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Education,
Opportunity,
and Social
Inequality

Changing Prospects in Western Society

RAYMOND BOUDON

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## Foreword

The quarter of a century since the end of World War II may properly be described as the era of educational expansion. Almost everywhere in the developed and Communist worlds, governments have committed themselves to ending the separation of European secondary education between elite and nonelite streams, and to enlarging the proportion of the college-age cohort who go to university. The United States remains in the lead with well over 40% entering institutions of higher education, but a number of European countries are approaching or have passed the 20% mark. <sup>1</sup>

This expansion is related to two objectives: (1) to supply trained manpower economies more and more dependent on educated talent and (2) to increase equality of opportunity. These two goals appeared to be mutually supportive for much of the period. More education supposedly meant both more well-trained people and greater opportunity for the underprivileged.

Yet as results of sociological investigations in different countries began to come in during the 1960s it became apparent that the rapid growth in educational attainment did not necessarily reduce the correlations between privileged family background and social achievement.<sup>2</sup> Within the educational system itself, parental socioeconomic status continued to be a major determinant of amount received, as well as of school grades, both in the Communist and non-Communist worlds.<sup>3</sup>

Educational innovations designed to equalize educational accomplishments among those of varying social origins ranging from the Khrushchev reforms in the Soviet Union to school integration in the United States were deemed to be failures. Given the pessimism about the results of efforts at "equalizing" schooling opportunities, attention has shifted to a research focus on how "children in the different social strata are brought up. . . ." Sociologists in the Soviet Union, as in the United States and other Western countries, stress the impact of the total environment of children as more important in determining their educational accomplishments than are the factors inherent in the school situation. Others even argue for the role of genetic factors in limiting efforts to equalize the results of education.

Yet, more importantly, the very assumption that equalizing educational attainment will result in greater equality of economic opportunity has also been challenged by a variety of studies in different countries. Jencks' book

## CHAPTER ONE

# Level of Educational Attainment and Mobility

The first chapter, which is a methodological introduction to the rest of the volume, is devised to show that a very elementary formalization can lead to some unexpected results. We are concerned here with the problems of inequality of educational opportunity (IEO), inequality of social opportunity (ISO) or social immobility, and the relation between IEO and ISO.

#### SOME SURPRISING FINDINGS

Let us consider the following problem. In the generally accepted view that industrial societies are largely meritocratic, level of educational attainment becomes one of the major determinants of status. From this, the temptation is great to conclude that educational attainment should also be a major factor of social mobility. In other words, if educational attainment is actually a powerful determinant of status, the probability of an individual having a higher social status than his father should be greater, the higher his level of education. Conversely, the probability of an individual falling to a lower status than his father should be greater, the lower his educational attainment level.

However, it may be shown that this conclusion is neither empirically nor logically true, or, rather, that it is true only under very special conditions that are not likely to be met.

To my knowledge, this issue was first raised by C. Arnold Anderson (1961) in his controversial paper "A Skeptical Note on Education and Mobility." The paper rests on a reanalysis of three pieces of data concerning the

Table 1.1 Son's Social Status Relative to Father's as a Function of Son's Educational Level Relative to Father's

Son's Level of Education Relative	Son's Social Status Relative to Father's				
to Father's	Higher	Equal	Lower	Total	
Higher	134	96	61	291	
Equal	23	33	24	80	
Lower	7	16	22	45	
Total	164	145	107	416	

Sources: Centers (1949), Anderson (1961).

relation between education and mobility in three countries: the United States, Sweden, and Britain. The American data are drawn from a study by Centers (1949) and are reproduced in Table 1.1.

