugly term - than incorrect, though often available sources of empirical material are not fully exploited. But no justification exists to methodological sloppiness for works that refer, as those quoted above, to contemporary society.

The above observations do not deny the validity of some criticism against schemes of gradation - that they do not identify social factors, for instance - but the utility of measurements constructed without facing the basic methodological problems. Only rejecting methodological precisions, in fact, it is possible to improve earlier efforts.

Let us now turn to those who take a healthy methodological stance.

The rank system - it is useful to recall - is the property along which individuals are classified. Although the distinction of rank from its indicators is usually omitted, it nonetheless deserves attention (Tumin, 1967). For instance, whether we want to classify individuals according to level of living, or consumption potentiality, or position in an earning scale, we must employ as indicators respectively household consumption expenditures, disposable income, and earned income.

It is also true, however that the usual indicators of socio-economic status are highly intercorrelated (Soares, 1962; Duncan, 1961) and that, therefore the epistemic correlation of the rank systems and such indicators are grossly equal, thus justifying their interchangeability.

While this observation may absolve of this charge the cruder classifications, it does not justify the more refined efforts since the measurement of status often requires assigning each indicator a different weight.

/The only

The only work to my knowledge which defines a rank system is Hutchinson's (1965) study of stratification and mobility in São Paulo and the other work is the four-city project. Following the approach of Glass (1954) and his colleagues (Moser and Hall, 1954) the author selects however of all rank systems the least meaningful: prestige, and arranged occupations accordingly. In a fastly changing industrial metropolis, in fact, the consensus of the groups members on the social hierarchy of values, if it exists at all, is not crystallized by tradition. The stability of the index, therefore, is expectedly low (Portes, 1972).

Furthermore, the formality with which Hutchinson placed occupations on the prestige scale, brought him to forego the distinction between manual and non-manual labour, which has been found meaningful in different social settings (Soares, 1962; Runciman, 1966).

The need for the selection on rank system, however, has not been accompanied either by the production of data which allow researchers to make a decision, or by efforts at measuring the internal consistency of political indicators, except, of course the two works quoted above.

The selection of indicators and the criteria of inclusion or definition of class boundaries

As it is impossible to construct a stratification structure without an indicator of status, we can expect no default in this section. Although occupation has been by far the most popular indicator, others have been employed as well. Gonzalez Casanova (1965), M. König (1972) and Gonzalez Cosio (1961) suggest to employ a set of indicators.

The former analyses, as he states, the structure of inequality along the lines of literacy, housing, education, income, and category of occupation. For each frequency distribution obtained along all indicators, the author determines class boundaries and, thus defines a stratification structure.

/The selection

The selection of criteria of inclusion, however, is entirely arbitrary. There is no reason in fact to accept his statement that the upper class is constituted of the population which owns a television set, of that which has a high school diploma or that which belongs to the category of employer. Since these indicators are not cross-tabulated, it is impossible to avoid misplacing conspicuous consumers, and educated businessmen, or wealthy managers. Therefore the finding that the size of classes measured along these indicators is roughly equal makes one suspect that the selection of the criteria of inclusion does not preceed the analysis of the distribution of population in classes.

König (1972) suggests to define classes cross-tabulating occupation, income, and education, in the following way:

Occupation	Income	Education	Class
Non manual	75 000	University	High
	1 000 - 5 000	High-School	Middle
Manual	<1 000	Primary	Low

but is forced to adopt a two-indicator scale in the measurement itself. It also may be noticed that only occupation and income are actually cross-tabulated and intervene in the construction of classes. The other indicator is allegedly perfectly related with income and is not, therefore, discriminant. The last of the two (Gonzalez Cosio, 1961: 54) dedicates to the question only the following lines: "Tomando en consideración el ingreso, el gasto, el tipo de ocupación y los censos de población, se ha podido agrupar a los habitantes de México en grandes estratos denominados en sentido lato, clases sociales". It remains unsaid which combination of

/indicators (to

indicators (to the exclusion of census samples, of course) has been adopted and which boundaries drawn.

The single indicator that most often has been employed is of course occupation (Germani, 1961; Labbens and Solari, 1961; Jaffe, 1965; Chaplin, 1968; Soares, 1971; Parra Sandoval, 1971; Bresser Pereira, 1964; Pereira de Quieroz, 1965; Cardoso and Reyna, 1968; Debuyst, 1962; DESAL, 1965; Briones, 1963). The availability of this information on census publications, their reliability and comparability justify its appeal. But there are two major backdrops:

1. As Ganon (1961) well states, the unit of analysis of stratification is the household and not the individual. The wife of a business executive which takes up a job as a seamstress to fill her day up belongs to the upper not to the lower class. In another field, for instance, the household distribution of income is substantially different from the personal distribution. Unfortunately, however, censuses commonly supply the occupational distribution of the economically active population and not of the head of the household.

2. Occupations are neither grouped into classes, or arranged in a hierarchy, as are, for instance, income classes. It becomes thus necessary to call upon other criteria to perform these operations. Let us focus on the two problems: hierarchical arrangements of occupation, a definition of class boundaries.

As to the first issue the difficulty is directly proportional to the number of classes employed. In a dichotomy of manuals and non-manuals, it is obvious that the latter enjoy as an average a higher status than the former. But it is questionable whether the boundary line falls there, and whether the appealing simplicity of procedure is worth the wealth of information that have been lost.

But, as occupations are in detail listed, it becomes more and more difficult to decide on the appropriate ordering of statuses. A way to solve the difficulty, if data are available, is to call upon another indicator of status and define classes by cross-tabulating them.

/Chaplin (1968),

Chaplin (1968), for instance, arranges occupations according to their average income as it appeared on census publications. He, however, pools together lower non-manuals and high manuals, foregoing the distinction which I have repeatedly pointed to as interesting and relevant. Furthermore, measures of central tendency are meaningful in the construction of classifications, if the standard deviation of the variable is not high. For theoretical reasons, it is easy to believe that the standard deviation of income for the upper class (defined by occupation) is relatively low; but not so the standard deviation of the income of occupations in the middle class, which usually belong to the tertiary sector. Salesmen may be both the street vendor and the car wholesaler. In conclusion different occupations span a variety of overlapping status.

We have entered the area of the second issue of the criteria of inclusion: where does one class - defined by occupation - end and the next begin? Where shall we draw the boundary line between occupations in order to reduce the within-class variation of status? The problem, of course, is that class boundaries are more likely to run through an occupation (or a number of occupations) than between two of them.

This point was forcefully made by E. Jelin (1967). Analyzing her data on Monterrey's occupational allocation and income distribution, she was led to conclude that the distinction between self-employed and employees is horizontal and not vertical. In fact, she distinguished five groups: self-employed without capital, unskilled workers, self-employed with some capital, skilled workers, and self-employed with one to five employees. These groups have significantly different levels of income, education, and housing. 64 per cent of the first group, 25 per cent of the second, 12 per cent of the third, 4 per cent of the fourth and nobody of the last have an income lower than 145 pesos.

In conclusion, occupation alone is not a very good indicator of status. The size of enterprise for employers and income could

/better distinguish

better distinguish members of different classes in the same occupations, but this information is seldom if ever supplied. The difficulty it gives rise to are well exemplified by a work of Desenvolvimiento and coyuntura (1958). The stratification it presents shows percentage of upper class (constituted exclusively of owners of enterprises) higher than of upper-middle (managers and professionals) and roughly similar to the middle class (middle level employees). The percentages are respectively 4, 2 and 6. As Bresser Pereira (1964) and the authors themselves aptly note, this category is over represented on account of the inclusion of owners of small agricultural and industrial enterprises. In 1950 Brazil, to which this data refer, 80 per cent of all industrial enterprises employ less than 10 workers. No better solution is the employment of category of occupation as indicator of status. The trichotomy that can be constructed of employers, employees and self-employed allows a high degree of dispersion of status within each class (Murmis, 1974).

If occupation and occupational category alone are poor indicators of status, their cross-tabulation permits a better estimate of the property. It is known, in fact, that the reliability of a measure is positively related with the number of indicators.

This is the approach selected by Germani (1961), König (1972), Di Tella (1962), and in a recent unpublished work, by Filgueira (1975a). The problem which derives from this cross-classification (and from any cross-classification) is the definition of the criteria of inclusion. Germani (1961) does not make explicit his solution. Di Tella (1962) and Filgueira (1975b), on the contrary, detail the operations involved. Grossly, all employers belong to the upper-middle class, with employed and self-employed, professionals, managers, office workers and salesmen. All other self-employed and employees belong to the lower class.

The reliability of this classification is based on intuitive, rather than empirical grounds. In fact, there is no other data which could verify it. In any event, since occupation alone was

/found relatively

found relatively significant, an improvement on it should be more so. In fact, the greater the number of indicators, the greater the reliability of an index (Portes, 1973).

A further complication is introduced by these authors, crossing the structure thus obtained with industry binomially classified into secondary and tertiary, and primary sector. There is however no apparent reason for this intricacy, unless it points to the different reliability of census information of rural and urban areas, or to the different meaning of social hierarchy in these settings.

This complication notwithstanding, the classification outlined above is valuable. Accounting for the varying reliability of census data, it furthermore allows for comparative analysis.

As I have already pointed out, it cannot, however, discriminate between upper and middle class. It does not dispose in fact of information on the size of enterprises, or in the income of independent professionals. Where data allow, therefore, a better picture of a stratification structure could be obtained cross-tabulating occupation with occupational category, income, and eventually industry. But few censuses provide any data on income, and fewer reliable ones, so that these statements must be taken as a general guideline for future research than description of past one.

