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Social change, social mobility and education.

By

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Attached is a long manuscript on the subject of SOCIAL CHANGE, SOCIAL MOBILITY AND EDUCATION. From it I would like to prepare a paper for the Brasilian Association for the Advancement of Science.

The present manuscript is not very well organized or focused, but I want to get a number of things down on paper as a first step and this is it. I would appreciate your reading any sections which are of especial interest to you and giving me your criticisms.

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Draft for Discussion
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SOCIAL MOBILITY, EDUCATION, AND SOCIAL CHANGE IN FOUR SOCIETIES

Introduction

One of the most important aspects of social change in modern times is the vertical social mobility connected with it. This movement up or down on a scale of socio-economic status is related to education. The three variables--social mobility, social change, and education-- are related to each other in ways which this paper will discuss.

The interrelations of social mobility, social change, and education can be seen better if they are viewed comparatively in several different societies. In this way one may avoid over-hasty generalizations and secure a broader sweep for such conclusions as can be drawn. Therefore we have used data from the United States of America, Brazil, England, and Australia. The data are not altogether adequate, but much is gained by using such data as are available from several countries.

The three elements which interact are themselves quite complex. Social change consists of several factors, which vary from one society to another. Thus industrialization and population-change are both factors in social change; and Brazil, with rapidly-increasing industrialization combined with a high rate of natural increase undergoes therefore a different kind of social change from Australia, with industrialization combined with a relatively low rate of natural increase. Social mobility is a phenomenon both of individuals and of groups, and the extent of individual social mobility may be different between Australia and the U.S.A., partly because the proportion of the society's resources spent on group mobility of the working class may have been different in the two countries. Educational systems may have different relations to mobility partly because of differences in the systems themselves, such as the emphasis on technology and on training for business careers in American higher education as contrasted with the emphasis on the liberal arts in British higher education.

It would be a great over-simplification of reality if we looked only at the United States of America and concluded that social change in the modern world means increasing productivity which means increasing upward social mobility which is most easily attained through education. This does not seem to be true of England, for instance, and it may not be true of Brasil.

We shall look at the four societies in turn, tracing the interrelations of social change, social mobility, and education. Then we shall attempt to make a generalization concerning the relations of education to social mobility in various types of social change.

CONDITIONS WHICH TEND TO PRODUCE NET UPWARD MOBILITY

For the purpose of this paper we must define socio-economic mobility as mobility on a scale of occupational prestige. This procedure is not an ideal one, but it can be defended in modern urban-industrial societies, where work has a central position and a person is evaluated socially by the work he performs unless he is in the uppermost class. No doubt mobility on an occupational scale is more easily achieved than mobility on a more general social scale, and there is quantitatively more of it, in modern societies; but the correlation between occupational status and general social status is so high that we can use mobility on an occupational scale as a good index of general social mobility.

If we identify social status with occupational position, in order to study social mobility we have to ask ourselves what conditions increase the number of positions of middle and upper status in a society; and, what conditions create vacancies in the positions that persist from one generation to the next.

There are three general conditions which make for a net upward mobility.

I. A shift in occupational distribution so as to increase the proportion of middle and higher status occupational positions. This could result from:

a. Change in technology of production which increases the proportion of more technical and highly skilled and better-paid positions at the expense of semi-skilled and unskilled jobs. For instance, automation does this.

b. Change in type of industry from those with many unskilled jobs to those with more jobs requiring technical training. The change from agriculture to manufacturing industry usually does this; and so does a change from farming with human labor to farming with machinery.

c. Introduction of new industries which require a high proportion of technically-trained and well-paid workers.

d. Increase of industrial productivity with resultant increase in wages and salaries, which allows people to spend more of their income on services provided by professional people, thus increasing the proportion of such people.

e. Free or easy access to valuable natural resources, such as good land, gold, diamonds, oil, uranium. This creates people with wealth who take the status positions of owners of wealth.

II. A rapid increase in population, which creates new middle and higher status positions in addition to the ones needed for a stationary population. Since the children are consumers before they are producers, their increase in numbers creates new jobs which are filled by the existing group of adults, thus producing net upward mobility in the adult group.

III. Differential fertility, with upper and/or middle status people not reproducing their numbers. They leave gaps in the upper and middle classes which are filled from below, provided the society maintains or increases the number of its middle and higher status positions.

CONDITIONS WHICH PROMOTE MOBILITY, BOTH UPWARD AND DOWNWARD

Another set of conditions promote both upward and downward mobility--the relative amounts of the two being determined by the factors already mentioned. They are:

I. Free and easy access to the kind of education that opens the way to Middle and higher status occupations, with fairly rigorous standards. This condition tends to create an elite of talent rather than of birth.

II. Open competition for middle and higher status jobs, based on objective procedures for filling positions. Again, this condition tends to create an elite of talent rather than of birth.

III. Changing industrial procedures, creating new jobs and making old ones obsolete, thus preventing a man or his family from getting a vested interest in a particular position.

IV. Upward group mobility of the lower classes, increasing their standard of living and thus enabling them to give advantages of better education and better health to their children, thus increasing their competitive ability.

THE UNITED STATES OF AMERICA

Keeping the general proposition in mind, we will now examine the four societies, commencing with the United States of America.

Social Change in the USA

In the United States, social change seems to have worked in every possible way to promote upward social mobility.

The country has become steadily more industrialized during the past hundred years, and productivity has increased, both in industry and in agriculture. Productivity per man-hour has increased six-fold since 1850. Per capita income, in 1929 prices rose from $221 in 1800 to $246 in 1870, and then rapidly to $501 in 1900 and $1140 in 1950 ( ). This is the most rapid

increase in productivity of any modern nation and places the USA well in the lead over all other countries in per capita income.

During the 19th century there was cheap and fertile land to be had on the frontier, gold was discovered, and when the physical frontier was closed at the end of the century, oil discoveries and later on uranium "strikes" provided quick riches and upward social ascent for many.

Under the impact of industrialization and then of mass productive technology and automation, the occupational distribution changed so as to increase the proportion of positions in the labor force which are essentially middle class positions. During the century before 1950 the percentage of the male labor force who were in the professions increased from 2.5 to 6.3, while the percent of those engaged in owning or managing a business increased from 4 to 13. These were almost entirely upper-middle and upper class positions. The proportion of these engaged in trade and transportation changed from 5 to 33 percent; many of these were white-collar workers of the lower-middle class. The percent engaged in manufacturing and mining increased from 17 to 34, while the proportion of the male labor force in farming decreased from 65 to 13 percent.

Social change created and enlarged the "new middle class" of salaried and highly trained people--chemists, engineers, factory managers, teachers, nurses, and office workers; without decreasing the proportions in the established upper-middle class occupations of doctor, lawyer, and minister of religion. Thus the result must be a movement of upward mobility into these new positions (in view of the facts of differential fertility, to be presented next).

Population Change. Population in the USA doubled every 30 years, from 1800 to 1920, and then slowed down until 1945, after which there was again an upsurge.

More important than sheer population increase, for producing upward social mobility, was the differential birth-rate, with upper-middle class and upper class people failing to reproduce their numbers, while working class families produced more than enough children to fill the gaps in the ranks of the classes above them. This differential birth rate has existed in the

USA for at least a century, though there are signs that the class differential has decreased since the end of World War II. Some crude calculations made by the writer ( ) indicate that the upward movement of youth from lower to higher status in order to make up for deficits due to failure of the higher groups to reproduce themselves would create a net upward mobility of about 13 percent per generation, moving up one step on a five-step social class scale. This is obviously a minimum, for it assumes no increase in the proportion of higher status occupational positions.

Distribution of Income. The increase in per capita income is an average figure. Income increases may have gone to owners of business, or to the salaried middle class, or to the working-class, or ~~it~~ may have been invested in capital equipment. All these things have happened in the USA. Small business men have made such profits that they moved up the socio-economic scale to become large business men. Professional men increased their real incomes. But a considerable part of the increased national income has gone to manual workers, who have the highest material standard of living of any working class today. Thus the working class has experienced upward group mobility, but not enough to move out of the lowest place on the socio-economic ladder. The social distance between lower class and lower-middle class has been reduced, and the lower class is better able to provide its children with education and health so as to ~~it~~ give them better chances for upward mobility

Social Mobility in the USA

We shall distinguish between two aspects of social mobility--individual and group. In the first case the individual moves up or down on the social scale. In the second case a social group moves up or down--a phenomenon which is more difficult to detect because it consists mainly in the change of social distance between groups and not of one group rising above or falling below another group. For instance, the urban working class has experienced upward social mobility in the USA and Western Europe--that is to say that the social distance between the lower-middle class and the lower class has decreased. The evidence for this is seen in the relatively great increase of real income for the urban working class, and their

increasing possession of the symbols of higher status, such as automobiles, labor-saving machinery in the home, and education for their children.

The United States has been characterized by a high degree of individual upward mobility, and the American working class has experienced upward group mobility in the ~~first~~ past 100 years.

All four of the conditions previously mentioned for social fluidity have been present in the United States; and there has been a net upward mobility at all times, as far as we can tell from data now available.

At first a principal cause of upward mobility was the exploitation of a vast and rich country by a rapidly growing population. The population doubled every 30 years from 1800 to 1920, which meant that each generation had at least twice as many positions of middle and high socio-economic status as its predecessor--positions to be filled by the children of the earlier generation or by immigrants.

Since about 1900, with the closing of the physical frontier and the taking up of the good free land, the principal cause for upward mobility has been technological development, which has increased the productivity of the society and increased the proportion of higher-status positions in the society. To this should be added the exploitation of oil, and the fertility differential between social classes.

It is clear that there has been a net upward mobility in American society in every generation during the past 150 years. But the actual measurment of this mobility is a technical problem which has not been thoroughly w worked out. There must be a scale of social status, against which mobility can be measured. If such a scale has a hundred points, for instance, then a very small amount of mobility can be registered. But if the scale has a smaller number of points, it takes a greater degree of mobility to count at all. Furthermore, there is the problem of comparison of social scales from one generation to the next. If the scale is based on occupations, the occupations may shift in their status value from one generation to the next, so that a man who is a barber in one generation may actually have a different status from that of a barber in the next generation.

To get around such difficulties, the social class concept has been used, with as many points on the social scale as there are social classes. Then, if the social class value of an occupation changes from one generation to the next, this fact will be used in ascribing social status to the individual.