The marginals of this table immediately indicate that the proportion of sons having a higher level of education than the father is much greater than the proportion of those who have exceeded the father's social status. Moreover, the number of sons who have a lower level of education than the father is much smaller than the number of those who have a lower social status. Thus it appears that the distribution of social status has changed less rapidly than the distribution of levels of education. 1

These differences in the marginals are certainly in part responsible for the distribution in which not all people are located on the main diagonal of the matrix: since the number of individuals whose educational attainment is higher than that of the father is greater than the number of individuals who have a higher status than the father, it follows that some of the individuals must have a social status at best only equal to that of the father, even if their level of education is higher.

But the surprising feature of the table, according to Anderson, is that even when the differences in the marginals are taken into account, the correlation between both the son's social status and his educational level relative to the father's is very low. Anderson's argument runs as follows. If we suppose that education has a maximum effect on status, we can build a theoretical table that will look like Table 1.2. This table was constructed following a "staircase procedure": given the marginals, a maximum number of people with higher relative educational level were granted a higher relative status (i.e., 164). There remained 291 - 164 = 127 people with higher relative education. In order to make the relationship between relative status and relative education as high as possible, the 127 people were granted a social status equal to that of the father. On the whole, according to the marginals, 145 people had a status equal to the father's; therefore, 145 - 127 = 18 people were located in the central cell of the table, and so on.

According to Anderson, then, if education has a maximum effect on status (and if we consider the marginals as given), the data should arrange themselves in the form of Table 1.2.

Let us now consider the opposite assumption: given the marginals, relative educational level has no effect on relative social status. Table 1.3, which presents the theoretical figures derived from this assumption, was constructed simply by assuming statistical independence between the two variables. In summary, the data appear in the form of Table 1.3, where we assume that having a better relative educational level does not enhance chances of reaching a better relative social status.

Now it is possible to compute the differences between Tables 1.1 and 1.2

Table 1.2 Son's Social Status Relative to Father's as a Function of Son's Relative Educational Level When a Maximum Effect of Educational Level is Assumed

Son's Level of Education Relative	Son's Social Status Relative to Father's			her's
to Father's	Higher	Equal	Lower	Total
Higher	164	127	0	291
Equal	0	18	62	80
Lower	0	0	45	45
Total	164	145	107	416

Table 1.3 Son's Social Status Relative to Father's as a Function of Son's Relative Educational Level When Statistical Independence Is Assumed

Son's Level of Education Relative to Father's	Son's Social Status Relative to Father's				
	Higher	Equal	Lower	Total	
Higher	115	102	75	291	
Equal	31	28	20	80	
Lower	18	16	12	45	
Total	164	145	107	416	

on the one side, and Tables 1.1 and 1.3 on the other. We shall not do that here. But it is very easy to see that Table 1.1 (actual data) is much closer to Table 1.3 than to Table 1.2. It seems, in other words, that we come closer to the actual data if we suppose that there is no influence of relative educational level on relative social status than if we assume a maximum influence of the educational variable on the status.

This apparently paradoxical result is contradictory to the very concept of a meritocratic society. That is probably why Anderson referred to his paper as "skeptical." As we see below, the surprising character of Centers's data cannot be accounted for by pointing to a failure of the sampling procedure, for instance, since other data collected in other countries show the same structure. But it is difficult to believe that relative educational level has such a weak effect on mobility in industrial societies.

Anderson found a similar result when he reanalyzed a set of data collected by Glass (1954) in Britain and by Boalt (1953) in Sweden. The British data are not reproduced here,<sup>3</sup> but it may be useful to consider the Swedish data presented by Anderson, since their logical structure is somewhat different

from that of Table 1.1. These data are reproduced in Table 1.4, which gives son's relative social status as a function of son's absolute level of education. (It will be recalled that Centers's data give both social status and educational level as relative to the father's.) Again we observe a very low correlation between education and mobility. Those with a high educational level have a higher status than the father 36 times out of 100. Those who have only a low educational level have a higher status than the father 32 times out of 100. Even more surprising, the former have been exposed to social demotion slightly more often than the latter (15% vs. 13%).4

It is intuitively clear that what we might call Anderson's paradox may derive from the relative nature of at least one of the two variables considered (e.g., son's educational level relative to father's). It is well known that all industrial societies are characterized by a high level of inequality of educational opportunity. Thus individuals who have a better educational level are also more likely to have a better social background. But it is also more difficult for them to reach a higher social status than their father, simply because the father's status is more likely to be high in the first place. We cannot content ourselves with this simple observation—if we want to be sure that we should not expect a high correlation between education and mobility in industrial societies, we must show that a meritocratic society is actually likely to generate a low correlation between education and mobility.

