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ABSTRACT

Theories and data are examined concerning the rapid spread of the public school system across the United States during the nineteenth century. In the first part of the report the authors review and criticize current interpretations of the development of public education. According to these theories public schooling arose from the class conflicts and elite interests of a developing urban society--the pressures for social control of new working classes, immigrants, and young people freed from traditional constraints. In the second part of the report the authors argue that the spread of schooling can be seen as one of a series of social movements by which the American nation was built, not as a result of state or central elite action. To test their arguments the authors analyzed state-wide data on educational organization and expansion taken from reports of the Commissioner of Education and from the U. S. Census for the years 1870-1930. They found dramatic educational differences between northern and southern states which they attribute to differences in the regions' political and economic systems. The rapid spread of schooling in rural areas of the north and west is seen to reflect a commonly-held ideology of nation-building that combined the outlook of small entrepreneurs in a world market with evangelical Protestantism and an individualistic philosophy. (Author/AV)

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1870-1930

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EDUCATION AND THE DIFFERENTIATION OF CHILDHOOD: ENROLLMENTS AND BUREAUCRATIZATION IN THE AMERICAN STATES, 1870-1930 (1)

John W. Meyer, David Tyack, Joane Nagel, and Audri Gordon

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The rapid spread of public schooling across the continent during the nineteenth century is one of the most dramatic examples of institution-building in American history. In this paper, we consider theories and evidence on the origins and driving forces of this process. We begin a direct exploration of a topic too long ignored, but basic to understanding how American Society has worked: how and why Americans built the public school system.

First, we review current interpretations of the development of public education. These focus primarily on the creation of urban-industrial society and its effects on the expansion of schooling through greater expenditures and longer school terms, bureaucratization, and rising state control. In this general view, schooling arises from the class-conflicts and elite interests of urban society -- the pressures for social control of new working classes, immigrants, and young persons freed from traditional constraints. These theories are on firm ground in interpreting the effects of industrial society on the bureaucratic transformation of schooling (mainly in the late nineteenth century): the rise of large-scale schooling organizations, professionally staffed and relatively highly funded, managing the lives of children in regularized ways for many hours a day, many days a year.

Then we go on to consider problems with these theories. The recent literature reveals a good deal about the formalization of public schooling

in response to the development of urban-industrial capitalism. The problem, as we see it, is that current theories do not tell us much about the creation and spread of mass public education. They do not sufficiently illuminate some basic facts: The United States was overwhelmingly rural and non-industrial until late in the nineteenth century. But educational enrollments were high very early; and further, rural enrollments equalled or surpassed those in cities. State control -- an important mechanism in current arguments -- was extremely weak in most places. And more generally, the bureaucratization generally thought to index educational expansion was in fact not positively related to actual educational enrollments.

We then go on to consider the main issue: why public schooling so rapidly spread until it became a dominant American institution, not how it became increasingly bureaucratized. We ask why rural people created schools and sent their children to them, not why rural enrollments may have been as high as or higher than urban ones (a debatable point because of poor statistics). We argue that the spread of schooling can usefully be conceptualized as one of a series of social movements by which the American nation was built, rather than as resulting from state or central elite action. Education as a social movement reflects, we believe, the interests and ideas of smallholder capitalists and is closely associated with their individualist and millennial political and religious ideology. We trace the slow expansion of education in the South to a different political and economic system.

... as interpret this central nineteenth century social movement as arising not from defensive and irrational status protests of peripheralized groups but as an optimistic, aggressive and successful attempt to construct modern polity and society. In this we differ from writers who view social movements in terms of status inconsistency theory and who see them as a kind of rear-guard action by groups caught in a status revolution brought on by the emergence of urban and bureaucratic capitalism.

Finally, to test our arguments, we present the results of our own analyses of state-wide data on educational organization and expansion taken from the reports of the Commissioner of Education and from the U.S. Census for the years 1870-1930. We thus add our own analyses to existing empirical studies of enrollments and formalization, complementing micro-analyses with a macro-sociological study. Our purpose throughout -- in the discussion of current theories, in our statement of the problem, the presentation of a conception of education as a social movement, and in our empirical investigation -- is exploratory. Given the gaps in current discussions, we want to identify some important issues and offer speculation about their resolution.

Interpretations of Public Schooling in the Nineteenth Century

The twentieth century bureaucratization of American society and the expansion and rise to world power of the American state have prompted waves of reinterpretation of nineteenth century American educational history. Scholars have looked for -- and found -- harbingers of corporate capitalism and a powerful state apparatus, especially in the

urban-industrial Northeast and in urban educational systems. Several studies of Massachusetts, in particular, have argued that bureaucratic urban education gave structural support to industrial capitalism (Field, 1976) and that it was promoted largely by elites and their professional allies who profited from the new economic and educational arrangements (Katz, 1968). Bowles and Gintis (1976) have hypothesized that the mid-century reforms were triggered by the entry of new groups into the wage-labor force and that employers supported the demand for more schooling since they were able to use the schools to socialize workers and thereby to solve some of their problems of social unrest and labor control. While departing considerably from these authors in their analysis, Kaestle and Vinovskis (1976; 84-90) have found a positive association in Massachusetts between town size and both the length of the school term and expenditures per pupil. Other studies have explored the bureaucratization of urban schools and the increasing use of the power of the state to standardize schooling and to compel attendance (Kaestle, 1973; Schultz, 1973; Lazerson, 1971; Tyack; 1974, 1976; see the review of these and related studies by Katz, 1975; esp. 147-194).

In this general conception, education fits in as part of a basic economic and organizational change. The late nineteenth century was a period of growing governmental influence and consolidation of economic power. The pace of corporate mergers increased markedly about 1900. Huge new groups of immigrants were attracted to serve as laborers. A new kind of corporate capitalism became dominant -- one foreshadowed in mid-nineteenth century Massachusetts: urban, organized, and adept at.

expanding the state to accomplish its purposes in domains such as education (Wiebe, 1967; Kolko, 1963).