With the present state of knowledge, a social class scale of four to seven classes seems the most useful device for measuring social status in comparative studies. It would be easier to make comparative studies if all researches used the same number of social classes, but this would not reflect the real differences between societies in social structure, nor would it reflect the different procedures used by different people in determining social class position. Therefore we must remember that a given numerical estimate of the degree of mobility is relative to the social class scale used, so that a finding of 10 percent net upward mobility between two generations using a 5-point scale of social classes cannot be directly compared with another finding of 15 percent net upward mobility in another society using a 7-point scale of social classes. The two figures may actually represent practically the same degree of mobility.

Fortunately, the differences between societies in their degree of mobility are great enough to allow the rather crude comparisons which are made under these conditions.

How Much Mobility is there in the USA? The most useful measure of the amount of individual social mobility between two generations is made by comparing a sample of people with their own parents, comparing the states of each person with that of his parents on the same scale. The main problem here is to get a reasonably good sample. This has been done in the United States for a fairly good sample of men and women aged 40 to 70 in the Metropolitan Area of Kansas City, in 1954. The sample was limited to a particular region of the USA and had relatively few farmers in it. On a 5-point scale of social status, Coleman and Peterson ( ) find the following: the proportion of adults aged 40 to 70 who had the same status as their fathers when they were in the same age period was 55 percent. The proportion who were upward mobile at least one class was 33 percent, and the downward mobile group was 12 percent, making a net upward mobility of 21 percent. This figure is supported by other studies. For example, McGuire ( ) compared the initial

adult status of all the young people in a small mid-western city with that of their parents, and found a net upward mobility of 19 percent. Again, a study was made of the mobility from birth to age 50 of a sample of people aged 65 and over in a small mid-western community in 1948. ( ) Using a five-point social class scale, it was found that 41 percent had not changed, 36 percent had been upward mobile and 23 percent had been downward mobile. This gave a net upward mobility of 13 percent for a generation born about 1850 (older than the Kansas City group). This estimate is conservative, for a good many of the more highly mobile people who were born about 1880 went to larger cities, and would not be found in a sample aged 65 + in a small city of 5 to 10 thousand.

Another study of more limited generality helps to answer the question whether the degree of social mobility has changed in the USA in the past 50 years. Warner and Abegglen ( ) studied the social origins of a large sample of American business leaders in 1950, and compared this with the social origins of American business leaders in 1900. They found that the proportions of business leaders whose fathers were manual workers or minor white-collar workers increased from 1900 to 1950. While the proportions whose fathers were farmers decreased between these two dates, this decrease was more than counterbalanced by the increase of men whose origins were urban working class or lower-middle class.

Thus it is clear that there has been a considerable net upward mobility of Americans during the past century; together with a degree of downward mobility. American society has been a fluid one, with almost half of its people changing social position during their life-time.

There has also been a general upward mobility of the American working class as a group, as is evidenced by the increased real income of this group, and by its increasing possession of certain symbols of middle-class status, such as labor-saving devices in the home, vacation with pay, and secondary and higher education for their children.

Education and Social Mobility

In discussing education in relation to social mobility, it is useful to distinguish between the functional and the symbolic values of education. Education has a functional value when it is used directly to accomplish a purpose. For example, when a person takes an engineering course and becomes an engineer, his education has had a functional value for him. Education has a symbolic value when it is used as a symbol of status. For example, when a person takes a doctor's degree in medicine and uses the degree as a symbol of status, but does not practice medicine, his education has a symbolic value. Or when an uneducated man earns a good deal of money in business and then sends his son to a selective private school before the son enters the family business, the son's education has a symbolic value.

Of all modern countries, the United States has gone the furthest in stressing the functional rather than the symbolic values of education, except perhaps the Soviet Union. The first colleges were set up in the United States to train clergymen, and lawyers, and later medical doctors. In the 19th century the American public schools were created to make the citizens of the young democracy literate, so that they would be better citizens and more efficient workers.

The great increase in secondary school enrollment after 1900 came because parents thought their children could get better jobs through learning the skills and knowledge taught in school. In the United States there has been a great development of schools and courses of business administration in the universities, because boys and their parents believe that such courses will make successful business men. And the enormous technological development of the 20th century saw the mulitplication of enrollments in schools of engineering, and of technical secondary school courses to train people directly for the new jobs in industry.

In the 19th century, higher education was used mainly to train people for the professions, but in the latter part of the century the state universities developed schools of agriculture and engineering, to train scientific farmers and engineers for a society of increasing productivity.

In the 20th century, the "new middle class" of salaried employees was growing with extreme rapidity. These people--engineers, chemists,

accountants, teachers, nurses, etc.--increased from 6 percent of the labor force in 1870 to 25 percent in 1950. There were 7,000 engineers in 1870 and fifty times as many in 1950.

This new middle class had to have education for their work.

Furthermore, the future business executive was more and more likely to use education as a means of doing his job better. In Warner and Abegglen's study of big business leaders in America in 1952, 57 percent were college graduate, far more than would have been found in any other country. ( ) Sixty percent of the business leaders had specific education in business administration either in college or after graduation from college. In the authors' words, "They (the business elite) have become, to a large extent, a professional class which demands formal training and preparation, over a broad field of knowledge as well as in technical areas, as prerequisites to a successful career."

In a number of studies it has been found that the people who have been upward mobile have more education than their class-stable neighbors in the social class to which they have arrived, while people who have been downward mobile have less education than the stable people of the class they left behind.

It is clear that education has been responsible for much of the social mobility of the United States, and that what was important was education of certain functional types.

There has been, of course, some use of education for its symbolic value. Wealthy men sent and still send their sons to Yale and Princeton often as much for the symbolic value of degrees from these colleges as for the functional values of their studies. Still, the sons were likely to study the subjects which seemed to them to have the most functional value. Therefore the classics and the modern foreign languages--which tend to have the most symbolic value--have been relatively neglected in American education. The symbolic values have been more important in the education of girls than of boys.

A few years ago a Vice-President of the Standard Oil Company of Indiana declared publicly that a university course in the classics would be better

for a man going into business than a functional course in engineering or in business administration. This man had been trained as a chemist before he made a success in business, but he was exhibiting a tendency of successful men who have had a functional education. They tend as they grow older and more powerful to prize the symbolic values of education rather than the functional values. But their companies in recruiting young men just out of college do not look for those who have specialized in the classics.

Educational Issues. What has been said about the importance of functional education to mobility in the USA does not prove that education made the USA the most productive nation in the world. The great natural resources of the country had much to do with this, together with certain political events, such as World War I.

What can be said with assurance is that a functional use of education at all levels has gone hand in hand with the technological development and increased productivity of the American economy, that education of this type was essential to this development, and that the upward mobile people have made the most use of functional education. The United States, with the greatest productivity and the greatest amount of upward social mobility of modern nations, has made the greatest use of a functional type of education.

One other nation has gone in even more for functional education and for increased productivity than the USA. That is the Soviet Union, where also there has been a great deal of both upward and downward social mobility during the present century. Much of this mobility has been a result of political revolution. There are no data available on the degree of individual mobility in the present social structure of Soviet Russia. Presumably, the upward mobile people in Russia are the ones who have made the most use of opportunities for functional education.

GREAT BRITAIN

During the 18th century England was a prosperous country based on agriculture with a small but developing industry. Population began to grow again, rising from 5.5 to 9 million after two centuries of stagnation. During the 19th century the population nearly quadrupled.

The 18th century upper class was a landed aristocracy who made the towns, even London, serve their purposes. There was a small middle class of tradesmen, clerks, and small farmers, and a large lower class of rural laborers and urban workers. (2)

Social Change in England

By 1820 the Industrial Revolution had changed the face of the middle and north of England, with the growth of industrial towns and the creation of an urban middle class who were to grow in wealth and power. This first industrialized society provided a grand channel for upward mobility, either in the British industrial centers or in the shipping business or in the empire's service. Those who preferred a more adventurous life would find it, and wealth, too, by taking up cheap land in Canada, Australia, or South Africa, or by exploiting the resources of gold, diamonds and exotic agricultural products which the restless British brought to light in the 19th century. British capital built profitable enterprises all over the world, and British ships earned money for their owners on the seven seas.

The economy became steadily more industrialized from 1800 to the present. Agriculture was displaced early as the main occupation of the people, with 17 percent of the labor force in agriculture in 1871, and only 6 percent in 1931. During these 60 years the proportion engaged in trade and transportation rose from 8 to 27 percent, while in 1931, 40 percent of the British labor force was in manufacturing and construction, more than in the other three countries being considered. The proportion engaged in professional and public service increased from 6 to 10 percent.

England increased her productivity, but not so much as did the USA. British per capita income multiplied about four-fold from 1870 to 1950, while that of the USA multiplied five-fold. Output per man-hour was always

lower in England than in the USA, which had 2.8 times as high a man-hour output in 1935 as did Britain.

Early in the 20th century most of the expansive economic forces had run their course, and Britain was feeling the competition for world markets of the industry of Germany. After World War I, the United States and Japan entered the competition for sales of manufactured goods, and Britain had lost much of her capital in paying for the war she had won. At a time when the new industrial nations were improving their industrial plants with new capital investment, England was striving to hold her own with a minimum of new investment. The United States passed Britain in output per worker in manufacturing and handicrafts, as did two of her Dominions, Australia and New Zealand.

To summarize, industrialization commenced earlier in England than in the USA, but after 1850 the rate of change was not so great in England as in the USA. Still, as long as England was expanding her industry and commerce, and her population was growing rapidly, there was a good deal of room for upward social mobility.

Population Changes. After 1900 the population curve of Great Britain commenced to level off and almost ceased to grow during the 1930-40 decades. Still, England had the differential birth rate which aids upward mobility, probably from 1850 on.

Distribution of Income. Since 1900 the working class of England has gained more in real income than has any other social class. While the upper and middle classes have suffered from high taxation to pay the costs of two world wars, and from inflation, the working class raised its standard of living substantially through public provision for health services and old age pensions, and through expanded public secondary education.

Social Mobility in Britain

The technological changes of the past century as well as the growing political and economic democratization of the country have served to create a relatively high degree of individual mobility, though not necessarily ~~for~~ upward mobility.

The principal factors making for upward mobility have been the differential birth rate and the increasing "new middle class " of salaried employees. But ~~on~~ the increasing numbers of the new middle class have been offset by a decrease in the proportion of business owners and employers. Thus the proportion of manual workers in the labor force of England did not decrease from 1900 to 1950, as it did in the USA.