Table 1 collects all major available descriptions of occupational stratification structure in Latin American countries. Its sources have been by and large Germani's and CEPAL/UNESCO's publications, drawn from censuses or census samples at different times, around 1950, 1960, and 1970. Also other structures have been included, but I will use for statistical manipulations only the two major sources quoted above. With these data, I will in fact attempt to analyse the patterns of change in the size of the middle class, accompanying development. Before the statistical analysis, however, to which I will dedicate the third part, I will deal with the extant theoretical and methodological material.

/Table 1

Table 1[a/]

PERCENTAGE DISTRIBUTION OF ECONOMICALLY ACTIVE POPULATION BY OCCUPATIONAL STRATA, FOR SELECTED LATIN AMERICAN COUNTRIES, 1950, 1960 AND 1970

	Class						
	Upper middle			Low			Other
	Independent	dependent	Total	Independent	dependent	Total	
Argentina							
1950 (1)	18.9	17.0	35.9	8.5	55.6	64.1	0.0
1960 (2)	16.4	22.5	38.9	11.5	49.6	61.1	(10.6)
1970 (2)	12.3	24.8	37.0	14.0	69.0	63.0	(9.5)
Brazil							
1950 (1)	6.7	8.5	15.2	44.1	40.7	84.8	0.0
1960 (2)	3.0	12.6	15.7	46.7	37.7	84.3	(7.4)
Chile							
1950 (1)	8.6	12.8	21.4	16.0	62.6	78.6	0.0
1960 (2)	5.9	15.6	21.5	16.2	62.3	78.9	(6.9)
1970 (2)	8.0	20.7	28.7	16.8	54.5	71.3	(9.7)
Costa Rica							
1950 (1)	12.4	9.9	22.3	18.4	59.3	77.7	0.0
1963 (2)	7.6	15.6	22.9	25.7	51.3	77.1	(6.3)
1973 (2)	4.6	19.6	24.2	19.6	56.2	75.8	(5.3)
Ecuador							
1950 (1)	4.1	6.4	10.5	39.6	49.9	89.5	0.0
1962 (2)	7.4	7.1	14.4	45.5	40.0	89.6	(3.8)
Honduras							
1950 (1)	1.5	3.0	4.5	67.3	28.2	95.5	0.0
1961 (2)	4.1	6.9	11.0	54.7	34.4	89.0	(5.4)
El Salvador							
1950 (1)	5.6	4.9	10.5	37.2	52.3	89.5	0.0
1961 (2)	5.5	6.7	12.1	29.4	58.5	87.9	(1.2)
1971 (2)	6.4	9.3	19.6	33.9	50.4	84.4	(19.9)
Guatemala							
1950 (1)	3.7	4.0	7.7	56.3	36.0	92.3	0.0
1964 (2)	5.4	6.8	12.3	40.1	47.6	87.7	(.6)
1973 (2)	3.4	8.4	11.8	47.7	40.5	88.2	(2.9)
Panama							
1950 (1)	3.7	11.5	15.2	54.9	29.9	84.8	0.0
1960 (2)	3.5	15.8	19.3	48.5	32.1	80.7	(12.0)
1970 (2)	2.9	20.1	23.1	39.2	37.7	76.9	(4.7)
Mexico							
1940 (3)			16.9			83.1	0.0
1960[b/] (2)	15.9	15.3	31.2	25.2	43.7	68.9	(33.4)
1970 (2)	10.5	16.7	27.2	26.0	46.9	72.8	(14.2)
Paraguay							
1950 (1)	7.7	6.5	14.2	58.3	27.5	85.8	0.0
1962 (2)	6.2	7.8	14.1	54.4	31.5	89.9	(6.8)
1972 (2)	6.0	9.3	15.3	53.8	30.9	84.7	(5.4)
Dominican Republic							
1960 (2)	5.2	7.8	13.0	54.4	32.6	87.0	(5.2)
1970 (2)	7.6	14.9	22.5	38.3	39.2	77.5	(41.8)
Perú							
1961 (4)		17.1			82.9		0.0
1970 (2)	7.0	15.6	22.6	34.1	43.3	77.4	(7.2)
Uruguay							
1958 (5)			33.0			67.0	0.0
1963 (2)	13.4	23.7	37.1	13.6	49.3	62.9	(10.2)
Nicaragua							
1971 (2)	7.9	10.9	18.8	33.4	47.8	81.2	(8.0)
Bolivia							
1950 (1)	3.4	4.2	7.6	50.4	42.0	92.4	0.0
Colombia							
1950 (1)	15.3	6.6	21.9	29.4	48.7	78.1	0.0
Cuba							
1950 (1)	(5.8)	15.9	21.7	22.2	56.1	78.3	0.0
Haiti							
1950 (1)	1.7	1.3	3.0	85.6	11.4	97.0	0.0
Venezuela							
1950 (1)	8.6	9.6	18.2	33.5	48.3	81.8	0.0

Source: (1) G. Germani, 1961.
(2) CEPAL-UNICEF, 1975.
(3) Iturriaga, 1958.
(4) Chaplin, 1968.
(5) C. Rama, 1962.

a/ For (2) data "other" have been distributed among classes proportionately to their size. This operations gives unreliable data when, as in Mexico 1960, 1970, Dominican Republic 1970, and El Salvador 1970, the size of this category is considerable. Especially for Mexico 1960 and Dominican Republic 1970, The data are grossly unreliable.

b/ The original stratification structure, drawn from (2) has been manipulated. In fact counting ejidatarios as landowners, it expanded the middle class to the unlikey percentage of 48.3.

Part II

STRATIFICATION AND CHANGE

The analysis of change in stratification is in my opinion, theoretically more stimulating and methodologically viable than the construction of stratification structures at one point in time. First, because the measurement of status is an arbitrary operation, whose reliability is dubious, because it does not depend on internal characteristics of the criterion, but on the predictive value of this variable on other social phenomena. On the contrary, time changes in stratification structures, constructed so to reduce measurement errors and incomparability, can fairly be construed to reflect changes in social and economic arrangements. Whereas the measurement of the size of classes is thus often incorrect, due to systematic measurement errors, the measurement of marginal changes is more reliable, if measurement errors are indeed systematic. There remains the problem of the sociological meaning of identical categories at two points in time, but it is preferable to leave this issue aside. Of course, the inference from changes in the measurement to changes in social structures can be made only if it is assumed that time changes are not due to changes in the classification procedure.

Second, while stratification structures do not go beyond description, causal analysis must be applied to the understanding of time changes. Thus this field is theoretically fertile.

In this section I intend to review the available literature and in the next I will attempt a preliminary analysis of my own. This review will be organized for clarity's sake on the distinction between the two major conceptual approaches to the phenomenon of change which I may call the discreet and the continuum approach. More attention will be dedicated to the latter.

/The discreet

The discreet approach

It is a common place observation that change is a slow, additive phenomenon. Yet, it is as common a belief that the sum - so to say - of small changes produces formidable revolutions. Quantity becomes quality. Due to the Janus-like nature of change, the social analyst may thus take two roads: he may skip over the accumulative changes, and focus on the construction of typologies of social structure that allegedly constitute the points of departure and arrival of changing societies; or he may concern himself with time-bound changes. For the first approach the time dimension is relatively unimportant, while it is crucial for the second. So the features of the passage from a feudal to a capitalist society are indifferent to the length of time it required; on the contrary, analysis of shorter-time changes take time - directly or intermediately - as independent variable.

The selection of one approach does not go unaccompanied: the former fits large historical period and requires historical, comparative analysis, usually at the expense of statistical manipulations. The latter favours shorter-time period, statistical analysis, and the whole methodological apparatus of empirical sciences.

The distinction between these two approaches, however, must not be overdrawn. The historian who selects the first approach would not, unless reckless, deny the validity of the postulate that change, applied to a small time segment is smooth and additive. He would vouch for the idea that typologies of social structures are, at best, abstractions from a continously changing reality. Similarly, who takes the other stanpoint would call true the statement that in the long run (how long it is unknown) the changes he analyses will bring to a totally different social order. The selection of either approach is more a matter of personal preference and of the goals of the investigation than of basic postulates on the nature of change.

Since historical analysis typical of the discreet approach seldom has a relevant bearing to the issue at hand, I will dedicate to it only a minor part of this work. Briefly, I will try to state its feature and its defects.

/Before entering

Before entering the heart of the matter, a clarificatory remark is in order. The construction of typologies is not the monopoly of the discreet approach. Change is discreet if the features of the extreme are irreconcilable. Marx's theory of change belongs to this category. It is continuum if the properties of the typologies are the same at different absolute values. For instance, the value of per capita income. Since this latter approach does not exist in pure forms, let us treat it in the category of discreet approach.

Such approach has been associated in Latin America and elsewhere with marxism and functionalism, although not all works that fall in this category are aware of their ideological cast. As to Marx, the basic concept of his theory of change is that of mode of production. The mode of production is the ideal typical set of social relations determined by the manner with which man relates with nature, that is the technological level. Marx defined three major modes of production: feudal, capitalist and communist; and various geographically specific ones: the Asiatic, the Germanic. In this framework, development is thus identified as the transition from a feudal to a capitalistic mode of production, and the changes in the structure of stratification are conceived of as the passage from the class structure of feudal society to that of a capitalist one. The basic relevant hypothesis is that change would reduce the size of the pre-capitalist stratification structure and expand that of the capitalist one, without significant changes between classes of each structure. Landlords, peasants, artisans, all belong to the feudal hierarchy and are doomed to disappear, to favour the industrial working class and the owners of the means of production. It derives that, at any point in time, between the extremes, any society presents a dual stratification structure (Moore, 1966: 353).