Some of our state-level data fit in well with this interpretation. In Table 1, we report state data for two commonly used indicators of educational expansion -- the reported length of the school year, and educational expenditures per pupil enrolled.⁽²⁾ The first rows in each panel report the trends over time, and show that during our period the average school year increased greatly in length and expenditures per pupil increased dramatically.

(TABLE 1 ABOUT HERE)

The more relevant data are reported in the main body of each panel of the table. States are classified by region (which we discuss later), and Northern and Western states are further classified by their degree of urbanization in 1870 (relative ranks on this variable tend to be stable over time).

The data show much higher levels of educational expenditure and much longer school years in more urban states. Toward the end of our period these differences decrease, but during the earlier years they are substantial. Essentially the same differences are shown when we classify states by the proportion of the labor force in manufacturing or by manufacturing product per capita (these variables are, at the state level, very highly correlated with urbanization).

We thus find, as others have, that these two indicators of educational development are associated with urban industrialism and rise over time with it. We have further employed multiple regression analyses of

these two educational indicators across the Northern and Western states, incorporating other potential state-level explanatory factors. Throughout these analyses, urbanization continues consistently to show large effects. None of the other variables we have considered shows consistently large or significant effects. A set of these analyses is reported in Appendix 2.

The Problem. The great nineteenth century changes in educational organization may well have been supported by urban industrialism, though it is possible to argue about the particular processes involved. The main problem arises, however, if this interpretation is turned into a general argument about the origins and spread of mass education. This institutional structure arose much earlier, and in a more rural and less state-centralized context. Theories of educational bureaucratization may not clarify the reasons for the rise of mass education in the first place. Research on such measures as length of the school year and educational expenditures can be misleading when generalized to an explanation of the whole system, just as it is dangerous to generalize from the experience of an atypical state like Massachusetts (an early leader in industrialization and state action -- and also in the creation of the kind of statistics which are in common use by present-day researchers). A number of specific points are relevant here:

1. The United States was overwhelmingly rural and non-industrial until late in the nineteenth century. In 1860, only about 20 per cent of Americans lived in communities over 2500 in population. Even by 1900, only 40 per cent lived in such places.

2. Educational enrollments were high very early. What happens when we look at more direct indicators of the spread of mass education in the United States -- proportions of the eligible age group enrolled in schools (of whatever formalization or expenditure)? Using the Census and state reports, Fishlow (1966b) argues that school enrollment was already high in the settled Northeast before the "common school revival" of the 1840s -- averaging over 70 per cent of whites aged 5-19 -- and that the major achievement of the mid-century movement was the extension of public education to the western states (and to a much lesser extent, the South). Analyzing a random sample of the 1860 Census, Soltow and Stevens (1977) confirm Fishlow's belief that white male literacy was high even before the first Census count in 1840. They find that illiteracy by decade age-groups ranging from 20-99 varied only from 5 to 8 per cent, indicating that surviving men born early in the century had somehow become literate. Kaestle and Vinovskis (1976) similarly report high enrollments in Massachusetts early in the century -- long before much industrialization occurred (see also Folger and Nam, 1967).

State-level data show the overall pattern. Table 2 reports public primary enrollments standardized to the school-age population. The first row of the table shows that by 1870, 58 per cent of the children in the average state were enrolled in school. When the Southern and Border states are excluded, the figure rises to 76 per cent -- and shows only modest further increases during the remainder of our period.

(TABLE 2 ABOUT HERE)

Clearly, the rise of massive educational enrollments in America took place earlier than the sweeping urbanization and industrialization of the late nineteenth century.

3. State control was extremely weak: The late nineteenth century bureaucratic educational reorganization involved increases in state control, and some theories stressing its origins in urban capitalism see the state as a crucial mechanism in the process. This model cannot be extended to the early expansion of mass enrollments. State-level data show that only six per cent of the states had a compulsory attendance law by 1870. While this proportion rises rapidly (to 49 per cent by 1890 and 100 per cent by 1920), most of this rise occurs after enrollment was almost universal in the Northern and Western states. Further, Solmon and Landes (1972) show that the presence of such laws is not an effective predictor of subsequent rises in enrollment; rather, the laws tended to express public support of already high rates of enrollment. This becomes more understandable when one realizes how weak state educational bureaucracies were in the nineteenth century. In 1890, the median size of state departments of education was only two, including the superintendent (NEA 1931, 5-6).

4. Enrollments and bureaucratization were not positively related. Discussions of educational development in America sometimes proceed as if the expansion of the enrollment base of the system and the tightening of organizational links and shift upward in level of control are the same phenomenon. They are not.

We have, in our state-level data, only the two measures discussed earlier to use as indicators of the formalization of the system --- length of the school year and expenditures per pupil. But we suppose that other measures (e.g., presence of more graded schools, more professionalized teachers, higher levels of consolidation, more principals and other administrators, and more formal state and district rules) would show results similar to these. For 1880, across the set of Northern and Western states, primary enrollment ratios are correlated $-.29$ with length of the school year and $-.50$ with educational expenditures (21 cases). Such negative correlations hold throughout our data for the nineteenth century.

5. Enrollments were as high (or higher) in rural areas as in urban ones. Soltow and Stevens (1977) find that children of northern farmers had almost identical school enrollment rates from ages 5-14 as those who were children of non-farmers, but that for older children rural rates were considerably higher (58 per cent to 38 per cent for those aged 15-19). This finding of higher rural rates over a broad age span, with very high rates in the middle years of childhood for children both in city and countryside, was confirmed in Kaestle and Vinovskis' study of Massachusetts, which showed enrollment to be inversely proportional to town size. Comparing census returns of 1890 for three industrial states with those of three agricultural states, Folger and Nam (1967) found lower enrollments of rural children than urban ones at ages 5-9; about the same high enrollments for children aged 10-14; and higher rural enrollments for the older children. State-level data show the same

effects. Table 2 reports the relevant data. Among Northern and Western states, more rural states tended to have higher enrollment ratios throughout our period than did urban states. These data are not easily made compatible with theories seeing educational expansion as arising from the labor (and social) control problems of urban capitalism.