There is good information on socio-economic mobility in Britain over the past 50 years, from the study by Glass and his colleagues ( ). In this study, occupation was used as the index of socio-economic status, and a representative sample of men and women were interviewed about their own occupations and those of their fathers and grandfathers.

Glass finds a net downward mobility between the generation of men who were active in 1950 and their fathers. The basic data are shown in Table 1, which has been worked over from Glass' 7 point scale to a 5-point scale by the writer, so as to make the results roughly comparable with the American mobility study. Glass finds that 40 percent have the same status as their fathers, and definitely more sons with lower status than those with higher status than the father. There is a net downward mobility of about 7 percent. However, this figure would be decreased if the younger men (aged 20-30) had been left out of consideration, and some of the younger men are certain to raise their status later.

This finding of a net downward mobility is supported in Glass' study of status changes between men in 1949 and their adult sons and their fathers, shown in Table 2. Only 18 percent of the three-generation group had stability (no change in status) over three generations. There was consistent increase of status over three generations in 3 percent of the cases, and consistent decrease in 8 percent.

Group Mobility. The working class in Britain has been upward mobile as a group, in relation to upper and middle classes. There is now less social distance between the working class and the lower middle class than was true a century ago.

Mobility and Social Change. From the situation in England it is seen that social change does not necessarily produce a net upward individual social mobility in a society, although it seems to make for a relatively high degree of vertical mobility, both upward and downward. Why has not England had a net upward mobility, as has the USA?

The reasons are probably several. One is that Britains increasing productivity has been used more to raise the standard of living of the working class than to increase the number of middle and higher status positions in the society. Another is that much of Britain's income has gone to pay for two world wars. Thus Britain could not raise the standard of living of all classes as much as did the USA, which did not suffer so much from war and which had a greater increase of income to distribute.

Another reason for England's lack of net upward mobility may be a loss of higher status positions enjoyed in the 19th century due to loss of colonies and to the Dominion's filling more and more of their own higher status positions with their own natives. It may be also that technological development has not proceeded as far in England as in the USA (in automation, for example), and therefore has not replaced so many manual occupations with occupational positions of middle class status.

Education and Social Mobility and Social Change

Eighteenth Century England reached a high point in culture with very little use of formal education.(20) The upper class made little claim to being intellectual. They were often content to send their sons to the local grammar school to study and play with sons of yeomen and shopkeepers who were destined for a clerical career. Some upper-class families used private tutors for their children. The Universities of Oxford and Cambridge were dead intellectually, and had only half as many students as in the preceding century. They would not accept students who were Non-Comformists or Catholics.

An upper class man might set his son up in the Army or the Diplomatic Service, but this required no more than a grammar school education. Some of the younger sons of the lesser gentry were apprenticed and learned a trade, while others read in law offices or studied to become teachers. Education generally consisted of "a little Latin and less Greek."

Still, even at this time, a few clever boys from poor families were

sent to local grammar schools and used their education to rise into the new middle class. The Scots made more use of this means of social ascent than did the English, at first. Scottish schools were rather better than the English in the 18th and early 19th century, and Scottish boys there laid the foundations for rising into the business and political leadership of the Empire in the 19th century.

Thus education was beginning to be used functionally for social mobility in the early 19th century. Also, it had become evident that the common man should become literate, to make him a more efficient worker and a better citizen. From 1850 to 1900 England developed free elementary education on a functional basis. At the same time secondary education was becoming functional for the middle-class business man, and it was becoming evident that a grammar school education would help a poor but ambitious boy to get ahead in business. After 1900 the "new middle class" of salaried people began to be important, and the higher institutions responded by expanding their facilities for technical training and for teacher training. The developing "provincial universities" were more functional in their emphasis than /the/ Oxford and Cambridge.

Thus education became more and more of a means to nobility in England, though there remained the direct channel up through business with no more than a secondary schooling as a basis. Evidence of the growing importance of post-secondary education and the increasingly functional character of it is seen in Table 3, from Glass. Men and women have chosen less and less the traditional univerity course during the past 40 years, while men have taken technical courses (mainly engineering) and women have taken commercial courses.

Table 4 shows that the children of higher-status fathers are mainly the ones who have taken the traditional university course, while the children of lower-status fathers have taken professional (technical, commercial) courses.

For the people whom Glass studied, who had nearly all been born before 1930, only 6.5 percent had secured a post-secondary school education. Secondary education was more important as a means to upward mobility than higher education was.

Since 1944 there has been a major expansion of secondary education in England, which will make this kind of education more nearly available to all youth, and will probably increase the amount of social mobility to some extent. The situation is summed up in Glass' book by Jean Floud as follows:

> "Education, at least to the secondary level, has long been almost indispensable even in the lower ranks of industry and commerce, and some form of further education a prerequisite for individual advance. The educational system has thereby become the primary agency of occupational and social selection, and the results of the inquiry presented in this chapter make clear the limited fashion in which it functioned in this respect in the inter-war years. The 1944 Act, however, provides a framework for reform. It constitutes a promise of change in the nature and distribution of educational opportunity which, if it materializes, will almost certainly be accompanied by considerable changes both in the social heirarchy of occupations and in the degree of mobility within and between occupations." (p. 123)

This suggests that more secondary and more higher education may alone be enough to increase the amount of upward social mobility in Britain. If this is so, it must be done through an increase in productivity which creates more middle and high status positions in England. Otherwise every further increase of upward social mobility must be matched by downward mobility.

Table 1

COMPARISON OF SOCIO-ECONOMIC STATUS OF ENGLISHMEN IN 1949

WITH THAT OF THEIR FATHERS

Percentages

Father's Status	Current Status of Sons (adult in 1949)					Fathers No.
	1 + 2	3	4	5	6 + 7	
1 - 2	(3.6)	1.7	0.7	1.4	0.5	279
3	1.3	(1.9)	1.8	3.5	1.2	345
4	0.9	1.6	(3.1)	6.4	2.8	518
5	1.4	3.2	5.3	(20.4)	13.0	1510
6 - 7	0.3	1.0	2.1	9.1	(11.8)	845
Sons No.	262	330	459	1429	1017	3497

Total: upwerd mobile 26.2 percent
non-mobile 40.8 percent
downward mobile 33.0

Adopted from Table 2, p. 183 of Glass

Table 2

CHARACTER OF OCCUPATIONAL MOBILITY IN THREE GENERATIONS

Type of Movement		Percentage of Total
Unidirectional through Three Generations	Stable	18
	Ascent	3
	Descent	8
Stable between Grandfather and Father; Ascent or Descent Between Father and Son	Ascent	10
	Descent	11
Ascent or Descent between Grandfather and Father; Stable between Father and Son	Ascent	9
	Descent	13
Ascent, Grandfather to Father; Descent, Father to Son		13
Descent, Grandfather to Father; Ascent, Father to Son		15
Total		100
Total number of cases		991

Adapted from Table 15, p. 280, of Glass, SOCIAL MOBILITY IN BRITAIN

Table 3

CHANGES IN ENROLLMENT IN THE VARIOUS TYPES OF HIGHER EDUCATION IN ENGLAND

	Percentage Distribution Type of Post-Secondary Education										
	MALES					FEMALES					
Date of Birth	Commer'l	Tech'l	Univ.	Other	Total. No.	Comm'l	Tech'l	Teach. Trng.	Univ.	Other	Total No
Before 1890	21.9	47.7	9.4	21.0	128	13.4	12.4	25.8	5.2	43.2	97
1890-99	23.3	51.1	8.3	17.3	133	32.6	13.1	10.9	5.4	38.0	92
1900-09	24.4	56.1	4.1	15.4	221	48.9	12.6	4.6	3.4	30,5	174
1910-19	28.3	54.9	7.3	9.5	280	45.9	12.0	5.6	4.3	32.2	233
1920-29	15.4	67.8	6.7	10.1	298	60.9	11.1	4.2	4.8	19.0	289
1930 or later	3.2	80.6	3.2	13.0	31	62.7	13.7	2.0	2.0	19.6	51
Totals	22.0	58.1	6.7	13.2	1097	47.3	12.1	7.4	4.4	28.8	936

From Table 15--Glass, p. 134

Table 4

DISTRIBUTION OF INDIVIDUALS HOLDING VARIOUS TYPES OF HIGHER EDUCATION QUALIFICATIONS ACCORDING TO STATUS CATEGORY OF FATHER.

Percentages

Status of Father	University	Professional	Miscellaneous	Total No.	Percent of all subjects at this status level with qualifications
1	36.1	27.8	36.1	72	28.1
2	17.6	25.5	56.9	51	16.0
3	9.7	34.4	55.9	93	12.0
4	4.2	27.7	68.1	94	8.3
5	1.8	22.8	75.4	167	4.9
6 & 7	5.5	13.9	80.6	36	1.8

From Glass, Table 16, p. 135

AUSTRALIA

Social Change in Australia

Australia is the youngest of the four countries we will examine. In 1850 Australia was no more than a collection of frontier settlements. With gold rushes in the 50's and the 90's, and with a frontier that is still active, this country has the most recent experience of men making fortunes out of cheap land, and working their way up in a new society by their own individual efforts against nature, rather than in a social organization such as industry or commerce.

With a vast territory and a small population, Australia is both rural and urban. While her wool and meat and wheat are her most valuable export products, 50 percent of her people live in cities over 100,000 in size, the highest proportion to be found in any country, and only 15 percent of her labor force is in agriculture.

The second half of the 19th century saw Australia change from a pastoral economy dominated by a few wealthy cattle and sheep raisers to a mixed economy based on mining, manufacturing for the domestic market, and agricultural production for a world market. The first half of the twentieth century saw the development of heavy industry, the beginning of an export trade in manufactured goods, as well as continued high agricultural production for export.

Because of her large-scale agricultural properties, Australia developed labor-saving agricultural machinery early, and has maintained a high level of productivity, second only to the USA. Per capita income in 1948 was $812 in 1948 dollars, which was almost twice that of 1900. Output per worker in manufacturing and handicrafts in 1948 was worth $3,600, compared with $4,110 in the USA, $1,450 in the United Kingdom and $520 in South America.(24)

The two World Wars hastened the expansion of Australian manufacturing industry, and Australian machinery and methods are more modern than those of Britain.