This idea is very interesting, especially if it is dutifully stressed that a dual stratification structure does not exclude the existence of relations between the substructures. To come back to Marx, however, it is possible to notice the lack of a degree of consistency in his description of class structures obtaining in each mode of

/production. Thus,

production. Thus, one would well agree to think of the stratification structure of Latin America as sharing features of both the stratification of feudal and that of a capitalistic type; but if it is not made clear which stratification corresponds to what type, the conceptualization becomes meaningless.

Furthermore, Latin American marxist scholars have denied that developing countries are feudal societies and have preferred considering them dependent, pre-capitalist or colonial. From the vantage point of this paper, the debate that has arisen on this issue has added to conceptual confusion without helping bridge the gap between speculation and theory which constitutes in my opinion the greatest shortcoming of marxist theory. Truly, pre-capitalist, feudal, colonial, or dependent societies are characterized by the predominance of agricultural over industrial occupations, by the survival of relations of personal dependence between employers and employees, and by the permanence of small artisanal shops. Thus development will likely shift people out of agriculture, and craftsmen to industry.

But beyond these general statements there is vacuum. What it the pace of change? Can we predict a country's class structure from a measurement of the distance it covered from the feudal to the capitalist type? Evidently not. In conclusion, however, the appraisal of Marx's contribution to the theory of change in stratification structures depends on the critic's epistemology. It is fair to argue that prediction may be unimportant in respect to interpretation and that Marx's theory - undeniably - has done much to interpret macrosocial change.

Introducing the time dimension into marxist theory we do obtain, however, one testable hypothesis, of special interest to this paper: that of the proletarization of independent owners.

In its crude form however this hypothesis has been proven wrong (Soares, 1971). Rangel Contla's (1970) attempt to back it with empirical data drawn from Mexican censuses of 1895, 1950 and 1960, and with untenable assumptions on the nature of stratification was by and large a failure. Even accepting his meaningless selection of ownership of the means of production as the indicator of rank, the data he musters

/do not

do not support his hypothesis. Though this failure cannot be considered the failure of marxist hypotehsis from proving true, it does indicate that it would deserve a better testing.

I cannot escape the impression however that, as useful as it may be as a conceptualization of change, or as a description of the gross features of developing and developed societies, the discreet approach fails where it should supply testable hypothesis. If it is too much to demand Marx himself for such hypothesis, marxist have not improved substantially Marx's thought on this score. He may be, thus, absolved of the charge of erring, but not of that of being excentric to the main-stream of research development.

Functionalism shares with marxism the opinion that change is best understood defining the ideal typical conditions of departure and arrival, and placing the society under analysis somewhere in the line of evolution from one to the other ideal type (Hoselitz, 1964; Parsons, 1965; Lerner, 1958). This opinion is based, in turn, on the assumptions that societies constitute self-adjusting systems, and that the correlations established among the items composing the system (such as permeability, stratification structure, socialization patterns, family structures, roles, etc.) are similar for all countries. Thus, if any item changes, all others will too with similar strength and direction cross-country.

I do not need to belabour this point. Let me only point to the theoretical and empirical material which testifies of the fallacy of this reasoning, and proceed with my review of the literature (Walton, 1972; Gusfield, 1967; Bendix, 1967).

In Latin America, functionalism has not enjoyed great success. The only adherent of value it can boast is certainly Germani (1961; 1971). The dichotomy of modern and traditional society he suggests is characterized by the following properties: the traditional society is relatively closed, it has a dichotomic image, it has two strata (estates or castes), it shows a high status crystallization, it presents obstacles to communication among strata, the inexistence of the middle class, low vertical and horizontal mobility, the pre-eminence of

/ascription over

ascription over achievement and of the ideology of inheritance over the ideology of mobility, and it is generally based on agricultural activity. Modern societies show the opposite features: they are open, they have a large middle class, a low status consistency, high mobility and are based on industrial activity.

Development, therefore, is that type of change undergone by a society from the traditional to the modern stage.

The validity of this statement is more dubious than it may seem at first sight. Shall we in fact call development only the process on which all listed structural changes occur in the foreseen direction, or can we take exceptions? Modern Japan is for instance a highly industrialized society where ascriptive traits are often more important than achieved ones. Furthermore, change in the structures listed above occurs at the same pace among themselves and among countries, or shall we not accept lags? Developing countries seem to have a bend for tertiarization far before there exists a surplus for the maintenance of a large unproductive labour force. Rather than a line between the two poles, development is thus better equated with a tangle of broken segments sparsely distributed around the line of evolution. The amount of information lost by arbitrarily drawing a single line is so great that it is better, in my opinion, to focus on the segments.

Of course, this point is part of a more articulated argument that could be levelled against frameworks, such as functionalism, which accept the postulates of discreet change and systematic analysis. The first horn of the argument could be that single societies may be construed as systems, but also that by no means the intercorrelations among the parts of the system are the same for all countries. The functionalist approach takes it mistakenly for granted. The second would be that it is methodologically incorrect to conceive of change as compressed within large periods of stasis (Popper, 1957). The debate on this latter point is still alive, and it is advisable not to overstate the case.

/In any

In any event, it is accurate to state that no testable hypothesis came out of the functionlist manufacture. Even Germani (1961), in his rightly famous work does not employ to any relevant degree his conceptualization of development, preferring to analyse his data as if change were a continuous process.

The Continuum Approach

In Latin America the continuous approach has been almost entirely focussed on the middle class. Specifically on the relation established between the growth of the less and economic development. Our attention will be devoted to this device in the first part of this section. In the last I will briefly introduce the question of development and marginality.

Moore (1961), Gibbs and Browning (1966) and Parsons (1965) emphasize that development is likely to increase the degree of division of labour, thus creating new skill-specific occupations; but fail to state whether and how this distribution of population would affect stratification in a relevant fashion. Later Moore (1966) identifies five processes that affect occupational structures: market expansion, sectoral relocation, specialization, up-grading and bureaucratization; but still fails to state testable hypothesis on changes in the hierarchical arrangements of occupation.

More to the point Costa Pinto (1956; 1959) lists eight factors he assumes related to development which allegedly affect the size of the middle class: industrialization, urbanization, bureaucratization, inflation, internal migration, international migration, education and secularization. For each of these heterogeneous factors, he suggests a possible relation with stratification. Though some intervening mechanisms seem to me unclear, let me present his argument. Industrialization calls for an increase in the proportion of industrial and non-manual service activities, at the expense of agricultural occupations. The relative changes between non-manual services and industrial jobs appear, as he states, to privilege the former, thus increasing relatively the size of the middle class. Inflation, reducing

/the real

the real incomes of fixed income earners, which are to a great extent members of the middle class, reduces its size. Education, urbanization, migration, and secularization, all work to expand the middle class, although why they should, is unclear to me.

Alba (1961) and Agulla (1963) - the first with reference to the continent, and the second only to Cordoba - select from all of Costa Pinto's factors, industrialization. Whetten (1963) referring to Mexico adds agrarian reform and expansion of state activities to the list of Costa Pinto, on the grounds that the first process reduces the size of the upper agrarian class, and enlarges the middle, while the second opens lower middle class occupations. Similar argument is put forward by Sanchez Crespo (1963).

About those works it may be stated that without the support of empirical material, these hypotheses are but vague statements of trends, whose likelihood is inferred intuitively, or from a supposed similarity of the processes of change in developing nations with those of the now developed ones. The logical structure of their argument is deductive (if industry than industrial workers) rather than inductive, and their selection of causes is arbitrary. The history of Latin America, if any, has demonstrated that the process of late-late development differs considerably from the early examples.

The need for empirical foundation of these hypotheses on changes in stratification was felt and to a degree satisfied by the rightly famous work of Germani (1961), and later, by Cardoso and Reyna (1968), Reyna (1970), Soares (1971), Heintz (1970), Lira, Filgueira (1975a), Muñoz (1973), and de Oliveira (1973).

The research designs of these works are as different as are approaches to change: cross-sectional analysis, time-series analysis, cohort analysis. The greatest majority of these works opt however for cross-sectional analysis, with the employment of time-series for illustrative purposes, while the last two propose to employ cohort analysis. It is not this the right place to evaluate the merits of the three approaches. Let me only remind the reader that the first

/and the

and the third cannot be taken - without making restrictive assumptions - to indicate causality. In any event, since the greatest majority of the data at our disposal are cross-sectional we have to make the most of them.

Germani (1961) was the first to my knowledge who indicated the possibility of employing statistical analysis to measure the relation of selected indicators of development (size of secondary and tertiary sectors, urbanism, literacy, industrialization, union membership, voting) with the size of the middle class. Had he applied a simple regression analysis, he would have obtained the following zero-order correlation coefficients with size of the middle and upper class: .87 for percentage of working population in secondary and tertiary sectors; .87 with urbanism; .85 with literacy. Soares (1966) computed in fact these statistics, obtaining only slightly different results. Similar statistical analysis has given the following results (table 2).