Indeed, the whole relation of labor control to education needs reexamination, not only because of the anomalies introduced by enrollments in communities of family farms but also because it is too easy to assume that schooling is an all-purpose solution to worker control. In the slave South, for example, and to a large degree later in the caste system, white employers relied on other forms of control than education. Even in northern cities two problems arise with this theory: First, mass education may be a rather expensive short-term device (as many capitalists believed in the Depression of the 1930's). In the absence of other pressures for education, simpler labor-control strategies (formal stratification by ethnic group or sex, coercive devices, etc.) might operate more cheaply and effectively. Second, building mass education strengthens the social and citizenship status of the workers, facilitating labor and political organization and more social, economic, and political demands. Long-run labor-control costs and problems are created.

To recapitulate: Research on school enrollments raises a central question which we wish to pursue: Why did rural Americans (the vast majority during the nineteenth century) create public schools and enroll their children in them in numbers at least equal to, and usually surpassing, their counterparts in cities? How was it possible for such a

widespread institution to arise and spread (in surprisingly similar forms) without effective direction from central elites and the state apparatus? The key point is not the favorable differential between rural and urban enrollments: mistakes in Census or school reports might wash out these differences (and efforts in statistics were egregious, as a Census monograph on education pointed out in 1890). Nor is the point that rural pupils received as much schooling as urban ones: because of irregular attendance at widely spaced ages, farm children probably went to school for fewer days, even if they enrolled in greater numbers. The question is why did rural people create schools in the first place?

Arguments which focus on urbanization, industry, or corporate elites do not help very much to answer this question. This does not mean that one should search for non-economic interpretations, or ignore the nationalizing influences abroad in the land. It is true that the rural school provided a focus of community, and a socially integrating force (Tyack, 1974; Kaestle and Vinovskis, 1976). It is also true, as Solmon (1970) has shown, that rural schools were much cheaper than urban ones, both in direct costs (pay of teachers, buildings, etc.) and in opportunity costs, since the school calendar could be adapted to the need for children's labor on a seasonal basis. But these are proximate reasons.

Some Speculations on Education and the Culture of American Capitalism

It is by no means easy to construct an interpretation of the social movement that spread the common school, in part because of the urban-industrial model which has become central and in part because the customary lens with which sociologists and many historians have viewed social movements is the theory of status inconsistency. It is usually argued that the real action in America was the creation of a bureaucratically structured modern society of large organizations and competing interest groups. In both cases certain arenas of nineteenth century politics — temperance agitation, sectarian rivalries, millennial thought, even abolitionism, and the rest -- appear as ephemeral, a sideshow; the real story was the building of an organizational society, monitored by a powerful state. Even the ethnocultural historians, who stress the motive force of religion and ethnicity, have generally been more interested in voting behavior than in institution-building through social movements. (Jensen, 1971; Kleppner, 1970). Recently Higham (1974) has reminded us, however, that we need to take seriously the millennial ideology by which nineteenth century Americans, especially in the North and West, blended their religious and political faiths and which provided a potent unifying force in collaborative action. It is this Protestant-republican millennial view of the polity, coupled with a particular view of the nature of capitalism, that we take to be central in the expansion of the common school.

Education is linked to the interests and ideology of capitalists, but capitalism is not only a division of labor and a system of production. It is also a system of property and exchange. Mid-nineteenth century

America was largely a nation of small entrepreneurs, of small units like family farms competing in an expanding world market. As late as 1900, about 42 per cent of the population lived on farms. Until the development of large-scale corporate capitalism toward the end of the century, most of America had been at the periphery of a world capitalistic system in which the division of labor was world-wide, not simply internal to the nation (Wallerstein, 1974a, 1974b; United States Census, 1975: 457, 465-67).

This nineteenth century American economy embodied a deeply-rooted culture and economic ideology glorifying and rewarding quintessentially capitalistic perspectives: property, rational investment, technology, free labor, and immense open markets (Foner, 1970). Along with these economic tenets went complementary Victorian values of thrift in time and money, sobriety, temperance, competition, and order (Howe, 1976). This class culture stressed production for long-distance markets -- not "traditional" production for subsistence.

These economic and cultural values were also imbedded in a distinctive conception of the polity. The polity of free agrarian capitalism was not to be consummated in a strong and bureaucratic state. Rather, it was to be located in individuals and the exchange relations of a free society. One main concern, as with other early forms of capitalism, was to limit the state. The polity was to be created in the hearts and minds of individuals, in the purified citizen-members of a redeemer nation. The concern of these nation-builders was not so much to control labor as to include all in their definition of the polity.

Saved individuals, freed from the chains of sin and tradition and ignorance and aristocracy, were the carriers of political authority and meaning and responsibility (Marty, 1970; Handy, 1971; Hammond, 1974; Tuveson, 1968).

This discussion, however, really applies only to the northern and western states. There was an important exception to this theory of an individualistic, free, capitalistic polity: the slave South and its subsequent caste society. Southerners were deeply Protestant and also distrusted a centralized state, but the political economy of the South was in many respects sharply different. Plantation slavery and the caste system stymied the kinds of inclusive and millennial nation-building movements found in the North. In the southern version of agrarian capitalism, labor control was more of a problem than this construction of a notion of validated and socialized individuals; black workers were kept in a highly subordinated political, social, and economic position, not only under slavery but also under the subsequent caste system. This was in contrast to efforts in the North to incorporate all citizens into the kind of polity we have described above.