In spite of the development of modern industry, the proportion of manual workers' jobs in the labor force seems not to have declined, as it has in the USA. Oeser and Hammond ( ) comment on this fact as follows:

> "In the period 1900-48 there has been a clear decline in the relative proportion of the employer and self-employed class and a corresponding increase in the other levels, particularly in that of white-collar workers; for example, in factory employment in Australia since 1900 the proportion of owners has been halved while that of white-collar employees has practically doubled; this is owing to the greater centralization of industry going along with the increasing size of factory units. In factory employment the proportion of skilled and semi-skilled together has remained fairly constant at about 70 percent. In employment other than in factories, the number of farmers has not increased proportionately to the population, again indicating a relative decline in the employing class; and the civil service has increased its relative proportion so that at present about one bread-winner in four is an employee of a government body. This again indicates a relative increase in the proportion of employees to employers, but the increase is probably greatest at the level of white-collar workers. Hence, in these two generations there has been a decline of the employing class with corresponding increases in the employed groups, particularly white-collar workers."

Thus it seems that the distribution of jobs of various types in the Australian economy has <u>not</u> shifted since 1890 in favor of more middle-class positions. There has been some readjustment between self-employed and employed white-collar workers,

reflecting the increase in the "new middle class," but the proportion of working-class positions has apparently changed very little.

However, there is probably a good deal of difference in economic and social structure in the various parts of Australia. Western Australia, a young and rapidly-growing state, probably has more upward mobility than Victoria and New South Wales, the older and more stratified states.

Population Changes. Rapid increase in population tended to make for upward social mobility, from 1850 to 1930. During this period Australia's rate of natural population increase was much higher than that of England, and even higher than that of the USA. From 1850 to 1890 the rate of natural increase was about 2 percent a year, which is almost as high as that of present-day Brasil.

Differential fertility data are not available at this writing, but there was probably little or no differential fertility up to about 1900. Since then there has probably been some differential fertility, but not as much as in the USA and England.

Distribution of National Income. The Australian working class has fought for a larger share of the national income since 1890, and, on the whole, fairly successfully. The Australians developed labor unions further than did European workers in the period before 1900. The first great agricultural labor union was founded in Australia.

The unions met a great test of strength in the 1890's when a world economic depression reduced the prices of Australian agricultural exports, with resulting efforts to cut wages in Australia. Labor and capital fought a bruising battle, with the result that a Labor Party was formed, about 1900, and the country became strongly polarized about labor and capital. It was a peculiarity of the Australian labor force that there was a relatively small middle class. One reason for this was the scarcity of the

the small independent middle class farmer in Australia, most agriculture being conducted by large owners with a large labor force.

Since 1900 the Australian working class has much improved its group status, through a government wage control board, and through a liberal system of family allowances (based on number of children) together with a fairly generous system of old-age benefits.

Social Mobility

Although the data are scanty, it seems certain that there was a considerable amount of upward social mobility in 19th century Australia. The gold fields produced wealthy men in the 1850's, and the cheap land made it possible for a limited number of people with small capital to become wealthy landowners.

However, there seems to have been little or no net upward mobility during the 20th century. The evidence for this statement is not as good as it might be, but it fits with the general facts about the Australian economy in this century.

Oeser and Hammond, about 1950, studied the families of sixth-grade children in two state primary schools in a Melbourne suburb of "mixed socio-economic classes." They secured data on the occupation and education of the fathers and paternal grandfathers of these children. The results are shown in Table 5. Using a 4-class social scale, the proportion of non-mobile men was 45 percent, the proportion upward mobile was 20 percent, and 35 percent were downward mobile. This is a high degree of mobility for a four-class scheme, and a considerable degree of net downward mobility. From the Table it can be seen that there has been considerable movement out of the employer and self-employed class, and into the white-collar (lower-middle) and skilled labor classes. It should be noted here, that this particular group of men found their first jobs in the 30's, during a depression period, and may have suffered more downward mobility than a later group of young adults.

Australia meets several of the conditions for net upward mobility. It has become industrialized, and has a relatively high level of productivity. It had a rapid increase of population, up to 1930, and has regained its rapid growth rate since World War II. It probably has some differential fertility, though not as much as England and the United States.

On the other hand, the Australian working class has stressed its own group mobility to such an extent that it may have interfered with individual upward mobility.

Education, Social Mobility and Social Change

From 1850 to 1900 Australia created a state system of elementary schools which, together with the church-supported parochial schools made the population literate. During this time, secondary education was mainly for the sons of wealthy landowners and business men. There developed a set of private schools, modelled after the "Public Schools" of England, and called "The Great Public Schools." These schools gave a traditional English grammar school type of education, which was regarded as a symbol of status in Australian society. A few sons of poor men went to secondary schools and into business or professions, but not many.

Up to quite recent times, secondary and university education in Australia have been more symbolic in value than functional. For instance, Table 6 shows the educational levels reached by the fathers studied by Oeser and Hammond. These men were in school in the period from 1910 to 1930. Very few of them have a higher secondary education (beyond age 15). Only the white-collar group show much indication of having used secondary education as a means of training for their work.

The present generation of Australian youth would have a different educational experience, for apprenticeship to a skilled trade requires secondary education up to age 15, and white-collar employment practically requires secondary education to age 18.

Probably ed ucation is more functionally related to occupation today than it was a generation ago.

It is questionable whether education is used as much for social ascent in Australia as it is in the USA and England. While secondary and higher education are certainly associated with higher status, and some working-class youth certainly are using education for upward mobility, there seems to be a more general contentment with his own status on the part of the Australian working man, and he s eems to impart less mobility drive to his sons. At the same time, the children of middle class Australians seem to accept lower status jobs more frequently and perhaps more readily than the children of such families in the USA and England.

Higher education in Australia has been moving in a functional direction, with development of engineering and technical schools, and with some tendency toward relating university education more closely to business and industrial enterprise. This, however, is largely a post-World War II development.

Table 5

OCCUPATIONAL STATUS OF FATHERS IN RELATION TO GRANDFATHERS, OF CHILDREN IN THE SIXTH GRADE. FATHERS ARE MAINLY 35-55 YEARS OLD;

Father's Class	Grandfather's Class				
	I	II	III	IV	Total No.
I Semi-skilled	(18)	6	4	7	35
II Skilled	7	(10)	3	11	31
III White Collar (lower Middle)	9	2	(10)	11	32
IV Employer or Self-Employed (Includes Professions)	0	2	5	(16)	23
Total No.	34	20	22	45	121

Stable	45 percent
Upward mobile	20 percent
Downward mobile	35 percent

Table 6

RELATION OF FATHERS' EDUCATION TO THEIR OCCUPATION

Percentages

Education	Occupational Class			
	Semi-skilled	Skilled	White Collar	Employer & Self-Employed
6 years of Elementary School or less	86	59	26	52
Junior secondary commercial, technical (up to 15 years)	14	41	65	35
Higher secondary & university	0	0	9	13
Total	100	100	100	100

B R A S I L

Although Brasil has a relatively long history, it has become "modern" only in recent decades. From 1500 to 1900 there was very little change, with the social system culminating in the Casa Grande, the Grand House on a plantation. In the year 1800 Rio de Janeiro had 80,000 people, Salvador 70,000, and São Paulo 15,000 out of a total population of about three million. The cities were servants to the plantations. Cities did the necessary business, but the lords of Brasil lived on their estates. At the top of the heirarchy were the great landowners, at first Portuguese-born and later native-born. Attached to them, usually by family ties, were the lawyers, high clergy, and learned men. Next came the small business men, artisans, and foremen of the fazendas. Then followed farm-hands, cattlemen, and servants, free but otherwise little better off than the Negro and Indian slaves, who were at the bottom.

Wealth was extracted from the soil in the form of sugar, coffee , gold, diamonds, rubber, cotton, timber, cattle. There was little change in the economy up to 1850, except for the shift from one to another principal source of income (sugar in the 17th century, gold in the 18th, coffee in the 19th). Freedom from Portugal, freedom for the slaves, the establishment of a Republic, still left the basic economy relatively unchanged. However, the latter half of the 19th century saw the beginnings of industry for domestic needs, and felt the impetus of immigration into the southern states of peasant folk and artisans from Germany and Italy.

Social Change

About the close of World War I, Brasil began to develop a modern industrial economy, aimed to supply its large and rapidly-growing domestic market. With abundant resources of iron ore, a steel industry developed slowly and there was given a sharp push by the building of a modern steel production plant in World War II. The textile industry flourished, as did the food processing industry, and gradually Brasil supplied more of her need for manufactured goods.

In the 30 years from 1920 to 1950 industrial production more than tripled in real value, while agricultural production doubled. During the same period, the labor force engaged in manufacturing more than quadrupled, while the numbers in agriculture increased only 30 percent. National production climbed at the rate of 6 percent a year from 1949 to 1955, while the population was increasing about 2.5 percent a year.

This development took place without the participation of approximately a third of the population, who live by subsistance farming and take little or no part in the money economy of Brasil. These "20 million economic zeros" represent a great potential increase in the domestic market as well as in national productivity, if they are brought into the economic growth of the country by the raising of their productivity and their standard of living.

Although Brasil is rapidly industrializing itself, its productivity and per capita income are still very low, by the standards of the more industrialized societies. Table 7 shows how low the per capita income is, in relation to the other three countries we are considering. Yet the figure of $230 per capita income will grow much more rapidly than will the incomes of the other countries.

Studies of Brasil's economic productivity emphasize the relatively low level of agricultural and of industrial productivity

per worker. In agriculture, the "slash and burn" cycle is followed by the majority of farmers, whose tools consist only of a hoe and a cutting instrument. In 1950 only 34 percent of the agricultural establishments in Brasil had plows, and 84 percent of the plows were in the four southern states of São Paulo, Santa Catarina, Parana and Rio Grande do Sul. The yield per hectare did not increase from 1920 to 1940 to 1953, indicating that there has been very little increase in use of fertilizer, better seed, and crop rotation.

While industrial productivity has improved to some extent, it is still quite low in comparison with other industrialized countries. A United Nations study of productivity in Latin America ( ) suggested that the relatively low industrial productivity of Brasil was not due so much to antiquated machinery and low capital investment as to relatively poor organization and administration of industry, and to superfluity of cheap but inefficient labor. The relevance of this condition to education will be discussed later.

The labor force is in a process of rapid change, with a big increase of factory workers since 1940, a small increase of agricultural workers, and the beginning of a rapid increase in the "tertiary occupations" which are involved in business, social services, and education. Table 8 shows how Brasil compares with the other three countries in this respect.(21) Brasil is just starting into the process of industrialization. She is at about the place where the USA was in 1860, or Great Britain in 1840. The great changes for Brasil lie ahead.