If the foregoing proposition is true, it has an important sociological bearing, since it tells us that the risks of demotion are similar whatever the level of education. We return to this point later.

### A THEORETICAL MODEL FOR THE ANALYSIS OF THE RELATION BETWEEN EDUCATION AND MOBILITY

Our problem is to formalize the relatively complicated system of variables that is responsible for the findings just stated. Indeed, the tables presented

Table 1.4 Son's Social Status Relative to Father's as a Function of Son's Level of **Educational Attainment** 

Son's Level of Education	Son's Social Status Relative to Father's			
	Higher	Equal	Lower	Total
High Low Total	271 465 736	369 794 1163	111 181 292	751 1440 2191

Sources: Boalt (1953), Anderson (1961).

by Anderson are the product of the interaction of many factors: inequality of educational opportunity (IEO), extension of meritocracy, change in the educational structure, change in the social structure, and so on.

Since we have no data on these variables, a good scientific strategy is to build a theoretical model and observe its behavior for given values of the parameters. Let us first suppose that the fictitious society we consider in the model contains three ordered social classes— $C_1$ ,  $C_2$ , and  $C_3$ — with  $C_1$ being the highest and C<sub>3</sub> the lowest. In the same way, we assume that three ordered educational levels may be distinguished— $S_1$ ,  $S_2$ , and  $S_3$ —with  $S_1$ being the highest and  $S_3$  the lowest. Although the semantic interpretation of these symbols does not matter much, we may assume that  $S_1$  refers to college level,  $S_2$  to high-school graduates, and  $S_3$  to lower levels.

#### Basic Axioms

Now let us introduce the following theoretical propositions or, to use a more conventional word, axioms.

- Al. Our fictitious society X is characterized by a high level of IEO.
- A2. X is an industrial society. This means that there is in X a high level of demand for educated people. In other words, X can be called a meritocratic society: if a high social position is available, it is much more likely to be filled by an individual with a higher level of education.
- A3. The educational structure (i.e., the distribution of people as a function of level of education) is not determined entirely by the social structure (distribution of social positions). As a rule, in other words, there is no exact congruence between the structure of supply with regard to levels of education and the structure of demand by the labor market.

It should be noted that these axioms have deliberately been given a general form. They can probably be accepted easily as adequate descriptions of the situation in industrial societies: it is true that IEO and meritocracy appear in all industrial societies. It is also very likely that a perfect balance in the supply of and demand for such-and-such a level of education is the exception rather than the rule.

Unfortunately, we cannot extract very interesting consequences from axioms A1 to A3 in their present state. More precisely, if we want to have a real model that will make possible the drawing of precise conclusions on the relation between education and mobility in industrial societies, we must complete these basic axioms by supplying auxiliary axioms. The latter axioms will render the former precise enough to permit the making of computations. However, they will have no impact on the conclusions to be derived from the model.

### **Auxiliary Axioms**

**Aa1.** At a given time, t, 10,000 young people leave the educational system of society X. Among these people, 1000 have reached the highest educational level  $S_1$ , 3000 have reached the intermediary level  $S_2$ , and the others (i.e., 6000) leave school at educational level  $S_3$ .

Aa2. According to A3, there is no congruence between supply of and demand for people at these educational levels. Thus we suppose arbitrarily that when our 10,000 young people leave school at time t, 500 social positions of high level  $(C_1)$ , 4500 positions of intermediary level  $(C_2)$ , and 5000 positions of low level  $(C_3)$  are available.