The educational statistics included in Tables 1 and 2 show that Southern and Border states had radically lower rates of enrollment and expenditures, and shorter school terms. On the eve of the Civil War the South provided only 10.6 days of public school per white child as compared with 63.5 in New England and 49.9 in the North Central States. Only slowly did the South begin to catch up with the North in the twentieth century, and until recently there was gross discrimination in the resources devoted to the education of black children. (Bond, 1939)

Using multiple regression analysis, we have considered a number of variables that might be thought to account for the striking regional differences in enrollments and other educational variables: the high ratio of children to adults, the small urban population, the lack of industry, and the low percentages of Catholics and immigrants. None of these variables, when held constant, substantially reduces the difference. When the percentage of the population who are black is substituted for the regional variable, essentially the same results are reproduced as in Tables 1 and 2. But it is a mistake to think of the fundamental operative factor as being simply the proportion of Afro-Americans. We are comparing two political economies, for the regional distinction in itself captures contrasting social systems in America; the culture of northern freeholder capitalism with its inclusive concept of an individualized polity is very different from the plantation culture of the South premised on the inferiority of a whole class of non-citizens.

Smallholder capitalism and education: Focusing on the North and West, we concentrate first on the interaction between its form of capitalist political economy and the religious-political ideology shared by those who spread the common school. One critical factor to understand in this whole process is the role of the American farmer. Seeing him as a kind of deluded peasant would transform his politics into false consciousness and his religion into an opiate administered by urban capitalists. Rather, the farmer was himself an important carrier of capitalistic culture, involved in rational calculations in a world market, eager to maintain free action in a free society. (Foner, 1970; Welter, 1962, ch. x)

A political economy and moral polity based upon free individuals -- freed both from traditional forms of community and from an old-world statism -- requires great effort and constant vigilance: to educate these individuals (freedom from ignorance); to reform their souls (freedom from sin), to save them from political subordination (freedom from aristocracy), and to save them from sloth (freedom from old-world customs). To liberate such individuals and to link them by education and salvation to a millennial America seemed within the reach of a responsible citizenry. "Educate the rising generation mentally, morally, physically, just as it should be done," a Yankee Republican Senator exhorted his colleagues, "and this nation and this world would reach the millennium within one hundred years." (Welter, 1962: 151)

The major educational agents of this individualistic political culture of capitalism -- rational and universalistic in premises but almost stateless in structure -- were actors whose authority was more moral than official, who combined in associations that look to twentieth century eyes like religious and other voluntary groups rather than organizations clothed with the authority of a bureaucratic state. But recall that in this conception of the polity the "nation" is really a state of mind more than a powerful apparatus. Thus it was natural for religious leaders and missionaries, local booster elites, frontier politicians, and other scattered groups to join in a common social movement to create the common school (Smith, 1967; Tyack, 1966, 1970). What held such individuals together, in this nineteenth century conception of the polity, was not the coercive or normative power of the state but their

common consciousness of the laws of God and the demands of rational human order. These groups acted not simply to protect the status of their own children but to build a millennial society for all children. Their modes of thought and action were at once political, economic, and religious.

We argue, then -- and stress that our analysis is speculative -- that it was not a narrow elite or powerful state that erected schools across the country but rather hundreds of thousands of people who shared a common ideology of nation-building. Some scholars have observed that rates of enrollment reflected the religious and political cultures of the settlers. In Massachusetts Kaestle and Vinovskis (1976) found, for example, that the enrollment of pupils was highly correlated with the number of church seats in town, and that in New York enrollments reflected the number of New England migrants. Fishlow (1966b) discovered the same pattern in the middle western states at mid-century. Such patterns can be interpreted as evidence of the sort of evangelical culture-bearing we have in mind, but one which influenced the whole nation and flowed well beyond its New England origins. The process of school-formation, we believe, was akin to the massive voluntary creation of churches in American society and one which stemmed from a similar institution-building social movement.

Empirical Exploration

We have discussed theories that look for urban and industrial origins of American Schooling, have suggested that such theories (while useful for other purposes) do not help much in explaining the rise and

spread of public schooling across the nation, and have developed an alternative interpretation. In our view, the spread of schooling in the rural North and West during the nineteenth century can best be understood as a social movement implementing a commonly-held ideology of nation-building; one that combined the outlook of small entrepreneurs in a world market with evangelical Protestantism and with an individualistic conception of the polity. It is important to take seriously the religious and political millennial cosmologies of the time, the patterns of political mobilization, and the connection of these with an evolving world economy.

This speculative interpretation can be examined empirically in many ways. One avenue is to investigate local leadership in the public school movement, and the network of communication and association that linked a mobile population: for example, Smith (1967) and Tyack (1966) have studied the educational work of missionaries in the West. Another approach, exemplified by the quantitative study of individuals and towns in Massachusetts by Kaestle and Vinovskis (1976), is to do intensive analyses of local community data.

Our own exploration here employs state-level data from the North and West over a seven-decade span, beginning in 1870, when comparable figures first become available. There is value in supplementing studies at lower levels of analysis with state data -- despite the problems involved -- since in this way we exploit the considerable variability among states, and are able to treat the whole country over a considerable time span. In our view, macro-analysis and micro-analysis usefully reinforce each other: and indeed, our findings turn out to have important parallels in the research on individuals and communities.

Of course, costs are involved in the use of highly aggregated data. These data contain a good deal of error (Blodgett, 1893). More important, we cannot tell whether findings arise because of processes at the state level itself or as aggregated results of lower level processes. In our interpretations below, we avoid inferences about the level at which the processes under discussion operate. If we find that the dominance of a given religious movement affects enrollment, for example, we avoid arguing that this reflects the individual predisposition of members of this movement to educate their children more. Such a process might well be involved. On the other hand, the finding might arise because members of the movement were generally inclined to politically support the demand for educating all children: an aggregate political process rather than an individual educational one. Both possibilities are inextricably linked in our data (see Hannan, et al., 1976, for a more extended discussion).

In other words, our empirical effort here is to find rough measures of the dominance of certain kinds of religious and political movements in a state and to show their effects on educational enrollments. We are unable to distinguish the processes, operating at several levels, that may be involved.

We compiled the variables listed in Appendix 1 by state from the relevant Census and Commissioner of Education Reports. We also show there the correlation matrices for key variables for 1880 and 1920. Our analysis focused especially on the effects of the following variables on school enrollments (detailed definitions and sources are given in Appendix 1):

1. Urbanization. In parallel analyses, we also examined the effects of per capita manufacturing product. These two variables are so closely related as to make simultaneous analyses of their effects impossible.