As Filgueira (1975a) correctly notices, these statistical measures indicate, first the existence of a relationship between indicators of economic growth and size of the middle class; and, second that industrialization fares poorly respect to other factors, such as urbanism, education, and literacy which are more closely related to social modernization than economic growth.

The finding of statistical correlation between development and the size of the middle class, however, has not improved our knowledge of the phenomenon. Eventually, it has pointed out that there exist regularities in need of explanation. Although the statistical techniques employed do not allow to make conclusive inferences on the relative importance of factors, there is ground to suspect that industrialization and per capita income fare poorly with respect to other factors, such as urbanization, or education, or literacy. Why is it so? What mechanisms intervene between independent causes and the size of the middle class?

/Table 2

Table 2

SELECTED STATISTICAL CORRELATIONS OF SOME INDICATORS WITH THE SIZE OF THE MIDDLE CLASS

	per capita					
	urban-ization	edu-cation	income	industrial-ization	literacy	develop-ment
Soares (r)	.86	-	-	.86	.86	-
Heintz ♂	.90	.96	.96	.27	-	-
Lira ♀	.34	.43	-	-	-	.39
Lira ♀	.93	.75	-	-	-	.98
Filgueira	.93	.78	.87	.64	-	.94
Maldonado	-	-	-	-	-	.90
Araya (Sp. t.)	-	-	-	-	-	-
Reyna ♀	.85	.79	.60	-	-	-
Elizalde ♂	.46	.46	-	-	-	-
Torales ♂	.21	.38	.30	-	-	-
Perea	.53	.54	.82	-	-	-
Lira ♀	.63	.72	-	-	-	-
Lira ♀	.84	.85	-	-	-	-
Lira ♀	-	.80	-	-	-	-

Source: Filgueira 1975 a.

/The more

The more recent literature has tried to tackle these issues, and put forward some interesting hypotheses. Filgueira (1975a) notices that differences in the degree of statistical correlation among factors in a cross-section may hide differences in the chronological sequence in which these factors operate. Rather than asking which factors affect most, better is to ask which affects first. Thus, the author hypothesizes that development may be divided into three stages: in the first the size of the middle calss is more strongly related with per capita income; in the second with urbanization, and in the third with education.

Although the inference from cross-sectional data is, admittedly, weak, the hypothesis is very interesting and deserves further testing.

The second valuable hypothesis defended by di Tella (1962; 1966) states that the relation between development - defined as economic growth - and the size of the middle class is curvilinear. Specifically, that the middle class, at the beginning of the process of development, decreases, due to the disappearance of small artisanal shops, to increase later in connexion with the expansion of services.

Though interesting, this hypothesis is not empirically well founded, because the author used subnational units. Selective internal migration, intervened in the process to such an extent, that inferences on the size of the middle class are unwarranted (Urzua, 1969). Not only the size of the middle class has been related with macro-economic changes. Another theme of interest in the area under analysis has been constituted by the relation existing between such changes and the growth of marginal masses.

On the issue of industrialization and marginality, Soares (1972), Cardoso and Reyna (1968) deserves particular attention. Without significantly disagreeing with the hypothesis of development and middle class, they emphasize one aspect of the process of industrialization in Latin America that differentiates it from earlier development processes While industrialization in developed countries meant first the transfer of individuals to the secondary sector, and only later - once a high degree of productivity had been achieved - to the tertiary, the process

/was somehow

was somehow short circuited in Latin America, producing a movement directly from agricultural to the tertiary sector, usually with high unemployment rates (Bonilla, 1964).

The new urbanites, however would not enter in the tertiary sector in its formal institutions, as in the shady, shifty, informal occupations, often hiding underemployment. The growth of these groups, called marginal, is supposedly a by-product of development. Thus, economic changes taken under this label would produce two contemporary changes in the stratification structure; the growth of the middle class and the growth of the "marginals".

The failure to raise these issues of the relative speed of change of the two classes and the empirical foundation of the hypothesis, weakens however the relevance of the hypothesis. The reason for this failure was probably that the marginals escape occupational classificatior They would probably fall in the category of unemployed, and in that of the lower class employed in the tertiary sector, but neither classification is entirely correct. Other indicators with the exception of income (such as unionization) (Delgado, 1971), are as difficult to measure and may be disregarded.

In connexion with the appeal exercised by the idea of informal sector a concept very similar to that of marginality there has been a considerable work on the way to identify it with available census data, and income has been suggested as an indicator of informality. If this is correct, then there is no doubt that development increases marginality. Income household surveys do indicate in fact a trend towards the relative worsening of the position of lower income brackets. But it is incorrect to accept such indicator, because the specific connotation of marginality - as distinct from poverty - would be lost.

The hypothesis does not fare well if we take as indicator of marginality the size of the lower class employed in the tertiary sector. Filgueira (1975a) in fact, notices that the speed of change from 1960 to 1970 of such category is similar to, or smaller than that of industrial workers. Subtracting the percentual growth of the latter

/Table 3

Table 3

THE GROWTH OF WAGE LABOUR IN SECONDARY SECTOR AND OF THE SELF-EMPLOYED IN THE TERTIARY

	Argentina	Brazil	Chile	Costa Rica	El Salvador	Guatemala	Mexico	Panama	Paraguay	Dominican Republic	Venezuela	
1. Wage labour sec. sector	1.0	-0.6	-0.3	7.1	-1.5	1.7	.2	5.9	1.8	-2.7	3.2	
2. Self-employed tertiary	.3	1.0	- .2	0	- .2	0	1.1	.6	.3	- .4	.5	
1 - 2	.7	-1.6	- .1	7.1	-1.3	1.7	- .9	5.3	1.5	-2.3	2.7	$\Sigma = 12.8$

/over the

over the former, we obtain the following results (see table 3). It appears that no clear pattern exist: but also that, if we are forced to take a side, in the majority of countries whose data are available, the industrial working class has increased faster than the lower tertiary.

Conclusion

In summary the literature presents four principal hypothesis. They can be stated as follows:

1. The higher the industrialization, the urbanization, the education, the larger the middle class.
2. "Social" changes (urbanization, education, literacy) affect the size of the middle class more than economic ones (industrialization, growth in CNP per capita).
3. Industrialization and size of the middle class are curvilinearly related: for lower values of industrialization, marginal changes in industrialization are inversely related with size of the middle class; for higher values, they are positively related.
4. Independent factors affect the size of the middle class in chronological fashion: per capita income first, urbanization second, and education third.

/Part III

Part III

EMPIRICAL TESTING

The conclusion of the last chapter brought finally our attention on a number of hypotheses. It is thus necessary at this point to begin an original research. In this chapter, in fact, I will submit these hypotheses to empirical testing; the data on occupational stratification of countries in 1960 and 1970 which have been produced in connexion with the Occupational Stratification and Social Mobility Project, and the data from Germani's research will allow me to undertake such an enterprise.

Before entering the heart of the matter, however, it is necessary to make an introductory remark: these hypotheses fail to explain the relationship empirically found. They are not hypotheses, but generalizations. Not only is this failure apparent with regard to the issue of relative importance - which is secondary - but also to the central issue of the relation itself; why should urbanization, or education, or industrialization be related with the size of the middle class?

The failure to supply an explanation to the generalizations sheds doubts on the very meaning of the statistical association. In fact, indicators of development (be they social or economic) are usually highly intercorrelated. This certainly occurs in our sample. Then, why did the authors select of all indicators only a few? Probably it may be answered to this question that their selection was guided by their belief in the importance of these variables respect to existing alternatives. But if no hypothesis is stated on the mechanisms relating the causes to the effects (change in the size of the middle class) the reader is entirely in his right to consider these relations as spurious. These findings, therefore, lose utility for the growth of science as well as for the implementation of public policies.

In conclusion, the hypotheses are theoretically weak. As I anticipated, I will dedicate this section to the verification of the validity of the generalizations. The next to the theoretical analysis of the findings.

/Statistical analysis

Statistical analysis

In summary the hypothesis stated (1) the existence of a relation between urbanization, spread of primary education, income per capita, industrialization, and the size of the middle class; (2) the greater relative importance of the first two over the last; (3) the greater relative importance of the first in later stages of development, while their weakness in the earlier stages; (4) the curvilinearity of the growth of the middle class.

For each hypothesis, it is necessary to construct one research design, and devise different measures. For the first correlation coefficients will do; for the second and third regression and path coefficients, applied either to the whole samples or to subsamples; for the first, regression on marginal changes.

Before applying these techniques, however, it is first necessary to define the independent variables. As the hypotheses suggest, I have introduced the following variables: (see Annex)

Symbol	Concept	Indicator	Source
URBA	urbanization	Percentage of the population in cities of more than 20,000 inhabitants	CELADE
INDU	industrialization	Percentage of the GNP accounted for by manufactures	CEPAL
PIBX	gross domestic product	Gross domestic per capita product at 1970 US$	CEPAL
PINX	industrial products per capita	Gross industrial product per capita at 1970 US$	CEPAL
INPR	spread of primary education	Percentage of the population of more than 15 years that has at least completed primary education	CEPAL
ANAF	literacy	Percentage of the population of more than 15 years that is literate	CEPAL
BURO	bureaucratization	Percentage of the GNP accounted for by administration and defense	CEPAL
CMED	size of the middle class	Percentage of the PEA that has a middle class occupation	CEPAL

/A few

A few remarks are necessary on these indicators:

(1) They can be grouped, as the hypotheses implicitly suggested, in the two large categories of social and economic changes: industrialization, per capita product, per capita industrial product, indicate economic changes, while urbanization, literacy, spread of primary education refer to social ones. Using an established terminology, the first three indicate economic growth, while the last modernization.