Aa3. Concerning the distribution of our fictitious sample as a function of social background, we assume that 400 have a background of level  $C_1$ (i.e., a  $C_1$  father), 4000 come from  $C_2$ , and 5600 from  $C_3$ .

Aa4. This auxiliary axiom gives a precise operational form to  $A_1$ . It introduces the idea (which is dropped in the more elaborate version of the model used in subsequent chapters) that IEO can be pictured as resulting from a competitive process. In other words, we assume that the structure of educational levels is determined by exogenous factors, that people compete to gain the more favorable levels, and that social background introduces a powerful bias in this competition process.

Table 1.5 presents the result of this competitive process. The marginals of this table indicate that 400 people with social background  $C_1$  compete for a good educational level. There are 1000  $S_1$ -level openings available. In order to translate the social background bias into operational form, we assume that a high proportion of the candidates, exactly 80%, are afforded a high level of education. Thus, as Table 1.5 shows, 320  $C_1$  people reach the highest educational level  $S_1$ . The remaining number of available "educational openings"

Table 1.5 Son's Education as a Function of Son's Background. Fictitious Data Generated by the Model

Son's Family Background	Son's Educational Level			
	S1 (High)	S <sub>2</sub>	S <sub>3</sub> (Low)	Total
C1 (high)	320	64	16	400
$C_2$	544	2349	1107	4000
C <sub>3</sub> (low)	136	587	4877	5600
Total	1000	3000	6000	10000

of highest level  $S_1$  is then 1000-320=680. The  $C_2$  candidates number 4000. This time the number of candidates is greater than the number of available educational openings. For obvious logical reasons, we consequently apply the "background bias parameter" to educational openings rather than to candidates. In other words, we assume that 80% of the remaining educational openings of level  $S_1$  will be granted to candidates with background  $C_2$ . Thus 544  $C_2$  candidates reach educational level  $S_1$ . Of course the 136  $S_1$  educational openings that remain available are granted to candidates with social background  $C_3$ .

The other cells of the table are filled in accordance with the same procedure: when the number of candidates is smaller than the number of available openings, the background bias parameter is applied to the candidates. Conversely, when the number of candidates is greater than the number of openings, the bias parameter is applied to the openings.

Aa5. This axiom makes operational the assumption according to which X is a strongly meritocratic society. Again we introduce a simple competitive process (which is certainly much more realistic in this case than in the previous one). We suppose that when the individuals of our fictitious sample have reached a given educational level, they compete for available jobs. This competition follows the same general rules given previously. Its result is presented in Table 1.6, where the "educational level bias parameter" or, in short, the "meritocratic parameter" has been placed arbitrarily at 70%. This means, for instance, that the 1000 candidates with educational level  $S_1$  who compete for 500 available  $C_1$  social positions get 70% of these positions (i.e., 350). There remain 150  $C_1$  positions, and 70% of these go to candidates with educational level  $S_2$ . Since the distribution process generated by auxiliary axiom Aa5 is exactly the same as the previous one, it does not need any further exposition.

Table 1.6 Son's Achieved Status as a Function of Son's Educational Level. Fictitious Data Generated by the Model

Son's Educational		Son's Achie	eved Status	
Level	C1 (High)	$C_2$	C3 (Low)	Total
S <sub>1</sub> (high)	350	455	195	1000
$S_2$	105	2026	869	3000
S <sub>3</sub> (low)	45	2019	3936	6000
Total	500	4500	5000	10000

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Axiom Aa5 introduces a very important implicit assumption—namely, that achieved social status depends only on educational level, leaving out social background. In other words, the axiom (unrealistically) says that although social background influences level of education, it does not influence achieved status directly: once a subject has reached a given educational level, his social background plays no role with respect to achieved social status. However, all surveys show that even when level of education is controlled for, social achievement appears to be definitely influenced by social background. Yet this residual influence of social background is very often weak in comparison to the influence of social background on level of education or of level of education on achieved status.<sup>5</sup>

We could complicate the present model slightly to take into account this residual effect of social background on achieved status, but since the new assumption would also complicate the exposition without significantly modifying the conclusions, we refrain from introducing it.