2. Republican Party Dominance. We suppose that the role of the Republican Party during the nineteenth century is a useful indicator of the dominance of a millennial view of the polity, the ethno-cultural values represented in the public school movement and related social movements like temperance, and the culture of individualistic capitalism (Foner, 1970; Kleppner, 1970; Jensen, 1971). For each state, and each decennial year, we measure the extent of Republican control of the Governorship during the preceding decade.

We paralleled our analyses here with measures of the size of the vote received by Free Soil and Prohibition candidates -- these political movements probably reflected a very similar view of the polity. Political measures of these kinds, we believe, reflect quite general social orientations. And since they are cast by adult populations, they reflect dispositions which have considerable stability over long periods of time.

3. Evangelical Protestantism. We also consider the evangelical religious ideology an integral part of nation-building and closely related to expansion of schooling. Each Protestant denomination was coded by the extent to which it reflected the millennialist and evangelical movements of the nineteenth century. The state is characterized by the relative size of such evangelical denominations. This measure provides

an overall assessment of the strength of evangelical Protestantism in a given state.

4. Percentage of the Population That is Catholic. This variable is employed for two reasons. First, many writers have argued that educational expansion was a response to the growth of immigrant and Catholic groups and that older WASP groups created and expanded the public school system as an institution to press their culture on newer groups (Collins, 1977; Carlson, 1975). In part, we employ this variable in the analyses below to examine this hypothesis. But our test is partly vitiated by a second consideration. Many Catholic children attended parochial schools, but enrollments in these schools are not included in our data (they are not available for the earlier years of our study). Thus, we expect to find a negative effect of the per cent Catholic variable on enrollments for artifactual reasons. We employ the variable in this respect as a methodological control: to make sure that effects of such related variables as urbanization are not rendered spuriously negative because of the concentration of the Catholic Population in cities.

In order to better test the substantive hypothesis, we also study the effects of the percentage of the population that is immigrant. Unfortunately, this variable is so highly correlated with the per cent Catholics as to make simultaneous analysis of the two variables risky. So, in our main tables, we employ only per cent Catholic as a control variable. But to test the substantive hypothesis that the expansion of schooling reflected attempts to control immigrant populations, we present results in Table 4 when this variable is added to the main analyses:

these results are tentative for statistical reasons, but do reflect our best estimate of the status of this hypothesis (since per cent Catholic, with its negative artifactual effects, is held constant in these analyses).

Table 3 presents the results of a series of multiple regression analyses of these variables in relation to school enrollments. We summarize these results in the light of our interpretation.

(TABLE 3 ABOUT HERE)

1) The percentage urban of the population of a state shows consistently negative association with educational enrollments -- no matter what other variables are controlled. In parallel analyses which include per capita manufacturing product in place of urbanization, the same pattern of consistently negative effects appears.

2) During the earlier decades of our study, as predicted, the index of evangelical Protestantism shows consistent, and in one case significant, positive effects on enrollments. By 1910, these effects disappear, and coefficients which are slightly negative appear. This pattern holds when a variety of other potential factors are held constant in the analysis. It seems likely that "social movement" factors influential in nineteenth century educational expansion became increasingly replaced by variables related to the increasing impact of nationwide bureaucratization.

3) Republican Party Dominance shows consistent positive -- but not statistically significant -- effects on enrollment in the nineteenth century. (4) After the turn of the century, these effects become negative ones. We have discussed above some organizational changes that occurred about 1900, but it should be noted here that a number of scholars have seen 1896 as a turning point in the strategy of leaders of the Republican Party. Forces of social reform and nation-building which had formed and shaped the party for forty years, bringing into its structure reformist themes such as abolitionism and prohibitionism, and emphasizing unification and education on Protestant and Anglo-Saxon terms, were finally overshadowed by the rising power of urban capitalism and appeals to different constituencies. It is striking that this change took place just when our data show that the effects of Republicanism on enrollments shifted from positive to negative. Such an interpretation is, of course, highly speculative since the coefficients associated with this variable are statistically insignificant.

4) Throughout our analyses, the percentage of the population that is Catholic shows a negative effect on school enrollments, an effect which becomes large after the turn of the century. This may reflect negatively on the hypothesis that education was expanded to control the immigrant Catholic population, but we think it primarily reflects the fact that parochial school enrollments are not included in our data. The finding thus reflects this artifact,

and the variable is employed in our analysis as a statistical control only. To get more directly at the central hypothesis involved, we add to the main analysis the percentage of the population that is immigrant. The results for this variable are reported in Table 4. The results are affected by colinearity -- immigration is closely related to the Catholic population -- but overall do not suggest any substantial positive effect of immigration on educational enrollments. We interpret the data in Table 4 to mean that whatever organizational changes immigration may have produced in American educational organization (see, e.g., Tyack 197) expanded enrollments were not central. A great concern with the social control and absorption of the immigrant population does not seem an adequate explanation for the expanded enrollments we observe in the 19th century.

(TABLE 4 ABOUT HERE)

The exploratory analyses reported in Table 3 lend some support to our argument that the expansion of education in the nineteenth century North and West contained elements of evangelical Protestantism, freeholder capitalism, and an individualistic conception of the polity -- phenomena we have grouped under the rubric of "nation-building." They lend support to three general ideas: First, urbanization and industrialization were not prerequisites for the development of mass education; on the contrary, the society of the rural North and West may have produced higher enrollments than did the towns and cities. Second, the

nation-building movement for which we have used numbers of evangelical Protestants and Republican Party Dominance as indicators did seem to have some effect on educational enrollments -- the results are, for the nineteenth century, consistently positive, though perhaps because of our small number of cases not usually statistically significant. We have some general support for our theory here, but further testing will require a more fine-grained approach, through more studies of individuals and communities, for example. Third, our statistical analysis suggests important changes in the control, character, and direction of American education at the turn of the twentieth century. By 1900 all but a small percentage of the primary school population was enrolled. This lack of substantive variability between states after 1900 in enrollments makes our generalizations about causal influences more tentative.