Population Change

There has been a rapid natural increase in the population of Brasil, which went from approximately 3 million in 1800 to 7 million in 1850, to 18 million in 1900, 27 million in 1920, and 41 million in 1940. The 60 million mark was passed in 1956. The

rate of natural increase is about 2.5 percent a year, with a birth-rate of 44 per thousand and a death rate of just below 20. It seems probable that the death rate will decline more rapidly than the birth-rate, during the next few deeades. This source of upward mobility should continue to be effective for a considerable time.

There is a differential birth-rate in Brasil, though the data are not adequate to give much knowledge concerning it. From ~~Based on~~ the 1940 census, it is clear that there is both a rural-urban differential and a differential between ~~#~~ middle-class and working class people in the cities. ( ) The differences are very similar to those in England and the USA, with the birth-rate for agricultural workers about 50 percent higher than that of profossional workers . On the other hand, there is still a high infant mortality rate which is also differential, ~~but~~ and works in the opposite direction from the differential birth-rate. Thus, the infant mortality in 1949-51 for the city of São Paulo was 93, and for Recife, 244.[19] As infant mortality declines further, the differential birth-rate will become an effective force for upward mobility, provided the birth-rate of upper and middle-class people declines, as it has in other countries. At present the upper and middle classes are reproducing themselves, though not with as much surplus as the lower classes have. Therefore the differential birth-rate, though it exists, is not at present a source of upward mobility.

Social Structure. The social structure of Brasil is now in a period of such rapid change that one can only make estimates about it at a given time. The following sketch is a working hypothesis based on the 1940 and 1950 census data on the labor force. ( ) There were in Brazil in 1957 approximately 30 million ~~men,~~ males, of whom approximately 15 million were over 20 years of age. The question is, how are these 15 million men distributed by occupational or social status?*

* In this discussion of social stratification it should be clear that we are considering primarily economic levels, and not necessarily social classes. The old class structure of Brasil is giving way to a new one, and at present there is a mixture. The emerging class structure will of course be closely related to the economic levels here presented, but these also are changing rapidly today.

The upper class now ~~is~~ consists of the land-holding elite of the 19th century, with members of the professions related to them, and a new upper group of industrial owners and big business men. In 1950, 149,000 landowners held 75 percent of the land of Brasil. At the same time, there were 100,000 owners and directors of the 90,000 substantial industrial establishments. Adding large business owners and a few professionals, we get approximately 300,000 or 2 percent.

In an upper-middle class we will include farm owners of 100 hectares and over, excluding the large owners already mentioned. This is another 150,000. There were some 100,000 managers of large and medium-sized industrial establishments and an equal number of business owners and managers, excluding the larger owners assigned to the upper class. Most professional workers belong in this class, including most secondary school and university teachers. This number is about 100,000.

The lower-middle class consists mainly of a million white-collar workers in business and industry and government, together with a half-million farm owners of some local consequence. In addition there are small business owners and managers, and minor professional workers.

This leaves a working class or lower class of 83 percent of the population which could undoubtedly be subdivided into several status groups. For purposes of comparison with other countries it will be useful to break this into two groups.

Table 7

PER CAPITA INCOME

Mean annual per capita income, 1952-4.

Current Prices

United States of America	$1,870
Australia	950
Great Britain	850
Brasil	230

Source: Statistical Report of the United Nations.

Table 8

COMPARISONS OF LABOR FORCE

	% of Pop. in Labor Force	Primary	Secondary			Tertiary			
		Agric. Min'g. Forstry.	Mfg.	Construct'n	Total	Commerce	Transp. Imp't. & Com.	Services	Others
USA (1950)	39.8	13.8	28.2	6.2	51.8	16.5	7.0	23.7	1.6
Australia (1947)	42.2	17.0	27.1	7.3	48.6	15.1	8.0	18.0	7.5
Great Britain (1931)	43.0	12.1	40.0		48.0	15.8	6.9	24.4	0.9
Brasil (1950)	38.1	66.1	9.2	2.9	21.8	5.5	3.5	12.8	—

Source: United Nations Demographic Yearbook. 1955

Table 9

ESTIMATES OF SOCIO-ECONOMIC STATUS DISTRIBUTION
OF MEN OVER 20 in BRASIL, 1950

Class		Number	Percent
Upper		300,000	2
Large land owners	150,000		
Large business owners & professionals	150,000		
Upper Middle		450,000	3
Large farmers (but smaller than the group above)	150,000		
Business owners & managers	200,000		
Professional workers	100,000		
Lower Middle		1,800,000	12
Medium-size farmers	500,000		
Small business owners & managers	200,000		
Minor white-collar workers	1,000,000		
Minor professionals, nurses, ~~some~~ social workers, ~~some~~ teachers, health service workers	100,000		
Upper Lower		4,950,000	33
Small farm owners	1,600,000		
Farm managers, Foremen			
Artisans	700,000		
Urban skilled & semi-skilled workers	2,650,000		
Lower Lower		7,500,00	50
Farm laborers, share croppers, subsistence farmers	5,000,000		
Urban unskilled workers	2,500,000		
Total		15,000,000	100

The upper-lower group of 33 percent consists of three broad sub-groups. Over half are skilled and semi-skilled workers in industry. In addition, there are 700,000 artisans--shoemakers, plumbers, electricians, carpenters, and repair men of various kinds. Also there is a group of over a million and a half small farm owners and managers and foremen of larger farms. This class is a group that has fairly stable employment, some skill, and some purchasing power.

Finally there is a lower-lower class including approximately 50 percent of the labor force. Two-thirds of this group are the rural unskilled and illiterate laborers and subsistence farmers who do not have any appreciable purchasing power. The other third are the urban cousins of these rural folk, unskilled workers on construction projects, laborers in the streets and factories, living at the minimum urban wage.

When one looks at this social structure and compares it with the structure of countries which have moved further toward industrialization, the future trends can be described with considerable assurance. The agricultural population will decrease, the urban industrial workers will increase, and the tertiary occupations of commerce, transport, and social services will increase. These trends are already clearly visible by comparing the 1940 with the 1950 census.(4)

The "new middle class " of salaried employees is still notably small, in spite of its considerable growth in the present century. The upper-middle class also seems destined to grow considerably. The lower-lower class is certain to get smaller. Indeed, knowing the economic potentialities of Brasil, and knowing that Brasil can learn from the example of countries much further on the path of industrial development, it is tempting to speculate that Brasil might, as suggested by President Kubitschek, crowd 50 years of development into 5, with an almost explosive increase of the middle class in the social structure. But the likelihood of such a spectacular change is not very great.

While social change is proceeding in the same general direction in Brasil that it has followed in the other three countries with which we have compared Brasil, there are notable differences which may make Brasil's experience quite different from that of other countries. For one thing, Brasil has an excess population of unskilled and illiterate workers, which was never true of the other three countries. This group could be a drag on economic development. Brasil has only emerged from an economy based on slave labor within the past 70 years, while Australia and Britain never had this. Brasil's rate of population increase is greater than the other three countries have experienced while they were becoming industrialized. It would be questionable to predict the same future course for Brasil in the next 50 years that the USA has had in the past 50 years.

Distribution of Income. With a third of Brasil's population hardly taking part in the money economy, ~~it is~~ are to be expected ~~that there will be~~ wide differences in income. At the top of the Brasilian heirarchy are people whose income is as high as that of the wealthy people in the more industrialized countries. A rough attempt at estimating incomes of various groups ( ) indicates that the employers as a class may receive about 10 times as much per capita as the urban workers, without allowing for taxes.

Since 1930 the incomes of the middle class have suffered more than those of other groups, due to inflation. Real income for salaried workers has decreased from 1920 to 1955 while that of urban labor has increased. Costa Pinto ( ) regards this fact as one which will considerably affect the process of social stratification, perhaps reducing the degree of individual upward mobility. The urban working class has gained greatly from the social welfare legislation of the 1930's, which provides for medical services and retirement benefits--but the salaried middle class also has gained from these measures. In any event, it

Social Structure and Economic Productivity. Brasil is now really two Brasils--the old Brasil with its aristocratic and rural social structure, and the new urban-industrialized Brasil with an incipient social structure of a British or North American type.

The old Brasil is dominated by values and by institutions that are not hospitable to high economic productivity and social mobility. Family ties are more important than efficiency in producing goods. People inherit status from their families or have it conferred on them by powerful people--they do not earn it by their individual efforts. The wealthy land-owning upper class are accustomed to gambling with prices on the world market for their products--coffee, sugar, rubber. They expect big profits when the business is good, and are used to losses when business is poor. They do not have experience with a large steady demand with fairly stable prices, so that they can accept a small profit and make money by increasing production. Their attitudes have been taken on by the owners of industry and business, many of whom are members of old aristocratic families.

The new Brasil sets more store by production and individual achievement. Status is earned by being skillful in an occupational role. The rewards of the new Brasilian society go to a person in payment for what he has produced, regardless of his family connections. The developing attitudes favor high productivity with low profit margins. They favor technical education to enhance the skills of workers at all levels. They favor individual social mobility.

seems that the urban working class has been experiencing upward mobility as a group, and is putting considerable distance between itself and the rural working class.

Social Mobility in Brasil

In the 19th century slavery was abolished in Brasil, with the transfer of a large number of slaves to the lower class of the society. During the same period there was a considerable immigration from Germany, Italy, Spain and Portugal. Some of the immigrant families ascended from lower class to upper middle class with^m two or three generations. Also a relatively small number of urban lower class and lower middle class Brasilians moved up into upper-middle class status by virtue of talent. On the whole, however, there was relatively little vertical social mobility during the 19th century, except for the movement of slaves into the status of free men.

The industrial expansion of the twentieth century, combined with rapid increase in population, created large numbers of new middle class positions in the society in recent decades, which has demanded some upward social mobility, in spite of the relatively high reproductive rate of the existing middle and upper classes, which has enabled them to fill many of the new positions from their own natural increase.

Conditions for upward social mobility are present, but perhaps not pronounced enough as yet to produce a large net upward mobility. The upper-middle and lower-middle groups are still quite small, and any large degree of upward mobility can only be caused by movement from the lower-lower to the upper-lower class.