Aa6. Finally, we need to know how the fathers of the subjects in Tables 1.5 and 1.6 are distributed with respect to social status and educational level. We assume first that none of the individuals in our fictitious sample have the same father (no siblings in the sample). Then it follows that the distribution of fathers with respect to social status is the same as the distribution of sons with respect to social background. Thus the column totals of Table 1.7 are the same as the row totals of Table 1.5. Regarding fathers' distribution as a function of educational level, we have assumed a lower average educational level of the fathers than of the sons (see the row totals of Table 1.7).

Given the marginal distributions of Table 1.7, the internal figures have been generated by a process of competition exactly like that of the two previous axioms. The meritocratic parameter used in the case of fathers is 80%.

Table 1.7 Father's Social Status as a Function of Father's Educational Level. Fictitious Data Generated by the Model

	Father's Social Status			
Father's Educational Level	C1 (High)	C <sub>2</sub>	C <sub>3</sub> (Low)	Total
S1 (high)	320	384	96	800
$S_2$	64	1709	427	2200
S <sub>3</sub> (low)	16	1907	5077	7000
Total	400	4000	5600	10000

# ANALYZING THE RELATION BETWEEN RELATIVE EDUCATIONAL LEVEL AND MOBILITY

The model described by the set of axioms A1 to A3 on the one side and Aa1 to Aa6 on the other defines a system that can be thought of as a highly simplified approximation of the mobility mechanisms that characterize industrial societies. The numerical values given to the parameters are arbitrary, but we can consider them to describe a possible, if not an existing, industrial society.

Of course the conclusions that are drawn from the model do not depend on the exact values chosen for the parameters. This amounts to saying that the model would lead to the same conclusions with any of a number of other values, provided these other values were not too remote from the ones given here. Thus it would not matter much if we gave the "meritocratic parameter" the value 90% or 70% rather than 80%. What we want is a high value for this parameter.

Similarly, the conclusions drawn from the model will be the same whatever the numerical figures describing the educational and the social structures may be, provided they meet the assumption that a certain amount of discrepancy exists between these structures.

Let us now return to our so-called Anderson's paradox: is it reasonable to expect a strong correlation between education and mobility in societies that are characterized by IEO—by meritocracy along with a certain amount of discrepancy between educational and occupational structures? We can divide the question into two parts and reformulate it in the following way:

- 1. Does the model just described generate what we may call a Centers-Anderson structure, that is, a very low correlation between son's educational level relative to father's and son's relative social status?
- 2. Does the model generate what we may call a Boalt-Anderson structure, that is, a very low correlation between son's absolute educational level and his social status relative to father's?

In dealing with the first question, it is convenient to use a tree representation of the process described by the axioms. This tree appears in Figure 1.1. The nine vertices on the left-hand side of the figure represent the nine categories into which the fathers can be classified when both social background and educational level are taken into account. It follows that the quantities located at these vertices represent the number of fathers belonging to each category.

Each of the left-hand vertices generates three branches, hence three new vertices that are associated with the numbers of sons reaching each

educational level. From each left-hand vertex, again, stem three branches. They generate three terminal vertices, which are associated with the numbers of sons reaching each social status. Thus by following the branches  $S_1C_1 \rightarrow S_1 \rightarrow C_1$ , we see that 320 fathers out of 10,000 are  $S_1C_1$ , that 256 of their 320 sons reach educational level  $S_1$ , and that 90 of these 256 sons reach social status  $C_1.6$ 

It is very easy to arrange the information contained in Figure 1.1 in a manner producing a table whose structure is that of the Centers-Anderson table. Thus the 90 sons associated with the highest right-hand branch of the tree have both an educational level and a social status equal to the father's. The 116 sons who appear at the second highest right-hand branch have the same educational level as the father but have a lower social status, and so on. Adding the appropriate figures associated with the terminal branches of the tree, we arrive at Table 1.8, which gives the son's relative social status as a function of his relative educational level.