(2) For industrialization, I have introduced two indicators: the first measures the proportion of the GNP accounted for by manufacturing activity; the second, the per capita industrial product. Since it is possible that very poor countries show a similar distribution of the national product as the rich ones, it is my conviction that the second indicates better the industrial development of a country. However, the first indicator is somewhat a copy of GNP per capita, with which it has a 0.93 correlation coefficient. Unfortunately, since the hypothesis under consideration do not state what is meant by industrialization, there is no solution to the dilemma. Thus I propose to introduce both indicators, to eliminate one when the analysis will require.

(3) One new indicator bureaucratization has been introduced. With it I will attempt to give a preliminary test to the hypothesis that there is a relation between size of the middle class and size of the public sector, measured by the percentage of the GNP accounted for by administration and defense. Obviously, it would have been better to select the size of public employment as the indicator, but such data were not available for most of the countries, since OMUECE did not ask for such a table, and the censuses rarely separated services rendered by privates from services rendered by the state.

/(4) As

(4) As it commonly occurs with investigations which employ aggregate data analysis, from various sources, for different uses and times, the problem of comparability arises. In our situation there is no possibility of verifying the reliability of individual observations. It is however, possible to state with a degree of security that measures are roughly comparable. In fact, for each datum, we have employed the same source, and the compilers have tried to standardize the different categories of national statistics into a coherent whole.

The sample I will analyse is composed of 38 cases: the 14 for 1950 have been taken from Germani's earlier quoted analysis of occupational stratification; the 13 for 1960 and 11 for 1970 have been drawn from the UNICEF/CEPAL project on stratification and mobility.

Having pointed out in many an instance the weaknesses of the data at my disposal, only one more call to caution is in order. It is known that significance tests require, among others, the assumption that cases have been selected independently of one another (Blalock, 1960: 303). The same assumption - that error terms are uncorrelated - is also basic to regression analysis and the definition of path coefficients. The sample does not entirely satisfy this requirement, because it contains observations of the same cases at different points in time, 1950, 1960, and 1970. Thus, it is highly likely that error terms are correlated, especially if not all variation is explained through the model that will be proposed. It has been necessary, therefore, to make tests of autocorrelation.

Let us now examine each hypothesis:

/Hypothesis 1.

Hypothesis 1. There exists a correlation between selected socio-economic indicators and the size of the middle class

	CMED	BURO	PIBX	PINX	URBA	ANAF	INPR
BURO	.38						
PIBX	.89	.33					
PINX	.87	.25	.93				
URBA	.93	.38	.92	.93			
ANAF	.85	.17	.72	.68	.77		
INPR	.82	.14	.69	.65	.73	.98	
INDU	.71	.15	.85	.85	.79	.63	.60

A look at the correlation matrix reveals two major facts:

(a) That all variables are strongly related with size of the middle class. The lowest coefficient is that of bureaucratization, which is, in any event, significant at the .05 level. In this sense, the data at my disposal amply confirm the hypothesis, as earlier empirical analyses had made us expect. The strength of the correlations also follows the expected pattern, showing urbanization the most important. But, as was said earlier, it is impossible to infer from this measure to relative importance.

(b) Independent variables are also strongly related with one another. With the exception of bureaucratization, all correlation coefficients are significant at the .01 level. Some are so high as to suggest the identity of the indicators. Coefficients above .9 in fact can be obtained from the same phenomenon by different measures accounting for measurement errors. Multicollinearity has negative effects as is known, because partial correlations of collinear variables are very unstable. They are because the numerator and the denominator of the fraction which gives partial correlations from zero-order correlation coefficients is close to zero. Thus, a difference of few decimals may change greatly the result. However, there is no other solution than the elimination of one of the collinear variables.

/Hypothesis 2.

Hypothesis 2. Urbanization is the most important variable in the explanation of size of the middle class

The concept of relative importance must be taken to scrutiny. As Blalock (1967) well puts it, importance may refer to two different concepts, and is measured in different fashions. It first denotates the strength of the statistical relation existing between the variables, and is measured by correlation coefficient. This, if A has a higher correlation coefficients with C than B, it is more important than B.

The second manner to define importance is based on the causal and not statistical relation existing between variables. If A causes B which in turn causes C, A is more important than B, although the statistical correlation may have (as it usually has in these circumstances) the opposite sign.

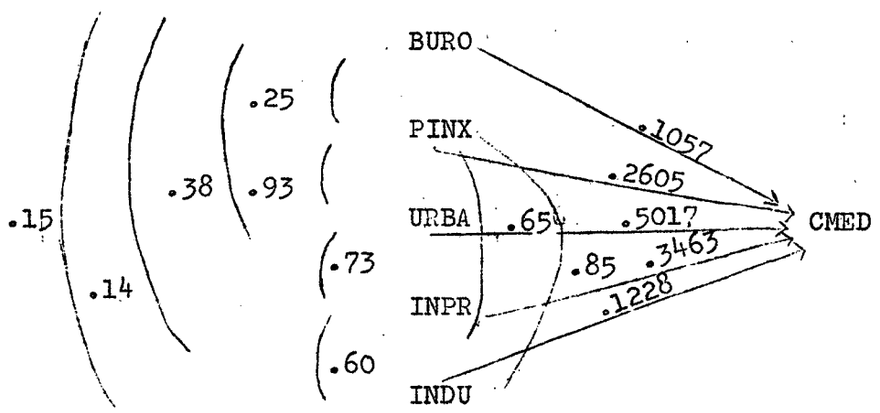
It is my opinion that the second criterion is more useful than the first. Statistical measures are, as often is said, blind by themselves. But it is also clear to me that relative importance in the works proposing the hypothesis meant statistical importance. Thus, I will devout my attention here to the statistical importance of independent variables.

The statistical technique that has been deployed in defence of the hypothesis on the relative importance of independent variables are not suited for the purpose. Zero-order correlation coefficients measure the covariance of the dependent and independent variable, without controlling for the effects of the others. Thus, a number of independent variables which are highly intercorrelated will tipically show a high correlation coefficient with the dependent variable as well, although their independent effects may be small.

In conclusion, other techniques are necessary to draw inferences on the relative importance of independent causes. In sociology, these techniques range from partial correlation to path coefficients, to multiple regression coefficients.

/In connexion

In connexion with the analysis of statistical importance, however, one observation is in order. If we are measuring the importance of variables which are linearly related, it is likely that they split, so to say, the amount of unexplained variation of the dependent variables, thus reducing their independent contribution. The picture that would therefore be obtained adding too many variables to the model could be greatly unrealistic. This circumstance is well illustrated by the measure of relative importance when all the variables listed above have been introduced: bureaucratization, GNP per capita, industrial product per capita, literacy, spread of primary education, industrialization. If we standardize, as is commonly done, (Blalock, 1968) the multiple regression coefficients of the equation containing all those variables we obtain that they rank as follows: urbanization, industrial product per capita, literacy, industrialization, GNP per capita, bureaucratization and spread of primary education. Education, that was in earlier works considered among the most important variables, ranks last in this analysis. The reason, of course, lies in the fact that the correlation between literacy and education is practically perfect (.979). Therefore, the independent effects of one or almost entirely absorbed by the other. Similarly act industrial per capita product and GNP per capita. It is, in conclusion, better, to eliminate from the list of independent variables one of those which are highly related: PIBX and PINX, literacy and education. The remaining variables (bureaucratization, industrial product per capita, education, urbanization and industrialization) can be thought of as relating to the size of the middle class in the following way:



/The values

The values above the arrows are the path coefficients for the graph. In this case (where no causal relation is postulated among the exogenous variables), the path coefficients coincide with the β (beta-weights), the standardized regression coefficients. It may be useful to recall that they measure the percentage of variation in the residual variance of the dependent variable explained by the unit of change in the independent variable.

From the above graphic it is possible to notice two important things: first, that the order of importance of independent variables is substantially different from that stated earlier: urbanization is still related more than any other variable, but followed by spread of primary education, per capita industrial product, bureaucratization and industrialization. Second, the unexpected fact that industrialization is negatively related with the size of the middle class. This, however, may be due to the fact that the first measure of industrialization (per capita industrial product) explains all of the variation in the size of the middle class. In any event, the path coefficient is very small, and not significant.

If the direct effects of independent variables on the size of the middle class are ranked as above, the indirect effects (defined as the difference between the zero-order correlation coefficient and the path coefficient) are differently distributed: in fact, the total indirect effect of bureaucratization (defined as the effect of the independent variable on the dependent one through its connexion with other independent variables) is .28, that of per capita industrial product .61; that of urbanization .42; of primary education .47; of industrialization .83. This makes us suspect that the higher path coefficient of urbanization and primary education hides their intermediate position between industrialization and size of the middle class. In other words, the causal links should go from economic growth through modernization to the size of the middle class.

/It is

It is hard to submit this suspicion to a test of validity. The best way is, of course, to approach as much as possible the experimental research design. In our circumstance it is impossible to manipulate the independent variable. However, it is possible to analyse the relation existing among marginal changes in the dependent and independent variables. Causality can be more easily inferred from this design. Furthermore, it will be possible to verify if the pattern of change of the rise of the middle class is linear or curvilenear.