There was a considerable amount of both upward and downward mobility between about 1925 and 1955, as is evidenced by Hutchinson's study of the social origins of students of the University of São Paulo. ( ) The fathers of students entering the University

Table 10

OCCUPATIONAL MOBILITY BETWEEN GRANDFATHERS AND FATHERS OF UNIVERSITY OF SÃO PAULO STUDENTS IN 1955

Status of Grandfather	Status of Father			
	Higher	Equal	Lower	No.
I	--	58.4	41.6	202
II	29.9	57.6	12.5	288
III	58.8	41.1	--	73
Total group	22.9	55.8	21.3	563

in 1955 were at about the peak of their careers at that date, and their fathers were at a similar position perhaps 30 years earlier, in 1925. Hutchinson gives data on the occupational status of fathers and paternal grandfathers of São Paulo students. While this is not a good sample of Brasil or even of São Paulo, we can perhaps get some notion of the kind of occupational mobility which has existed among a group of families whose sons entered the University in 1955. Table 10 shows the occupational status of the fathers in relation to that of the grandfathers of São Paulo students. The status scale is a crude one, with three steps roughly equivalent in American terms to Upper and Upper-middle (I), Lower-middle (II), and Lower class (III). Of the men whose fathers were in class I, about 1925, 42 percent were below that level in 1955. Of the men whose fathers were in class II, 30 percent were above that level and 13 percent were below it. Of the men whose fathers were in the lower class in 1925, 59 percent were above that level in 1955. This of course does not mean that 59 percent of sons of all lower-class men in 1925 were upward mobile. The working-class men of 1925 whose grandsons went to the university in 1955 were obviously a group selected for upward mobility. Nor does it mean that 42 percent of sons of all upper and upper-middle class men of 1925 were downward mobile. What this table suggests is that there was a great deal of upward and downward mobility during the last 50 years in the São Paulo area. Fathers were not passing their social positions on to their sons as a matter of course.

A better estimate of the actual amount of mobility in the São Paulo area is given by another study of Hutchinson, in which a fairly adequate sample of São Paulo men were interviewed about their social origins. When the occupational status of a sample of men aged 40 and over is compared with the occupational status of their fathers, the results are given in Table 11.

Education and Social Mobility in Brasil

The distinction between symbolic and functional values of education is useful in understanding the relation of education to social mobility in Brasil. Throughout the 19th century education had mainly a symbolic value, and this has continued to be a powerful motive for education in the present century. Jacques Lambert (13) writing about education and the social structure of Brasil, remarks that as long as industrialization was only knocking at the door of Brasil, higher education and even secondary education remained a monopoly of an aristocracy which saw, especially in law and medical degrees, a means of maintaining its influence rather than one of earning a living or of ascending the social ladder. The imperial tradition in Brasil accorded the highest social prestige to the holder of a university diploma, and, to be really a notable person one must be a "doctor" as well as a proprietor.

Thus, if a man did manage to rise in the social scale by shrewdly amassing wealth, as did some of the Italian and German immigrants of the 19th century, he bought an education for his sons as a means of giving them higher status--as a symbol of status--rather than as a means for them to earn higher status.

In this situation the education sought as a symbol of status was not functional in the sense of preparing youth to take an active part in the industrialization of the country. It was rather an imitation of the secondary and higher education of the 19th century Europe, where the symbolic value of higher education was also stressed.

The regard for education as having symbolic value is still strong in Brasil. For example, a journalist writing in a newspaper of Rio de Janeiro in 1956, said that Brazilians want to "diplomate themselves rather than to educate themselves."

He complained that too many Brasilians simply want the diploma as a symbol of status rather than an education which will enable them to function more effectively in Brasilian society.

In so far as education has a symbolic value rather than a functional value, we should expect men who had been upward mobile to buy education for their children, but we should not expect boys and girls to use education as a pathway of mobility for themselves. Furthermore, where education has primarily a symbolic value, we should expect a considerable downward drift of educated people, in a society where the conditions are right for a good deal of mobility. This seems to have been true in Brasil and England around the beginning of the 20th century. For example, in Hutchinson's study of social origins of university students more than a third of the sons of upper-status men fell downward in status between 1925 and 1955, and half of these downward mobile men had a secondary school education while in addition about 15 percent of them had a university training. In Glass' study, 45 percent of sons of upper status men (on a 5-point scale) fell downward in status, and 45 percent of these downward mobile men had a selective secondary school (grammar school) education while 27 percent had some higher education.

However, the functional use of education for social mobility has ~~already~~ clearly been gaining ground in Brasil. There is ample evidence for this statement.

Primary education has become functional for the urban worker, with the result that the urban worker has secured a primary education and is sending his children to primary school. The statistics on literacy show that in 1950, 62 percent of the urban population were literate, while 32 percent of the rural population were literate. In the State of São Paulo, 72 percent of the population over 10 years of age could read

and write in 1950. The proportion is 85 percent for city dwellers, and 45 percent for rural residents. In the cities, primary education is now being provided for nearly all children, and some 93 percent of those aged 15-19 are now literate in the city of São Paulo. (16)

Literacy is not yet generally regarded as functional for the rural lower class, and it seems likely that the combination of illiteracy and low agricultural productivity will persist until a determined and intelligent effort is made to raise agricultural productivity, which will require among other things a program of literacy training.

Secondary education is becoming functional for social mobility. This is seen in studies of mobile people. For instance, Hutchinson's mobile men who were born to lower-middle and lower-class status had more education than their fathers. 87 percent of those born to lower-middle status had secondary school training and 62 percent of those born to working-class status had secondary education. About 30 percent of each group had university training. These were fathers of university students, and had themselves been an upward mobile group. Of those born to lower-class status who were upward mobile, 63 percent of those who reached upper-middle class had a secondary education and 44 percent had a university education, while 33 percent of those who reached lower-middle class had a secondary education. (10)

Enrollments in the colegio, or final phase of the secondary school, also indicate a move toward the functional use of secondary education. Thus, in 1954, enrollment in the scientific course totalled 65,000, while enrollment in the classical course totalled 10,800. The scientific course prepares students for university work in science and engineering. Still, the old symbolic aims of secondary education have a considerable support. For instance, the National Congress debated in 1957

a Bill to give students an option between English and Grench in the colegio, whereas they had previously been obliged to take both languages. This was an attempt to make the curriculum more functional, and it met opposition from many univerity professors, who feard that enrollment in French would suffer, and educated people in Brasil would be subject to less French influence. One of these men, speaking against the Bill, said that its passage would make it difficult to achieve the principal aim of secondary education, "A formação cultural geral e humanistico da nossa mocidade.

Furthermore, the type of post-secondary education has gradually changed in the direction of technical and scientific work during the present century. For example, 23 percent of the fathers in Hutchinson's study took technical courses (engineering) if they were born in the 1910-19 period, compared with 6 percent of the fathers born before 1889.

Nevertheless, the need for engineers is not being met by the universities in present-day Brasil. In 1948 there were 11,837 registered engineers in Brasil, of whom 10,199 were in the states of Rio de Janeiro, São Paulo, and Minas Gerais. Brasil had 200 engineers per million inhabitants, where the USA had 3,000, or 150 times as many, relatively. Engineering students numbered 7,326 in 1954, and the number of engineering graduates in 1953 was 1,056. This was more than twice the number of engineering graduates for ten years earlier, the year 1943. ( ) Ernesto Oliveira Junior, after making his survey of engineering education and comparing it with that of other countries, concludes by saying that if Brasil does not immediately pay attention to training more engineers, and technical experts in soils, cattle-breeding, etc., in ten years the country will not be able to get such good results from its ecpnomic enterprises as other countries with functional educational systems.

Another move in the direction of making higher education more functional was the development of the Faculties of Philosophy, Science, and Letters in most universities since 1930. These faculties, like the Colleges of Liberal Arts in the USA, have the function of training secondary school teachers as well as those who will specialize in research and practical work in the natural and social sciences.

Use of Higher Education for Mobility. While there is no doubt that higher education is used by a number of poor but able youth as a channel for upward social mobility now and has been so used for a century, this use is certainly not as widespread as in the USA, or even in England. Comparison of the social class backgrounds of university students in Brasil with those in the USA demonstrate that a smaller proportion of Brasilian students come from lower-class backgrounds. Table 12 shows how the students entering the University of São Paulo in 1955 compared with students in various types of American institutions.(11) While the social status levels are not identical in the American and the Brasilian studies, the American data have been adapted to make comparison feasible. Of the University of São Paulo students only 10 percent come from the two lower classes, with 83 percent of the Brasilian population in these two classes. This compares with approximately 30 percent of Smerican students in a typical state university, and 55 percent in the public Junior College of a large city. The São Paulo student body is similar in class composition to that of a highly selective private university in the USA.

Furthermore, university and secondary education are now available to very small segments of Brasilian youth. In 1950, about 0.9 percent of the youth aged 19-22 in Brasil were attending universities, and 6.2 percent of youth aged 12-18 were attending secondary schools.(17) These figures compare with American attendance of approximately 22 and 80 percent, respectively. ( )

Table 12

SOCIAL STATUS OF ENTERING UNIVERSITY STUDENTS IN São PAULO COMPARED WITH THAT OF UNIVERSITY STUDENTS IN UNIVERSITIES IN THE USA.

	Percentage Distribution of Students*			
Social Status	São Paulo	Univ. of Wisconsin	Selective Private University	Public Junior College
I	38	15	30	0
II	36	25	45	5
III	16	30	20	40
IV	8	25	5	45
V	2	5	0	10

*Note: Data on São Paulo students from Hutchinson,
Data on American University students adapted from Havighurst and Neugarten, op. cit. pp.244 & 257.

In attendance at secondary schools and Universities, Brasil is about where the USA was in 1880.

Conclusions. It appears, then, that secondary and higher education in Brasil are gradually being brought into the service of social change and therefore becoming more functional in value. Consequently, education will be more and more useful to ambitious young people as a means of getting better jobs and higher social status. Primary education is definitely functional in the urban areas, and probably is being used by children of the urban lower-lower class to get a kind of education that will enable them to move up to the upper-lower class. Primary education does not at present have so much functional value in the rural areas, especially the rural areas of the central and northern states.

One attitude in Brasil is that education must be made more functional if Brasil is to move ahead with economic and industrial development. This has been stated by a Brasilian journalist, Celso Brant, in the following words:

> "O principal problema para o homem é o de ser contemporâneo de si mesmo. Tôda cultura que tapa os nossos ouvidos e os nosso olhos para a realidade da vida, é uma erva má que precisa ser arrancada, antes que nos envenene. No Brasil, apenas a escola primária até aqui se conformou com a vida. O ensino secundário e o superior pouco têm de nosso, de autêntico. Como em quase tudo o mais, apenas refletimos os métodos e os programas adotados em outros países. No caso do ensino secundaário, que é o que aqui nos interessa, estamos, ainda hoje, pagando forte tributo a uma tradição desvitalizante, que vem de longe. Pode-se dizer que o nosso ensino secundário tem as suas raízes no seminário, que lhe deu o tom e o espírito.....