Like the Centers-Anderson table, this theoretical table is characterized by a very weak correlation between relative education and relative status. Thus each one who has a higher educational level than his father has a higher social status at a rate of less than 1 in 3. Each one whose educational attainment is lower than his father's reaches an equal or a higher status at a rate of more than 6 in 10.

The same kind of procedure used by Anderson in his analysis of Centers's table could very easily be applied to this table, and it would lead to the same conclusion: Table 1.8 is closer to the table that is formed when we assume statistical independence between relative education and relative status than to the table generated by the assumption of a maximum effect of the educational variable on status.

By adding the appropriate numbers of Figure 1.1 we can also derive the Boalt-Anderson table that is generated by the model—that is, the table giving son's social status (relative to father) as a function of son's absolute level of education; see Table 1.9. Again we observe a very low correlation between education and mobility: those who have reached a high level of education experience social demotion at the rate of more than 1 in 3, whereas those whose education is lowest reach a higher social status than the father at the rate of almost 1 in 3. Generally, the proportions of those who experience demotion, promotion, or stability are not very different, regardless of the subject's level of education.

#### CONCLUSIONS

Several conclusions can be drawn from the analysis presented in this chapter.

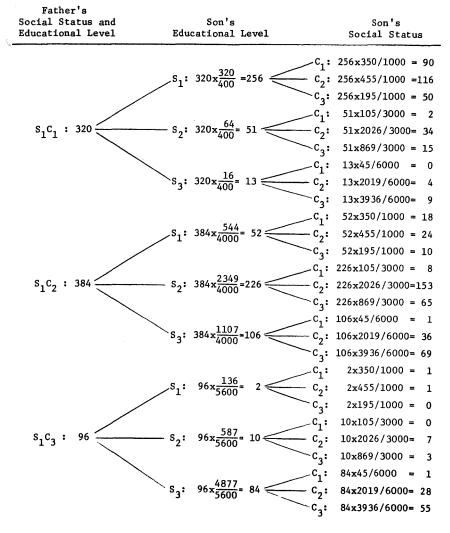


Figure 1.1 Number of SiCj sons (i = 1 to 3, j = 1 to 3) as a function of father's classification with respect to both social status and educational level. Data generated by the model.

1. Except under very special conditions which are unlikely to be met, a highly meritocratic society will not necessarily give to those who have reached a high level of education more chances of promotion or fewer chances of demotion than those whose level of education is lower. This apparent paradox derives from two circumstances. First, since those who obtain a high level of education more frequently have a higher background,

Father's Social Status and Educational Level	Son's Educational Level	Son's Social Status
	$S_1: 64x\frac{320}{400} = 51 \frac{c_1}{c_2}$	$: 51 \times 350/1000 = 18$ $: 51 \times 455/1000 = 23$
	$S_1$ : $64x\frac{320}{400} = 51 \frac{c_2}{c_3}$	
	c <sub>1</sub>	
s <sub>2</sub> c <sub>1</sub> : 64	$ s_2$ : $64 \times \frac{64}{400} = 10 $	$: 10 \times 2026 / 3000 = 7$
	_ c <sub>3</sub>	
	c <sub>1</sub>	
	$s_3$ : $64 \times \frac{16}{400} = 3 \frac{1}{2}$	
	_ c <sub>3</sub>	
	$s_1:1709 \times \frac{544}{4000} = 232 \frac{c_1}{c_2}$	: 232x350/1000 = 81 : 232x455/1000 =106
		: 232x195/1000 = 45
	•	:1004x105/3000 = 35
s <sub>2</sub> c <sub>2</sub> :1709	$$ S <sub>2</sub> :1709x $\frac{2349}{4000}$ =1004 $-$ C <sub>2</sub>	:1004x2026/3000=678
11		:1004x869/3000 =291
		: 473x45/6000 = 4
	3 4000 _ =	: 473x2019/6000=159
	<del>-</del>	: 473x3936/6000=310
	136 c C <sub>1</sub>	
	$s_1$ : 427 $\times \frac{136}{5600}$ = 10 $c_2$	
	C <sub>3</sub>	
s <sub>2</sub> c <sub>3</sub> : 427		
203. 427	C <sub>3</sub>	
	\	
	$s_3$ : 427 $x\frac{4877}{5600}$ = 372 $c_2$	
	C <sub>3</sub>	: 372x3936/6000=244