Hypothesis 3. The pattern of change of the middle class is curvilinear

I therefore applied a simple correlation analysis to marginal changes (from 1950 to 1960 and from 1960 to 1970), for the case on which we had the needed observations of the dependent and independent variables. I have furthermore, introduced a new variable; the absolute value of the middle class at the time preceding the change. This was done to test the curvilinearity of the change in the size of the middle class. In fact, if the relation were linear, the correlation coefficient of absolute value and marginal change should be insignificant.

The correlation matrix is the following:

	CMED	BURO	PIBX	PINX	URBA	ANAF	INPR	CMEA
BURO	-.23							
PIBX	-.04	-.11						
PINX	.06	-.43	.86					
URBA	.18	-.13	.36	.45				
ANAF	.19	.16	.08	-.27	-.19			
INPR	-.20	-.13	-.13	-.17	-.23	.74		
CMEA	-.26	-.28	.60	.75	.37	-.61	-.33	
INDU	.18	-.27	.44	.53	.10	.19	.13	.17

/These data

These data are admittedly disappointing. Not only have the correlation coefficients between changes in size of the middle class and changes in the independent variables been usually insignificant (they vary from .04 to .26), but the directions of the relationships contradict expectations. For instance, bureaucratization, GNP per capita, and primary education are negatively related with the size of the middle class.

From the analysis of the correlation matrix, however, two general considerations emerge:

1. A longitudinal analysis of stratification structures in Latin America requires methodologies and, perhaps, independent variables different from those introduced in the model. The negative sign of bureaucratization and primary education, in presence of their positive contribution in the cross-sectional analysis makes me suspect that they are not causally related with the size of the middle class.

Perhaps, however, not the variables, but the design was incorrect. It is entirely possible that the effects of independent variables are felt, on the size of the middle class, beyond a span of some years. Thus, the correlation should be tested not among the independent variables and the dependent one at the same point in time, but with a time lag of ten or twenty years. It is a pity that the cases which could allow us to conduct such an analysis (those for which we have three observations) are so few as to make any testing impossible.

2. The negative sign of the two variables listed above may also indicate that their speed of change is different from that of the middle class; namely, that their rate of growth reduces faster than that of the middle class, when all causes of change are similarly at work.

3. One interesting finding, however, in this heap of guessing, is that the growth rate of middle class decreases continuously. In fact, there is a negative (and relatively strong) correlation between the absolute value of the middle class (CMEA) and its growth. In

/other words,

other words, the path of change of the middle class is not linear, but curvilinear, with the concavity towards the X axis. This suggests that at high levels of middle class, a sort of stagnation is produced and a limit reached beyond which only insignificant changes are likely to occur.

Hypothesis 4. Independent factors affect the size of the middle class in chronological fashion, namely, per capita income first, urbanization second, and education, third.

Upon closer look, this hypothesis appears to be a variant of the relative importance hypothesis. Since it cannot mean that in each stage of development a cause acts entirely alone, it must be understood that at each stage one cause affects the rise of the middle class more than the others. Therefore, the hypothesis must be restated as follows: in the first stage of development, the effects of changes in per capita income on the size of the middle class are greater than the effects of other independent variables; in the second stage, urbanization, and in the third education take over per capita income.

It must be stressed that this hypothesis is very interesting, since it is the closer the literature has gotten to theory. If we are able to identify a chronological order in the effects of independent variables, we can better understand the reason for these relations, which, as I stated, is the goal of investigation. Therefore, regardless of the validity of the hypothesis on the chronological order of causes, its suggestion to look for such order, whatever it may be, is very valuable. Given that the restated hypothesis is but a hypothesis on the relative importance of variables, I suggest to employ the same statistical techniques that have been used for this issue in relation to the whole sample. In the present situation, however, it is necessary to divide the sample into a number of subsamples and apply the techniques suggested to each.

Since the hypothesis refers to three stages, it would have been necessary, for its thorough testing, to define three subsamples. But, given the small number of cases, it is preferable to construct only two subgroups, so that significance tests may be meaningful.

/The method

The method for the construction of two subsamples is usually based on the identification of the value of the independent variable (in this case a development) for which the variation within category of the dependent variable (middle class) is minimized with respect to the variation between categories. This procedure, however, is very complex and of dubious utility in a preliminary study as the present one.

Thus, I have taken an easier route: I have divided the sample by analysing the frequency distribution of size of the middle class. It is evident that there exists a gap between 15.7 (Paraguay 1970) and; 18.2 (Venezuela 1950), while cases are distributed rather regularly above and below these limits. I have therefore drawn the cutting point there. Luckily, the sample resulted divided into two equal subsamples of 19 cases each.

To these samples I have applied, as anticipated, a correlation and regression analysis. The correlations coefficient with CMED are the following:

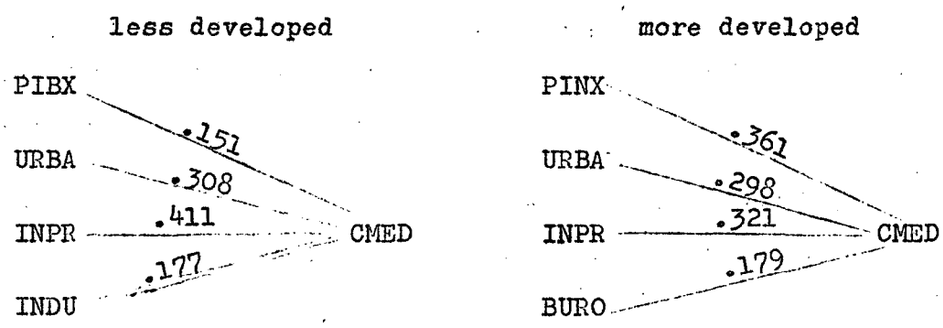
	less developed	more developed
BURO	.23	.19
PIBX	.64	.78
PINX	.77	.84
URBA	.78	.87
ANAF	-.87	-.70
INPR	.80	.70
INDU	.66	.68

One immediately notices that more developed nations differ from less developed ones rather significantly as to the coefficients of correlation of GNP per capita, industrial product, urbanization on one side, and education and literacy on the other. The group of the first three indicators, bureaucratization and industrialization do not differ significantly from one sample to the next and may be left aside.

/These results

These results suggest the greater importance of education for the growth of the middle class in less developed countries.

Further support for this hypothesis is supplied by the measurement of path coefficients. If we select the four variables which supply the best solution to the multiple regression equations for each subsample, we obtain the following measures of path:



It is interesting that the order of importance of causal variables and the variables themselves introduced in the solution differ rather considerably.

This confirms the hypothesis that level of development interferes in the relation between independent variables and the size of the middle class. It, however, belies the hypothesis that economic change is the most important factor in the growth of the middle class in the lower levels of development. The data support the opposite hypothesis: that education at that stage of development has greater direct effect on the size of the middle class than all other variables.

Conversely, economic factors (PIBX, PINX, INDU) are more important at higher levels of development. Two major interpretations of this finding can be submitted:

1. Di Tella's hypothesis that the impact of growth reduces at first the rise of the middle class by decreasing the proportion of self-employed workers is correct. It is not correct however to state that for this reason the middle class decreases, because economic growth is not the only factor at work. The other causes, in fact affect the size of the middle class in the prestated direction; and, according to earlier findings, their resultant effect.

/2. At

2. At lower levels, growth in per capita income does not require any fundamental change in the productive structure of the economy, therefore, it does not produce distortions in the stratification structure.

In other words, the supply of skilled individuals determines the size of the middle class to a greater extent in the less developed than in the more developed countries. In the latter, on the contrary, the mechanisms of self-sustaining growth act to increase the size of the middle class by affecting the demand for middle class occupations.

Still there remains much to explain, but these may constitute the ground on which to build further.

Conclusions

The conclusion of this short section cannot be but a restatement of the most important findings, and a call for theoretical efforts. In summary, it has been found that the socio-economic indicators suggested in the hypotheses quoted earlier are indeed statistically correlated with the size of the middle class. That the direct effects of urbanization and spread of primary education on the size of the middle class are greater than the direct effects of economic indicators. However, it was suggested that this measure may hide the fact that the causal importance of these independent variables is different from their statistical importance, namely that economic growth may be causally prior to modernization. In any event, no causal order may be proved statistically, and, in fact, so we will see in the next section.

It was proved, however, that the pattern of change in the size of the middle class was not linear, as was assumed for simplicity's sake, but curvilinear. Countries which show a very small middle class are more likely than countries that already possess a large one, to experience important changes in their stratification structure.

Finally, it was found that independent factors affect the size of the middle class in chronological order. Of course, since it was impossible to apply to our sample a longitudinal analysis for periods longer than twenty years, the chronological order of effects was inferred from static measures of attained development. The order that was discovered saw the economic factors less important in the first stage of development and more important later.

/Part IV

Part IV

THEORETICAL CONCLUSIONS

The conclusion of the last chapter put in evidence the major stumbling block in the area of occupational stratification and social mobility in Latin America: that some important generalization - empirically verified - do not find appropriate explanations. It would not be too disappointing if only the more sophisticated hypotheses - that for instance of the chronological order of independent causes - were in this situation. Unfortunately, however, even the plainest one, which simply states the existence of a relationship between socio-economic changes and the size of the middle class has equally remained unexplained.

Do urbanization, industrialization, economic growth, and spread of primary education cause the middle class to increase? If yes, why is it so? In this chapter, I intend to suggest some interpretations which appear to me justified by the few available information of the phenomena that have been described in earlier pages.