One problem remains: our theory argues against the supposition that urban industrialism in America positively affects enrollments during the 19th century. And indeed the coefficients of Table 3 -- with a number of other variables controlled -- are not positive. But they are consistently negative: why does this occur? The literature suggests an explanation. Perhaps the bureaucratization of education associated with urbanization "tightened up" the organization of educational enrollments, eliminating the rural inclination to enroll -- for at least a month or two each year -- over- and under-aged children in the primary schools (Kaestle and Vinovskis, 1976). This process, without really reducing the impact of education on the children of the community, might lower the raw

proportions of children shown as enrolled (remember that enrollments are standardized to age spans constant between rural and urban schools). If this explanation is correct, our negative findings are artifactual.

This possibility is tested in the second panel of Table 4. We add to the analyses of Table 3 one of our indicators of educational formalization -- educational expenditures per student -- with the expectation that the inclusion of this variable may eliminate the negative coefficients associated with urbanization.

The data show that, contrary to our expectations, the educational expenditures variable does not usually affect enrollments negatively. And further, its inclusion does not lower the negative effects of urbanization.

Thus we are left with the possibility that urban industrialism, given its special problems of labor control, was less likely to generate the expansion of educational enrollments than was the culture of small-holder capitalism that dominated the rural life of the Northern and Western states. As we noted earlier, education is not really an ideal solution to the labor control problems of large-scale capitalism -- perhaps, like many other aspects of individualism, it is maximized more by a system of free exchange than by the pressures of the differentiated social relations of production.

Conclusions.

We have examined factors affecting educational enrollments and reorganization in the American states during the seven decades from 1870

to 1930. We have attributed the dramatic educational differences between the southern and northern states primarily to the quite different forms of capitalist political economy created during the expansion of the world system into the two regions. We argue that the spread of schooling in rural areas of the North and West reflected a commonly-held ideology of nation-building that combined the outlook of small entrepreneurs in a world market with evangelical Protestantism and an individualistic conception of the polity. The urban-industrial system affected chiefly the bureaucratic elaboration of the rudimentary common school, especially in the years following 1890.

One might interpret this two-fold analysis as reflecting the destruction of the pastoral schools of egalitarian America by the rise of urban capitalists and an encroaching state at the turn of the twentieth century. We think not. It is a mistake, we believe, to see the scattered freeholders and entrepreneurs who shaped rural America as isolated and traditional people or to suppose that the cosmologies of the nineteenth century evangelists -- religious, moral, political -- were concerned only with otherworldly (read not economic) life. Pastoral folk do not create gigantic systems of public instruction or prosper as producers and traders in long-distance markets. The urban-bureaucratic system of mass education we have now did, in a sense, begin in the industrial towns of Massachusetts at mid-nineteenth century, but that pattern of intensive, systematic schooling was to be atypical until much later -- until that critical period in our history when the economy became more centralized in direction, the state apparatus vastly

enlarged, and the older conceptions of nation-building transformed into an ideology of "technical unity" more congruent with an everyday life dominated by large organizations (Higham, 1974).

TABLE 1.

TWO MEASURES OF EDUCATIONAL FORMALIZATION: AMERICAN STATES, 1870-1930,
BY REGION AND DEGREE OF URBANIZATIONFor variable sources and definitions, see Appendix 1
Cell entries are means: cases in parentheses

A. Mean Length of School Term in Days

| | Year | | | | | | |
|---------------------------------------------------------------------------|----------|----------|----------|----------|----------|----------|----------|
| | 1870 | 1880 | 1890 | 1900 | 1910 | 1920 | 1930 |
| All States | 117 | 122 | 127 | 137 | 154 | 160 | 170 |
| Standard Deviation | 39 | 41 | 37 | 33 | 25 | 19 | 15 |
| | (35) | (36) | (43) | (45) | (46) | (48) | (48) |
| Northern and Western States: Total* | 131(19) | 140(21) | 142(25) | 152(28) | 168(28) | 170(30) | 177(30) |
| Urban | 157(6) | 169(6) | 175(6) | 179(6) | 183(6) | 179(7) | 181(7) |
| Middle | 116(8) | 126(8) | 141(8) | 154(9) | 167(9) | 168(9) | 179(9) |
| Rural | 110(5) | 125(6) | 137(6) | 144(6) | 156(6) | 163(7) | 175(7) |
| Border States* | 112(5) | 121(5) | 126(6) | 136(6) | 150(6) | 154(6) | 174(6) |
| Southern States* | 86(8) | 76(8) | 89(10) | 97(10) | 121(10) | 135(10) | 147(10) |
| B. Mean Educational Expenditures Per Pupil Enrolled in Current Dollars | | | | | | | |
| All States | 9.3 | 8.1 | 11.9 | 14.2 | 28.6 | 74.3 | 68.6 |
| Standard Deviation | 5.0 | 5.0 | 6.7 | 7.7 | 14.6 | 31.5 | 25.8 |
| | (37) | (38) | (43) | (45) | (46) | (48) | (48) |
| Northern and Western States: Total* | 10.8(19) | 10.2(21) | 15.8(25) | 18.1(28) | 36.7(28) | 93.9(30) | 82.3(30) |
| Urban | 14.3(6) | 12.4(6) | 17.7(6) | 24.1(6) | 43.1(6) | 96.7(7) | 84.6(7) |
| Middle | 9.1(8) | 8.7(8) | 13.0(8) | 14.8(9) | 31.2(9) | 91.2(9) | 80.1(9) |
| Rural | 8.3(5) | 9.9(6) | 14.1(6) | 16.5(6) | 34.2(6) | 85.8(7) | 77.1(7) |
| Border | 7.3(5) | 6.0(5) | 7.1(6) | 9.0(6) | 16.2(6) | 48.4(6) | 57.0(6) |
| Southern States* | 5.8(8) | 3.3(8) | 4.2(10) | 4.5(10) | 11.2(10) | 31.6(10) | 32.4(10) |

*States are included as they enter the Union. Southern States: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Texas, and Virginia.