Figure 1.1 (Continued)

they have to climb still higher in the hierarchy of social status in order not to experience demotion. Second, one consequence of the discrepancy between educational and social structure is that even under a high degree of meritocracy, people with the same level of education will reach different social status.

Thus, even if a society has a strong tendency toward granting the best

	Father's Social Status and Educational Level	Son's Educational Level	Son's Social Status
No.		$s_1$ : $16x\frac{320}{400} = 12 \frac{c_1}{c_2}$ :	12x350/1000 = 4 $12x455/1000 = 6$ $12x195/1000 = 2$
	s <sub>3</sub> c <sub>1</sub> : 16	$S_2: 16x\frac{64}{400} = 3 \underbrace{C_1^3:}_{C_2:}$	3x105/3000 = 0 3x2026/3000 = 2 3x869/3000 = 1
		$s_3$ : $16x\frac{16}{400} = 1 \frac{c_1}{c_2}$ : $c_3$ :	$1 \times 45/6000 = 0$ $1 \times 2019/6000 = 0$ $1 \times 3936/6000 = 1$
		$s_1:1907 \times \frac{544}{4000} = 259 \frac{c_1:}{c_2:}$	259x350/1000 = 91 259x455/1000 =118 259x195/1000 = 50
	s <sub>3</sub> c <sub>2</sub> :1907		$120 \times 105 / 3000 = 39$ $120 \times 2026 / 3000 = 756$ $120 \times 869 / 3000 = 325$
		$s_3:1907x\frac{1107}{4000} = 528 $ $c_2:$	528x45/6000 = 4 528x2019/6000=178 528x3936/6000=346
		$s_1:5077 \times \frac{136}{5600} = 123 \frac{c_1:}{c_2:}$	123x350/1000 = 43 123x455/1000 = 56 123x195/1000 = 24
	s <sub>3</sub> c <sub>3</sub> :5077	$s_2:5077x_{\frac{587}{5600}}=532$	532x105/3000 = 19 532x2026/3000=359 532x869/3000 =154
		$s_3:5077x\frac{4877}{5600}=4422$ $c_2:44$	422x45/6000 = 33 422x2019/6000=1488 422x3936/6000=2901
		3.4	

Figure 1.1 (Continued)

social positions to those who are better educated, education may have no apparent influence on mobility.

2. It would be quite easy to draw from the model a fictitious intergenerational mobility table. This table would be characterized by a high amount of mobility, indicating that such mobility may develop even when both IEO and meritocracy are strong. In other words, assuming that those with a high social background are much more likely to be better educated,

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Table 1.8 Son's Social Status Relative to Father's as a Function of Son's Educational Level Relative to Father's. Fictitious Table Drawn from the Model

Son's Level of	Son's Social Status Relative to Father's			
Education Relative to Father's	Higher	Equal	Lower	Total
Higher	696	1182	464	2342
Equal	1612	3884	824	6320
Lower	177	652	509	1338
Total	2485	5718	1797	10000

Table 1.9 Son's Social Status Relative to Father's as a Function of Son's Educational Achievement. Fictitious Data Generated by the Model Presented in the Text

Son's Level of Education	Son's Social Status Relative to Father's				
	Higher	Equal	Lower	Total	
S1 (high)	300	386	314	1000	
$S_2$	499	1759	742	3000	
S <sub>3</sub> (low)	1686	3572	742	6000	
Total	2485	5717	1798	10000	

and assuming that a better education gives a much greater chance of reaching the higher part of the social scale—even then, both the probability of demotion for those with high social background and the probability of promotion for those with low social background may be relatively high.