This aim may seem too modest: theory and empirical testing, not interpretations and suggestions are requested of social scientists. This modesty, however, is justified by the relative backwardness of the field of analysis, and by the nature of the data at my disposal. The field appears stagnant: its major hypotheses were already stated in the 1950s, and the relevant empirical material organized in the 1960s. Some recent work (Oliveira, 1973; Muñoz, 1973; Balan, et al., 1968) do constitute a major improvement in the field of labour allocation, but their contribution to stratification research, remains unfortunately, very limited. When trying to make a causal analysis of the phenomena at hand, therefore, we are entirely on our own.

As to the nature of the data, it is necessary to notice first that the informations are inexistent or unreliable on phenomena of great importance to the construction of a theory of economic change and stratification (unemployment, underemployment, income, size of

/administration and

administration and defence, etc.); second, that the indicators of macro-social and macro-economic change we have constructed are very poor and rigid measures of intricate and flexible phenomena. They do not account for the complexity of social reality. The same score on urbanization census constitute a different social phenomenon in different countries.

There is no need to rub in this point: it, however, may justify the modesty of my present effort, that, in conclusion, consists in suggesting explanations for the relation existing between economic growth, industrialization, urbanization, and spread of primary education, and the middle class.

The organization of this section will be as follows: first I will propose a general framework within which individual hypotheses may be usefully analysed. Then I will enter each hypothesis; on economic growth, and industrialization first and urbanization and education, second.

General considerations

It seems to me that, before asking why, say urbanization, increases the size of the middle class, it is necessary to ask why macro-social and economic changes may affect the stratification structure at all. What is, in other words, the connecting link between changes in stratification and changes in the social organization at large?

This question, in economics, finds a single answer: the labour market in fact, transforms the needs of the productive structure of the economy into social change.

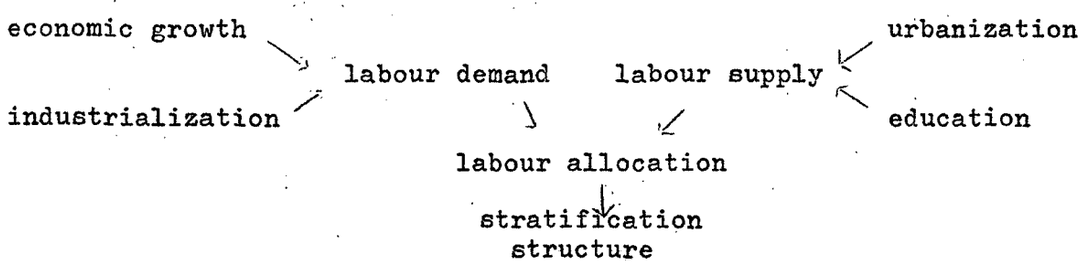
This approach is akin to the one I have taken. In fact, since occupation is (with occupational category) the major indicator of status, labour allocation at the local level and stratification are related phenomena. Thus the link is constituted by the labour market: changes in the economic structure are translated into changes in stratification through shifts in the demand for certain status-specific occupations.

/Moore (1968)

Moore (1968) presents this conceptual scheme in clear terms: first he states that the demand for labour by industry, occupation, location and employer may "be viewed in economic terms as the resultant of two other classes of variables: the demand for goods and services, and the relevant factor proportions of capital, labour, and, especially, the state of appropriate technology". And, second, that "...the supply of labour is affected not only by current demand, but also by past demographic behaviour of the relevant population". In summary, labour allocation (the actual distribution of labour by industry, occupation, occupational category, location, and obviously as a resultant of all these effects, by status) is determined by labour demand and supply. In turn, demand is affected by the properties of the productive system of the country or the area; the supply by the "past demographic behaviour of the relevant population".

Similarly, Browning and Oliveira (1973) described the process of allocation of the entry labour force as the resultant of a number of factors, among which the most important are the population structure at the national and local level and the existing productive structure.

The first determines the size and the demographic (lato sensu including educational and economic) characteristics of the labour supply; the second affects the size and characteristics of the real labour demand. Graphically, the scheme of relations looks as follows:



/Before entering

Before entering the discussion of the two causal linkages, one more remark is in order: I have stated that allocation and stratification are related phenomena. It must be kept in mind, however, that only one feature of labour at one point in time - status - is of concern to us: all other properties, such as age, sex, and, even education and income which have little to do with our definition of status have to be disregarded.

The narrowness of our focus has one fundamental consequence: that the causal linkages established on the basis of the theory of the labour market in economics must be re-evaluated. Upon this rethinking of the problem, it appears that the two causal linkages (from economic change to allocation and stratification, through demand, and from social changes to allocation and stratification through supply) have different theoretical status. In fact, while it is evident that, say the age and sex composition of the supply affect the age and sex composition of the labour force, it is not so evident how these or other properties of supply may affect the labour status distribution. In fact changes in occupational stratification require the creation or abolishment of class-specific positions. For instance, the growth of the middle class implies the more than proportional growth of middle class positions. How could changes in location, or in age or sex, or other demographic characteristics produce such growth? At this stage, I cannot answer this question negatively. I see, however, such answer to be less forthcoming than the interpretation of the first causal link. Before jumping to conclusions, however, let us discuss both causal linkages.

Change through demand: industrialization, economic growth and stratification

Economic growth, as it is well known, is made possible by, and provokes, far-reaching changes in the occupational and productive structure of an economy. Typically, agriculture loses jobs and importance in the composition of the Gross National Product. Industry and, especially, services, develop perhaps, as it has been suggested, because the productivity of these sectors on accout of the higher elasticity of demand for their commodities, is also higher.

/In any

In any event, different is the question we have to face here: why these changes have affected the class distribution of the labour force?

It seems to me that an answer to this question requires a reconceptualization of the issue: let us assume first that industries (ramas de actividad) within economies, and firms within industries have a consistently different stratification structure. This assumption seems correct at first sight, because industries have different levels of technological sophistication and require differently complex administrative services. Thus, they also have different patterns of status-specific labour demand, or, as I will also call this concept, middle-class content. Industries of high technological level will typically require skilled workers and middle-class personnel to a higher extent than less-technologically sophisticated ones.

Let us also assume that there is a relation between the changes in the level of production of an industry and the size of its labour demand. In other words, that industries expanding their production also expand their labour share.

If we accept both assumptions, the relation between changes in the productive structure and stratification may be stated as follows: changes in the industrial composition of the GNP produce changes in the industrial distribution of the labour force. Since industries have a different middle class content, movements into or out of them affect the size of the middle class by increasing or decreasing each industry's participation in the total labour force. For instance, let us say that agriculture has a lower middle class content than manufacturing industry. The transfer of labour from agriculture to industry produces a growth of the middle class.

Admittedly, this is a very simple model: the middle class content, in fact, appears at first sight to vary with the industry's share in the labour force. We know for instance, that members of the lower classes are more likely than members of the upper ones to move geographically and socially. Thus, the middle class content of

/job-losing

job-losing industries (as agriculture) tends to increase for the more than proportional dropout rate of the lower classes.

Furthermore, the existence of a mass of unemployed looking for jobs in better paying industries (such as manufacture) may produce a reduction of the middle class content of that industry's labour demand. In conclusion, since there are variables that affect the middle class content of industries, the relation of the industrial allocation of labour with stratification is weakened. In any event, whether industries show a different (and consistently so) stratification structure is an empirical question. The data at my disposal do not allow to either support it or reject it; I do not possess in fact the table needed to construct the industry's stratification structure: occupation by occupational category, by industry. Since, however, I do possess the occupational distribution of the labour force by industry, and the occupational category by industry, I have tried to estimate the stratification structure of industries by means of proportional interpolation: I have done this for Chile 1960 and 1970, and Paraguay 1960 and 1970. The result has been the following:

Table 4

OCCUPATIONAL STRATIFICATION OF THE LABOR FORCE BY INDUSTRY

Stratification / Country	Agriculture		Mining		Manufacturing		Construction		Energy		Commerce		Transportation		Other services	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
Chile																
1960	2.4	97.5	11.6	88.2	11.8	88.1	8.1	91.8	27.3	72.7	87.8	12.1	24.0	75.9	30.7	60.0
1970	5.4	93.2	13.0	84.6	19.8	76.7	13.1	84.5	39.2	58.1	79.6	17.4	26.6	70.2	33.2	57.1
Paraguay																
1960	2.9	97.1	16.2	83.5	7.2	92.6	5.7	94.0	36.7	62.7	94.4	5.3	21.7	78.1	33.4	48.8
1970	1.6	98.3	3.5	95.6	8.6	91.3	2.5	97.3	44.4	55.6	89.6	10.3	30.2	69.6	32.7	67.0

Source: CEPAL-UNICEF programme of tabulations.

Note: The percentages do not sum to 100 because the Others have been omitted.

/It is

It is possible to notice that some patterns emerge of the data: first, that industries have indeed a different stratificational composition of their labour force. Agriculture, for instance, has always a smaller middle class content than manufacturing and manufacturing than services. It also appears, however, that for commerce, this percentage is unaccountably high and that some differences existing between the two countries (in mining, for instance) and between years (the decrease in the middle class content of agriculture mining, and construction in Paraguay) are very odd.

These peculiarities of the data entitle us to think that either the information on the industrial allocation of the labour force, or our methods of estimation or both are not well reliable. In any event, it is not advisable to employ these data for empirical testing.