Border States: Delaware, Kentucky, Maryland, Missouri, Tennessee, and West Virginia.

Northern States by 1870: California, Connecticut, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Nebraska, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Wisconsin;

by 1930: Colorado, Idaho, Montana, New Mexico, North Dakota, South Dakota, Utah, Vermont, Washington, Wyoming.

TABLE 2

MEAN PUBLIC PRIMARY ENROLLMENTS AS A PROPORTION OF AGE GROUP POPULATION: AMERICAN STATES, 1970-1930, BY REGION AND DEGREE OF URBANIZATION

For variable sources and definitions, see Appendix 1
Cell entries are means: cases in parentheses

| | Year | | | | | | |
|-------------------------------------|---------|---------|---------|---------|---------|---------|---------|
| | 1870 | 1880 | 1890 | 1900 | 1910 | 1920 | 1930 |
| All States | .58 | .65 | .69 | .74 | .76 | .80 | .83 |
| Standard Deviation | .23 | .16 | .11 | .09 | .08 | .09 | .08 |
| | (35) | (37) | (42) | (45) | (46) | (48) | (48) |
| Northern and Western States: Total* | .76(19) | .75(21) | .73(25) | .78(28) | .79(28) | .82(30) | .84(30) |
| Urban | .70(6) | .70(6) | .69(6) | .72(6) | .70(6) | .76(6) | .79(6) |
| Middle | .79(8) | .77(8) | .75(8) | .79(9) | .78(9) | .77(9) | .81(9) |
| Rural | .76(4) | .75(5) | .80(5) | .86(5) | .85(5) | .85(6) | .89(6) |
| Border States* | .47(5) | .64(5) | .69(6) | .75(6) | .76(6) | .77(6) | .76(6) |
| Southern States* | .29(10) | .45(8) | .57(10) | .63(10) | .68(10) | .75(10) | .83(10) |

*For regional definitions, see Table 1.

TABLE 3

MULTIPLE REGRESSION ANALYSES OF PRIMARY EDUCATIONAL ENROLLMENTS: BY YEAR: NORTHERN AND WESTERN STATES ONLY.

Independent Variables

| Independent Variable: Enrollment | Cases | Urbanization | | | Percent Catholic | | | Evangelical Protestantism Index | | | Republican Party Dominance | | | R ² |
|-------------------------------------|-------|--------------|------|-----|------------------|------|-------|---------------------------------|------|--------|----------------------------|------|--------|----------------|
| | | B | Beta | SE | B | Beta | SE | B | Beta | SE | B | Beta | SE | |
| 1870 | 20 | -.14 | -.32 | .11 | -.0015 | -.44 | .0011 | .00004 | .14 | .00008 | .00076 | .18 | .00093 | .41 |
| 1880 | 20 | -.23** | -.67 | .06 | .0004 | .13 | .0005 | .0009** | .54 | .00003 | .00043 | .21 | .00036 | .48 |
| 1890 | 21 | -.24* | -.65 | .12 | .0001 | .06 | .0003 | .00014 | .23 | .00011 | .00062 | .29 | .00046 | .50 |
| 1900 ¹ | 22 | -.37 | -.40 | .31 | -.0002 | -.18 | .0003 | .00016 | .34 | .00013 | .00060 | .17 | .00079 | .10 |
| 1910 | 28 | -.15* | -.42 | .06 | -.0003* | -.42 | .0001 | -.00007 | -.11 | .00008 | -.00029 | -.11 | .00033 | .55 |
| 1920 | 29 | -.11 | -.24 | .07 | -.0003 | -.49 | .0001 | -.00011 | -.16 | .00010 | -.0011* | -.31 | .0005 | .42 |
| 1930 | 29 | -.43 | -.11 | .05 | -.0004** | -.66 | .0001 | -.00004 | -.08 | .00007 | -.00072* | -.25 | .00037 | .57 |

¹ There is a problem with the data for 1900, especially with the urbanization variable. All of our attempts to ascertain the reason for these anomalous results have been unsuccessful. We have substituted manufacturing workers per capita in all of the analyses for 1900 to deal with these data problems since this variable operates very similarly to urbanization in all of the analyses.

* P < .10

** P < .05

TABLE 4

ADDITIONAL EFFECTS: MULTIPLE REGRESSION ANALYSES OF PRIMARY EDUCATIONAL ENROLLMENTS BY YEAR: NORTHERN AND WESTERN STATES ONLY.

A. Effects of percent immigrants on primary enrollments, when added to the analyses reported in Table 3¹.

| | Year | | | | | | |
|---------------------------------------------------------------------------------|-------------------|------|-------------------|-------------------|------|------|------|
| | 1870 ³ | 1880 | 1890 ³ | 1900 ² | 1910 | 1920 | 1930 |
| Standardized Partial Regression Coefficient of Per Cent of Population Immigrant | -.09 ¹ | -.13 | -.26 | -.22 | -.03 | -.37 | -.01 |

¹ Similar results are found if this variable replaces percent Catholic in the analyses of Table 3.

² See note in Table 3

³ Because of the high collinearity between percent Catholics and percent immigrants in three years, the coefficients reported represent the results when percent immigrants replaces percent Catholics in these analyses.