- 3. Generally speaking, the combination of a rigid class system (IEO high) and a high degree of meritocracy does not exclude either a relatively high degree of mobility or a weak relation between education and mobility. Not only may this finding clarify Anderson's paradox, it may also provide an alternative interpretation to Bendix and Lipset's well-known hypothesis that industrial societies are much less different from one another with respect to mobility than with respect to stratification.<sup>7</sup>
- 4. The previous findings also have an interesting psychological bearing. They show that even in a rigid class system, the social status achieved by an individual may be perceived by him as randomly determined. Indeed, even with high IEO and meritocracy, Jack, who has both high social background and high educational level may experience demotion, whereas John, who has a low social background and a low educational level may experience promotion.

- 5. Let us note again that the model uses the unrealistic assumption that social background has no residual influence on achieved status when educational level is controlled for. This assumption generates overdramatized effects. But the same effects would be observed if a moderate residual effect of social background were introduced. On the other hand, the very high values of the "meritocratic parameter" and of the "social background parameter" underdramatize the effects of the model.
- 6. From a logical standpoint, the model shows that mobility analysis requires us to consider the many variables influencing mobility (discrepancy between educational structure and structure of available social positions, rate of IEO, degree of meritocracy, over-time change in social and educational structure, eventually differential fertility, etc.) to be a system of interacting factors.8
- 7. Finally, it should be noted that the model, although deterministic, generates a high amount of apparent randomness.

#### **NOTES**

- 1. However, Duncan (1966) has shown great care should be exercised in interpreting a mobility table, and his observations apply to Table 1.1. In particular, when a sample of sons is questioned on father's occupation, the resulting distribution of fathers cannot be interpreted as giving a valid picture of the social structure at some particular point in time past. However, inasmuch as we are concerned only with a rough qualitative (i.e., ordinal rather than quantitative) interpretation of Centers's table, we can probably accept the idea that such distribution indicates an upward move of the social structure.
- 2. Let  $n_{ij}$  be the quantity appearing in row i and column j of a contingency table,  $n_i$  the total of row i,  $n_i$  the total of column j, and N the grand total. Statistical independence between the two variables represented by indices i and i implies  $Nn_{ij} = n_{i}, n_{i}$
- 3. They are used in Chapter 7.
- 4. Another table, also presented by Anderson (1961), shows that the same structure holds when a national Swedish sample is used.
- 5. See, for instance, Blau and Duncan (1967) for evidence in the American case. This question is considered more closely in Chapter 7.
- 6. Best-educated sons obtain a relatively small number of higher class positions because we have supposed a structure in which the number reaching highest educational level  $S_1$  is greater than the number of highest social positions  $C_1$ . This assumption is probably unrealistic even for the most developed industrial societies. It is obvious, however, that the conclusions of the model hold, whatever the discrepancy between the educational and the social structures. Thus an Anderson structure would also be generated by supposing that the number of best-educated people is smaller than the number of available  $C_1$  positions.

- 7. See Lipset and Bendix (1959) and also Lipset (1972).
- 8. This "system approach" to social mobility is hardly new. It can be found in Sorokin's (1927) as well as in Kahl's (1957) work, for instance. Both authors were concerned with making social mobility the consequence of an intricate set of structural factors. The interested reader will find in the version of this book in French language (*L'inégalité des Chances*, Paris, A. Colin, 1973) a discussion of the sequence of paradigms which have been used by mobility students.

Part One
Inequality of
Educational
Opportunity