This situation is very unfortunate because, with better data, it could have been possible to verify the fitness to the data of the simple model presented above. I could have taken the 1960 stratification distribution, by industry, applied it to the 1970 data, and compare the size of the middle class obtained through this estimation with the observed one. Or, it would have been possible to attempt to predict the middle class content of industries on the basis of other variables such as capital intensity, total occupation, etc. The feasibility and utility of this approach have been suggested by Moore's quote at the beginning of this chapter, and by Spengler (1965); but unfortunately this suggestion has not been followed by empirical investigation.

Supply: urbanization, education and stratification

As I stated earlier, urbanization and education show the highest statistical correlation with size of the middle class. Soares (1971), Filgueira (1975a), Cardoso and Reyna (1968) have pointed to this phenomenon without, however, identifying satisfactorily its causes.

/In the

In the last section, moreover, I have pointed to the difficulties encountered in the process of understanding why supply (and thus, urbanization and education) affects the stratification dimension of the labour allocation.

The relation of changes in the quantity and quality of labour supply and the increase in the number of middle class positions is in fact far from evident. More self-evident would be in my opinion the opposite hypothesis that geographical mobility and educational improvement do not cause upward structural mobility.

As to urbanization, it is clear that geographical mobility affects sectoral mobility - because who leaves the countryside usually leaves also agriculture - but there is no reason to believe that the migrant's occupational status change significantly. As Thorbecke (1970) pointed out, "the traditional activities carried out in the tertiary sector have the same function in urban areas as the traditional agriculture in rural areas". Why should we expect the former to bestow higher status than the latter? A change in location should not then produce a change in status.

It could be answered to this remark that, since industrial and tertiary activities are concentrated in urban areas, the process of industrialization requires the transfer of labour force out of the countryside. Therefore, if industrialization affects stratification, so must urbanization. But this argument cannot explain the independent effects of urbanization on the size of the middle class. If any, it makes explicit that this relation is spurious.

The situation of education is very similar to this: it is possible, on the basis of what we know on industrialization, to understand the causal linkage that exists between this and education. In fact, the deepening and expanding of technological knowledge requires the creation of a body of operators of relatively high education. Thus, the spread of primary education

/may be

may be seen as a response to the needs of the growing industries, although to be sure other factors as well are at work: otherwise it would be impossible to explain why the supply is getting greater than the demand.

But how could the spread of education cause an increase in the number of available middle class positions? Economic development may be to some extent the result of the diffusion of education through the diffusion of the values of Protestant capitalism and need achievement, and through better professional training of entrepreneurs and businessmen. But this would explain the effects of education on the size of the middle class indirectly, through the effects of industrialization. If we want to understand how the spread of primary education may affect the size of the middle class directly, we cannot recur to this hipothesis.

There are, however, two reasonable explanations for the direct effects of supply on the stratification structure: let us analyse them in detail:

1. There are measurement errors in the definition of status which cause a systematic overvaluation of the status of urbanites and of educated persons; low white-collar occupations - typical of urban centres - may in fact be wrongly attributed to the middle class, while, in fact, deserving a low class status. Similarly for educated persons who, in order to avoid downgrading themselves if working in a lowly occupation, denounce a higher occupation. A trained engineer who is working as a chauffeur would probably tell the inquirer he is an engineer.

There is no way to compensate for this mistake. It would be necessary in fact, to know other indicators of status (income, for instance, or job characteristics) for each censed individual, which is, obviously impossible, but for the few censuses which contain a question on income.

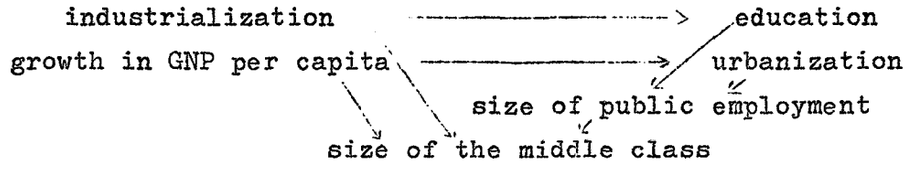
2. The supply of educated individuals and of unemployed urbanites creates middle class positions by compelling the state and, less easily, private entrepreneurs, to employ workers beyond necessity. The mass of unemployed concentrated in shanty towns around metropolis have

/been considered

been considered - perhaps incorrectly - to constitute a threat to the existing power structure. (Luiz Pereira, 1972) Unemployed or underemployed intellectuals similarly are "a problem in the underdeveloped countries which had a higher educational system for some length of time and are not expanding their governmental staff". (Shils, 1960:338)

The opening of avenues of vertical mobility in state and para-state organizations is thus perceived as capable of blunting the destabilizing potential of this mass. Thus, as the argument goes, urbanization and spread of primary education would create threat of political instability and, in turn, employment in state institutions. Some ground for this hypothesis has been supplied by the finding that the government production function is generally more labour-intensive than that of the private sector (Gandhi, 1975). Also it is generally true that more developed nations (those with the highest urbanization, and the highest educational achievement) are also those with greater public bureaucracy; but it is not possible to infer from this scanty information that the hypothesis is correct.

In conclusion, we are left with two reasonable hypotheses: (i) The relation between urbanization and the size of the middle class is due to measurement errors. Occupations allotting the same status are assigned to different classes according to whether they are rural or urban ones. (ii) The relation of urbanization and education and the size of the middle class is due to the expansion of the status's labour force in presence of a potentially threatening masses of urban and educated unemployed or underemployed. Graphically, the causal path would be as follows:



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/Annex

Annex

SOCIAL-ECONOMIC INDICATORS FOR SELECTED LATIN AMERICAN COUNTRIES, 1950, 1960, 1970

		INDU	BURO	PIBX	PINX	URBA	ANAF	INPR	CMED
Argentina	1947	22.95	13.08	824.90	195.4	51.5	13.0	84.4	35.9
	1960	25.92	11.95	921.92	243.2	58.2	8.7	89.0	36.8
	1970	29.90	9.32	1212.62	362.5	66.4	7.1	90.6	38.4
Brazil	1950	17.89	8.52	231.63	42.1	20.7	51.5	37.4	15.2
	1960	22.27	8.55	330.83	74.6	28.5	39.3	57.0	15.3
Bolivia	1950	12.36	5.14	231.29	28.7	19.7	63.3	32.7	7.6
Colombia	1951	13.66	6.70	370.77	50.1	21.8	38.5	58.0	21.9
Costa Rica	1950	11.53	5.91	343.61	39.7	20.8	21.2	80.6	22.3
	1963	13.06	11.17	509.18	66.8	25.3	14.3	82.7	22.1
	1973	16.45	11.06	728.95	119.9	35.2	10.2	88.0	24.1
Chile	1952	24.48	6.86	548.12	140.9	40.3	19.4	77.2	21.4
	1960	26.26	8.17	639.03	166.2	47.5	15.1	80.9	22.2
	1970	28.66	6.74	778.64	223.1	55.3	10.7	85.1	29.4
Ecuador	1950	16.35	7.24	258.67	42.9	17.7	43.7	54.0	10.5
	1962	15.83	7.86	314.32	50.4	26.4	30.5	66.3	15.0
Guatemala	1950	10.72	8.08	292.70	32.5	10.3	70.3	29.5	7.7
	1964	12.45	6.98	357.13	44.9	14.9	61.1	34.2	12.3
	1973	14.68	7.03	463.10	67.8	19.1	51.8	43.1	11.8
Haiti	1950	8.24	5.14	118.55	9.7	4.7	89.3	10.4	3.0
Honduras	1950	9.17	4.10	232.20	21.1	6.7	64.8	32.8	4.5
	1961	15.24	4.74	246.40	36.4	11.3	52.7	42.0	10.9
Mexico	1960	19.23	5.52	626.97	121.3	32.0	33.5	60.8	21.1
	1970	23.44	6.51	893.10	209.3	40.9	23.7	68.3	24.5
Nicaragua	1971	17.36	7.06	442.53	76.8	28.5	42.7	68.2	19.2

		INDU	BURO	PIBX	PINX	URBA	ANAF	INPR	CMED
Panama	1950	7.73	3.07	458.59	37.5	22.3	28.3	67.9	15.2
	1960	11.32	2.79	549.54	64.9	32.9	21.7	72.5	20.4
	1970	15.85	3.07	864.44	137.6	37.5	20.7	79.9	23.4
Paraguay	1950	16.16	3.88	305.22	49.2	15.4	31.8	66.5	14.2
	1962	15.30	4.16	316.93	52.2	15.9	25.5	79.3	14.3
	1972	17.29	5.68	368.26	63.5	17.7	19.2	84.4	15.7
Peru	1972	16.80	8.65	560.80	97.1	35.4	15.7	72.4	23.2
República	1960	15.90	9.95	287.68	43.2	18.0	34.2	64.5	13.6
Dominicana	1970	16.70	11.60	347.24	58.0	27.8	31.6	59.0	18.9
El Salvador	1950	12.90	7.34	265.14	34.2	12.5	57.7	35.8	10.5
	1961	14.44	8.84	322.21	47.3	17.0	49.2	43.4	12.2
	1971	17.97	8.78	402.54	72.4	19.1	40.5	53.3	13.6
Uruguay	1963	23.42	12.50	872.93	202.9	60.3	8.8	86.1	35.8
Venezuela	1950	6.97	21.26	653.97	55.4	32.0	48.8	48.0	18.2

Source: INDU: "Cálculo del producto Interno Bruto a costo de factores en dólares 1970 por habitante, por países y para América Latina, período 1950-1974". Statistics Division, National Accounts, ECLA, 24 March 1975.

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