....."A verdade é que o ensino secundário, no Brasil, falhou completamente em sua finalidade, criando uma mentalidade inteiramente afastada da nossa vida, da nossa terra, do nosso modo de ser. O humanismo tem feito mais mal ao Brasil do que a saúva e a política juntas. E o pior é que a sua influência é tão poderosa que impossível é aso educadores brasileiros pensar em têrmos objectivos. Um programa em nossa terra que não inclua o latim é tão inútil que não serve nem para o sapateiro. O bacharelismo é produto dessa mentalidade e o atraso econômico sua resultante inevitável. Ninguém nega o valor do humanismo. Mas humanismo é um lugar de cultura, é um estágio de requinte intelectual, não podendo ser alcançado senão por uma pequena minoria. Os que precisam trabalhar, os que têm de fazer a grandeza de uma nação, não podem e não devem usar luvas de pelica. O maior mal do nosso humanismo nãestáno latim, que ninguém aprende, mas na falsa mentalidade que crious entre nó, que considera indigna tôda atividade fora das chamadas "profissões liberais".

"O resultado dêsse preconceito é o nosso atraso técnico e, consequentemente, o nosso atraso econômico. Pelo seu caráter de alheamento ás necessidades da vida, a escola secundária conservou-se, em nossa terra, afastada das classes populares que, dessa forma, se viram, durante muito tempo, impedidas de uma participação mais ativa na obra do erguimento da nossa economia. E evidente que nem todos podiam proporporcionar um curso de caráter literário e livresco aos seus filhos, quando tarefas mais urgentes chamavam a sua atenção.

....."O curso secundário, que hoje se faz, mais e mais, uma conquista popular, tem necessidade de ampla e profunda reforma. Não pode e não deve ser um campo reservado a poucos, aos mais capazes ou aos mais afortunados. Todos devem nêle sentir-se ávontade para revelar os seus talentos e aproveitá-los em benefício da comunidade.

....."Não há dúvida que o nosso futuro está na educação. Mesmo sob o ponto de vista econômico,

"ésse o único caminho. Porque só é grande o povo que tem consciência de sua grandeza. E a consciência da grandeza é obra da educação, como tarefa sua é transformar em riqueza viva e palpitante o que lateja no solo, o conjunto de dons que a Natureza põe à disposição de um povo para servir de base material à plena realização do seu destino. São os professôres, pois, os verdadeiros generais das fôrças brasileiras que lutam pela redenção da nossa terra." ( )

The functional use of education is the official policy of the Brasilian government, as is illustrated by the following paragraphs from the Annual Message of President Kubitschek to the Congress in 1957.

Educação e Desenvolvimento

Assinalei, em minha primeira Mensagem, que o crescente desenvolvimento da estrutura econômica do País, criando novas condições sociais, impunha a adoção de outros processos educativos e a remodelação dos atualmente em vigor. Eis o principal objetivo que se impõe à educação nacional.

Uma das conseqüências conhecidas do processo de industrialização é a mudança gradativa na distribuição da fôrça de trabalho pelas várias atividades. Em algumas nações, a proporção dos agricultores na população ativa total caiu de 7 para 1 no correr do processo. Com o desenvolvimento da industrialização é de prever-se idêntica transformação entre nós, dentro de próximos anos.

A procura de novos meios de vida nas zonas urbanas, em detrimento das atividades agrícolas, retira da lavoura fôrças de trabalho consideráveis, enquanto a população, em crescimento, requer maior produção de alimentos. Realmente, aparelhar tècnicamente a lavoura significa aumentar o rendimento do trabalho agrícola. Mas o estágio atual do nosso desenvolvimento ainda não nos libertou de dois grandes óbices à também imperiosa mecanização. Por um lado, as máquinas são caras, pagas em moedas fortes, ainda consomem peças, combustíveis importados e não foram projetadas em função das necessidades de nossa agricultura. Por outro lado, não dispõe o homem rural brasileiro dos

conhecimentos técnicos indispensáveis ao manuseio e conservação da maquinaria.

Assim, a mecanização da lavoura deve ser precedida de ampla campanha de esclarecimentos que possibilite aos agrônomos e outros especialistas tirar o máximo rendimento do trabalho do agricultor. No aumento da produtividade do trabalhador agrícola, repousa a nossa maior esperança de elevar o nível de vida das populações campesinas. E êste não depende apenas de máquinas. Depende, ainda, de conhecimentos científicos, do emprêgo de métodos e sistemas que a tecnologia criou, para melhor resultado prático em cada situação especial.

A escola é o instrumento social capaz de realizar essa tarefa. A isto não se presta, porém, a escola tradicional, com a sua formação puramente intelectualista. É mister enfrentar o problema, em suas bases, ministrando às populações campesinas, desde a escola primária, educação apropriada àquele fim. Mas há também que atender à situação do jovem que deixa o campo e procura trabalho nas cidades, oferecendo apenas um esfôrço braçal que não lhe assegura nível de vida adequado.

Já é tempo de reconhecer o êrro elementar de que todos os indivíduos devam submeter-se a um só tipo de ensino, quaisquer que sejam seus objetivos. Daí a obrigatoriedade de organizar ou reorganizar escolas dos diferentes tipos, reclamados pela conjuntura social, econômica e cultural, e para elas encaminhar os jovens, segundo as suas diversas tendências vocacionais.

O atual curso secundário não está em condições de preparar o jovem para o trabalho. Constitui um estágio intermediário entre o ensino primário e o superior, cabendo a êste formar os profissionais que, predominantemente, se destinam às carreiras liberais. Logo, um curso secundário interrompido, ou mesmo concluído, não favorece o encaminhamento conveniente do jovem para as tarefas da vida prática.

Na área do ensino em geral, são poucas, na realidade, as instituições que se dedicam à formação de técnicos e de especialistas nos diversos setores do conhecimento.

É conhecida a orientação acadêmica predominante no ensino secundário. Se bem atendido no que toca às disciplinas humanísticas, é deficiente no que se refere às disciplinas de sentido técnico ou científico, tão necessárias às conveniências do desenvolvimento do País. Devemos seguir diretrizes democráticas na reestruturação dêsse tipo de ensino, a fim de estender seus benefícios a tôdas as classes sociais. É urgente, portanto, uma reforma de base que transfira o estudo sistemático e profundo das disciplinas de teor caracteristicamente humanístico para as faculdades de filosofia e que promova a transição dos cursos secundários para a área de ampla utilização funcional.

O desenvolvimento econômico impõe radicais mudanças de métodos e exige medidas que, em profundidade, transformem o nosso comportamento diante da conjuntura brasileira. No ensino superior, cumpre insistir em que o País não poderá desenvolver sua economia com tão limitado número de técnicos em tôdas as especialidades.

The trend in Brasil certainly is to make education more functional in the full expectation that this will hasten economic development. Certainly education must be used as an instrument of change if further rapid industrialization and economic development are to occur. Education will have to be used not only to train the architects and technicians of social change, but also to create a climate of opinion favorable to these changes. A critical analyst of Brasil's development has written: "Economic development in the sense of wide distribution of wealth high per capita real income, and opportunities for all is a relatively new concept in Brasil and one that by no means has general acceptance"(12 p. 67)....he says that for further economic development it is important to have "a general social climate favorable to saving, investment, and development of skills" (12p.66)

A functional education in the sense that it hastened industrialization and the development of a high standard of living with substantial upward mobility, both group and individual, would have to do more than train the engineers and business managers and white-collar workers and mechanics in the skills of a modern industrial society. It would also have to provide a large number of citizens with a view of society and of its economic workings which is quite foreign to the new view held by many Brasilians today--the later view being that the society can prosper with a large, unskilled and unproductive labor force, and that the society can prosper with a restricted business turnover with high profits. Thus there would be a task for education of a non-technical and non-vocational sort--for a kind of general education at the secondary school level. Probably something like this was intended by Celso Brant when he wrote, "The principal problem for man is to become contemporary with himself."

How Much Social Mobility Can Be Expected? If economic development comes rapidly in Brasil, this means that in a generation the present social structure shown in Table 9 will change to one with possibly twice as high a proportion of upper-middle and lower-middle status positions. This would probably mean a very considerable amount of individual upward mobility during the next generation. On the other hand, if this change is spread over as much as two generations, it might not mean much net individual upward mobility, if the birth-rate of the present middle class remains relatively high.

Probably there will be a major shift of people out of the depressed lower-lower class, into the upper working class, by means of migration from rural areas to urban areas and through primary education of their children with increased earning power for them when they grow up.

This can be accomplished within one generation. The actual determination of the degree of social mobility will depend on the following undecided factors:

1. The speed of creation of new middle-status positions in the society.
2. The reproductive rate of the present middle classes
3. The degree to which secondary education and higher education serve to prepare youth for middle-class jobs.

Will Education be Necessary for Upward Mobility? It seems probable that there will be two main channels of individual upward mobility. The channel upward through business, based on a primary education and some secondary education, will probably be an important one in Brasil, just as it was in England.

The other channel will lie through secondary school and university into the professions and into business and industrial management.

The Role of Education. The task of the Brasilian educational system in this process of economic development would seem to consist of three related efforts:

1. To give an efficient primary education to all children of working-class parents, rural as well as urban. This will require a major expenditure of resources, and also a development of teaching methods to overcome the enormous amount of school failure which exists today, especially among lower-class children.

2. To make secondary education more popular and more useful for entry into business as well as into the universities. This, too, will require enormous material resources, and a complete revision of the secondary school curriculum.

3. To make higher education serve the needs of a rapidly developing industrial society.

C O N C L U S I O N S

Looking at the modern 19th-20th century version of social change in four countries with diversity of cultural and economic patterns, it is possible to see some of the constants and some of the variable factors in the process.

Common Aspects of Social Change

A. Social change has taken place through the use of mechanical power and machinery for the production of goods. This has transformed agriculture as well as manufacturing, has led to growth of towns and cities and increase of the segment of the labor force devoted to manufacturing and trading, with reduction in the segment devoted to extracting food and raw materials from the land and sea.

B. Social change has increased the economic productivity of society.

C. Social change has produced changes in the social structure.

1. It has raised the material standard of living of the classes who live by manual work. These classes have been upward mobile in relation to other social classes.

2. It has created relatively more middle-status positions in the society. This is true of all four societies we have studied, but to quite different degrees, indicating that this result of social change is especially sensitive to a variety of conditions.

a. Very high productivity seems to be associated with increase of middle-status position, as is seen in the case of the USA.

b. High but not very high productivity seems to be associated with upward group mobility of the working class in preference to increase of middle-class positions, as is seen in the cases of Australia and England.

c. Social disasters seem to hold down or reduce the proportion of middle-class positions in a society. For instance, the cost of two world ward has done this to Britain, and probably even more effectively to Germany.

d. The first surge of productivity in an industrializing society tends to create new middle-status positions (business, industry, social services), after which a balance may be reached between them and the lower-status positions. This was probably true of England in the 19th century; and Brasil is just now experiencing the surge of productivity, before the time when the balance may be reached. The USA has not yet reached this balance.

e. Social change has caused a great development of secondary and higher education, as well as expansion of elementary education to the entire population.

Variable Aspects of Social Change

The social change which comes with industrialization and urbanization varies from one country to another in relation to:

1. Population growth and pattern. The increased productivity may be limited by scarcity of population, as was true in the case of Australia and the USA. In this case the individual is "exploited" by training him and paying him well to produce as much as possible, with a resultant high per capita income.

On the other hand, the population may be so plentiful that increased production is based on an abundant supply of cheap labor, as has been true in Brasil. In this case, the individual is not encouraged especially to increase his individual productivity through training, though he can take the initiative and make opportunity for himself through education. Still there is always in such a society a vocal group who have a vision of even greater productivity by upgrading the labor force, as is true in Brasil.

When the population pattern is characterized by wide differentials in fertility between social classes, the changing society develops an ideology of upward social mobility with a system of selection and preparation for upward mobility through education, and training on the job. This has been characteristic of the USA, and to a lesser extent of England.

2. Previous social structure. Where the social structure is simple and relatively undifferentiated, as was true in 19th century USA, the structure becomes more complex, with more status gradations, though with a great deal of mobility. This is a result of the creation of a variety of middle-status positions.

When the social structure is complex and differentiated at the start of industrialization, as was true of Brazil, there is likely to be a shifting of status groups within the structure, and a redistribution of income, again with a good deal of mobility. In Brazil the newly-freed slave class was raised slowly in status, and this was part of a great shift in the status of the lower classes which is still going on. At the same time the growing middle classes are in motion on the social scale, with their final destination not at all clear. In Britain, the working class moved up in status, the landed aristocracy moved down in status, and the new business class moved upward.

Social Mobility

Industrialization and urbanization bring a great deal of individual vertical ~~and~~ social mobility, as well as group mobility.

Group mobility seems to work mainly to the advantage of the manual labor classes. The social distance decreases between them and the classes above them. (There is of course an upward mobility of the entire society or most of it in terms of economic standard of living, but we are considering here relative positions of the various social groups on a scale of socio-economic status).

The high degree of individual vertical mobility, both upward and downward, seems to be characteristic of modern societies in process of change, even though they differ in other ways. Thus all four societies we have examined have about 50 percent individual mobility in one generation, more or less depending on the nature of the status scale and other factors. This phenomenon of individual mobility seems to persist through time. Thus, in

Glass' English sample, only 18 percent of the father-grandfather-adult-son combinations had been stable over three generations.

Net Upward Mobility. The achievement of a net upward individual mobility is apparently not easy under 20th century conditions. It requires rapidly increasing productivity, with a considerable share of the new income going to create new middle-class positions. With upward group mobility of the working-class group tending to preempt the new income from increased productivity, individual upward mobility may be limited to a balance with downward mobility. However, if the lower-class group mobility is sufficient, this factor tends to produce more middle class positions for people who give expert services to the rising lower class--teachers, dentists, doctors, social workers, etc.

Apparently there are two principal ways by which a society secures a net upward mobility, under 20th century conditions. One is by increasing productivity very much and very rapidly. The other is by having a differential birth-rate in which the upper and/or middle classes do not reproduce themselves.

Who Becomes Upward or Downward Mobile?

In a society where approximately half of the people are upward or downward mobile during their lives, it is important to understand the causes of mobility. These appear to be:

1. Talent. A person may rise because of some outstanding quality, inborn or the result of training.

2. Education. A person's upward or downward mobility is very closely related to the kind and amount of education he receives. Upward mobility increasingly requires an education above the average for the class in which one is born, and a functional type of education is especially useful for mobility. Lack of education is definitely associated with downward mobility. We speak here of association rather than the cause, because education is a kind of instrument, and only one of several, for mobility. The causes of mobility may lie in the personality and in the inborn capacities of the individual, as well as in the social influences that have worked on him.

3. Accidents, or Luck in General. Some people are mobile because of some chance, such as having been born on a farm where oil was discovered, or having been born to a disorganized and demoralized family.

Propositions Concerning Education and Mobility

As a final conclusion concerning the relation between education and social mobility, we may state the following propositions:

1. Upward group and individual mobility depend on increased productivity which is generally dependent, among other things, on improved general primary and secondary education and on secondary and higher education which ~~if~~ trains people for productivity.

2. Certain types of education increase the net upward individual mobility in a society. These are the types which increase economic productivity rapidly and at the same time encourage autonomous and enterprising economic action by the individual.

3. Certain types of education increase the upward group mobility of certain groups in a society. These are the types which lead people to identify themselves with groups and to give group goals priority over individual goals.

4. Education improves the individual's chance for upward mobility. An education aimed at preparing him for a higher status job is most effective in this respect.

5. Certain types of education increase the amount of individual mobility (both upward and downward) in a society. There are the types of education which are free or low cost, are aimed at preparing people for new-type jobs, or are aimed at inculcating attitudes favorable to an open, fluid, and developing society.

GENERALIZATIONS ABOUT MOBILITY AND EDUCATION UNDER CONDITIONS OF INDUSTRIALIZATION AND URBANIZATION

The purpose of this study was to find out how social mobility and education ~~are~~ were related to each other in societies undergoing industrialization and urbanization. From the four societies we have studied, the following generalizations can be made.

A. Productivity is the Central Factor

The process of industrialization increases the production of goods by a society, and therefore increases its disposable income. Societies which are increasing their income may use the increase of income to:

1. Make investments in machinery and land and other capital so as to increase income still further.

2. Increase the income of the manual labor class, thus providing upward group mobility for this class. (This increases the domestic market for manufactured goods and for services, thus creating a demand for more production.)

3. Increase the general income level in various proportions for various groups in the society.

4. Create more middle-class occupational positions which in turn either contribute to the further productivity of the society or contribute services to raise the standard of living of the society.

B. The Problem of Increasing and Distributing Income.

Every society which is on the highway of industrialization must decide the following questions:

1. How increase production?
2. How much should production be increased?
3. How distribute the resultant increase of income?

Each society works out its own answers to these questions.

The USA has used mechanization and mass production to increase its production and has maintained the highest level of productivity of modern nations. With the resultant income it has made large capital investments and at the same time has made generous income payments to all parties, with the working

class being rewarded to the greatest degree. As a consequence of these uses of its income the USA has increased the relative numbers of middle-status positions in the society.

Brasil is just at the beginning of its major economic development, and consequently no one can say just how Brasil will handle the problem of increasing and distributing its income. The existence of the "two Brasils" means that there are two sets of solutions to the problem. One solution, favored by the "old Brasil" would make only modest increases in production, would leave a substantial unskilled and unlettered lower class living at a very low economic level, and would distribute much of the new income to a small class of upper-class owners and their families.

The other solution, favored by the "new Brasil," would follow the American example as far as possible. Events of the last 10 years suggest that Brasil may be embarked tentatively on this route.

C. Education in Relation to Production and Distribution of Income

The classical education with its symbolic values, is a kind of epiphenomenon in a society undergoing economic development. It plays no functional part in the changes going on, though it may be valued and sought after by people who have been economically successful.

A functional type of education does the following things:

1. Trains people to increase productivity, at all levels of work.
2. Teaches the society to decide on a certain kind of politico-economic policy. The USA decided on a policy of economic expansion with a balanced internal economy that maintained and raised the real income of all major sections in the economy, agricultural and industrial. Brasil is now facing this type of choice, and the choice Brasil makes, now and in the future, will be affected by the kinds of education given in Brasilian secondary schools and universities.
3. Is inevitable in the evolution of the society. The only question is that of speed and degree of change toward a functional type of education. The USA went in for a speedy change to a functional type of education and a very high degree of exposure of American youth to it. England has changed more slowly and less thoroughly to a functional type of education. For Brasil the question of speed and degree of functionalization of education is to be answered within the next few years.

D. Social Mobility

With increasing income, it is clear that the society as a whole or groups within the society will rise in standard of living and therefore in social status. Upward mobility of the working class seems to be a general phenomenon. It has been true in the USA, England, Australia, and Brasil.

Creation of a "new middle class" of salaried employers who give expert services is a general phenomenon. This increases the relative size of the middle classes and thus allows for a certain degree of upward mobility. The actual status of the middle classes, in relation those above and below them, depends on political factors. For instance, the middle classes apparently moved up in status in 19th century Britain, but have descended, relative to the working classes, in the 20th century in Britain, USA, Australia and Brasil. This loss of relative status, and of relative income, was due to economic inflation, which caused more damage to middle-class incomes than to working class incomes.

Individual Mobility

A relatively high degree of individual upward and downward mobility seems to be characteristic of modern changing societies. Roughly half of the population moves up or down a step on a 5-point scale of social classes during a generation.

There is a pretty close balance between upward and downward individual mobility unless the middle classes are growing rapidly, as has been true in the USA.

The question whether a particular individual ~~should~~ shall be stable, or upward or downward mobile in his lifetime depends for an answer on a number of factors of which his education is one. If he has a functional education--an education aimed at making him a better worker in a status above the level at which he was born--he has a good chance of upward mobility.

The degree of net upward or downward mobility in a society depends on the productivity of the society, the mode of distribution of income, and the reproduction rates of the various social classes.

Education alone cannot create a net upward mobility in a society. It can affect the balance of mobility if it affects productivity, or if it affects the ways in which the society uses the income ~~for~~ from its production. In the USA, education has served effectively to increase upward mobility. In Brasil, up to the present time, it is doubtful that education has had much bearing on the question of the relative amounts of upward and downward m mobility. ~~In Brasil, up to the present time, it is~~ This is because secondary and higher education have been mainly symbolic in value until quite recently, and because the extent of secondary and higher education is too small in Brasil up to the present to bear heavily on a major economic problem. But Brasilian education seems to be developing toward the point where it will exercise a major influence upon the phenomenon of social mobility.