3 Effects of educational expenditures per pupil on primary enrollments, and consequences for the effects of urbanization.

| | | Year | | | | | | |
|-------------------------------------|----------------|--------|-------|--------|-------------------|--------|--------|-------|
| | | 1870 | 1880 | 1890 | 1900 ² | 1910 | 1920 | 1930 |
| Educational Expenditures per Pupil: | | | | | | | | |
| | B | -.0049 | .0026 | .0062* | -.0018 | .0015 | .0021* | .0009 |
| | Beta | -.23 | .11 | .39 | .15 | .19 | .37 | .17 |
| | Standard Error | .0067 | .0054 | .0033 | .0032 | .0012 | .0009 | .0006 |
| Urbanization | | | | | | | | |
| | B | -.09 | -.25 | -.34** | -.43* | -.18** | .16* | -.06 |
| | Beta | -.20 | -.73 | -.74 | -.46 | -.51 | -.35 | -.16 |
| | Standard Error | .14 | .08 | .13 | .26 | .07 | .07 | .05 |

¹ The remaining variables included in Table 3 are also held constant in this analysis.

² See note in Table 3.

* P < .10

** P < .05

Appendix 1

1880 and 1920 Zero Order Correlation Matrices:
(Northern & Western States Only)

| | <u>Urbanization</u> | <u>Per Cent Catholic</u> | <u>Evangelical Protestantism Index</u> | <u>Republican Party Dominance</u> |
|---------------------------------|---------------------|--------------------------|----------------------------------------|-----------------------------------|
| <u>1880</u> | | | | |
| Per Cent Catholic | .40 | | | |
| Evangelical Protestantism Index | .09 | -.30 | | |
| Republican Party Dominance | -.10 | -.16 | -.31 | |
| Primary Enrollments | -.59 | -.26 | .38 | .13 |
| Length of School Term in Days | .73 | .41 | .19 | -.19 |
| Educational Expenditures/Pupil | .60 | .42 | -.28 | -.02 |
| <u>1920</u> | | | | |
| Per Cent Catholic | .39 | | | |
| Evangelical Protestantism Index | .07 | -.24 | | |
| Republican Party Domanance | -.03 | .08 | .02 | |
| Primary Enrollments | -.43 | -.57 | -.07 | -.35 |
| Length of School Term in Days | .64 | .48 | -.11 | .08 |
| Educational Expenditures/Pupil | .15 | -.31 | .10 | -.39 |

(n=29)

Appendix 1

Indicator Sources and Descriptions

Independent Variables

1. Urbanization

Source: U.S. Census of the Population, 1950

Description: % urban = population in cities of 2,500 or more;
high urban = greater than 33% of the population in cities
of 2,500 or more;
medium urban = between 15% and 33% of the population in
cities of 2,500 or more;
low urban = less than 15% of the population in cities of
2,500 or more

2. Percent Manufacturing Workers

Source: U.S. Census Reports: 1870-1930

Description: Number of manufacturing workers divided by population

3. Percent Catholic

Source: 1870 and 1890: U.S. Census Reports

1906-1926: U.S. Census of Religious Bodies, 1936

Description: Number of Catholics divided by population

4. Percent Immigrants

Source: U.S. Census Reports: 1870-1930

Description: Number of foreign born divided by population

5. Percent School Aged Children

Source: U.S. Census and Office of Education Reports: 1870-1930

Description: Number of school aged children (5-17) divided by population

6. Republican Party Dominance Index

Source: ICPSR, Burnham, Dean

Description: Party of Governor

7. Evangelical Protestantism Index

Source: 1870 & 1890: U.S. Census Reports

1906-1926: U.S. Census of Religious Bodies, 1936

Thomas, George. Stanford University, 1978

Description: Protestant religion memberships (seats in 1870) were weighted from 1 to 3 (with 3 being most evangelical) and divided by population.

Appendix 1, Indicator Sources and Descriptions
Page 2

Education Variables

1. Public Primary School Enrollments

Source: U.S. Office of Education, Biennial Surveys of Education: 1870-1936
Description: Number of primary students enrolled divided by school age population

2. Length of School Term

Source: U.S. Office of Education, Biennial Surveys of Education: 1970-1936
Description: Average number of days schools were in session per year

3. Educational Expenditures

Source: U.S. Office of Education, Biennial Surveys of Education: 1970-1936
Description: Number of dollars spent per pupil

Multiple regression analyses of formalization indicators by year: Northern and Western states only.

Independent Variables

| Independent Variable | Number of cases | Urbanization | | | Percent Catholic | | | Evangelical Protestantism Index | | | Republican Party Dominance - Party of Governor | | | R ² |
|--------------------------|-----------------|--------------|------|-----|------------------|------|------|---------------------------------|-------|-------|------------------------------------------------|------|------|----------------|
| | | B | Beta | SE | B | Beta | SE | B | Beta | SE | B | Beta | SE | |
| Length of School Year | | | | | | | | | | | | | | |
| 1870 | 17 | .87* | .51 | .38 | .05 | .04 | .32 | -.001 | -.01 | .021 | -.58 | -.34 | .37 | .35 |
| 1880 | 20 | .90** | .61 | .30 | .29 | .23 | .24 | .014 | .17 | .015 | -.11 | -.12 | .19 | .49 |
| 1890 | 21 | .49 | .39 | .34 | .11 | .31 | .09 | .034 | .15 | .035 | .26* | -.34 | .12 | .61 |
| 1900 ¹ | 21 | -.4 | -.04 | .22 | .30** | .79 | .07 | .105* | .56 | .025 | -.09 | -.06 | .17 | .77 |
| 1910 | 28 | .24 | .33 | .14 | .06* | .44 | .02 | .003 | .02 | .018 | .13* | .25 | .07 | .48 |
| 1920 | 29 | .24** | .57 | 6.9 | .02 | .22 | .01 | -.007 | -.10 | .010 | .03 | .08 | .05 | .41 |
| 1930 | 29 | .22** | .67 | 5.5 | .00 | .04 | .01 | .004 | .09 | .007 | .00 | .01 | .04 | .40 |
| Educational Expenditures | | | | | | | | | | | | | | |
| 1970 | 17 | .11** | .54 | 4.2 | .046 | .29 | .036 | -.001 | -.10* | .0024 | -.034 | -.16 | .040 | .48 |
| 1880 | 20 | .86** | .58 | 3.1 | .012 | .10 | .026 | -.003 | -.33 | .0016 | -.007 | -.08 | .018 | .34 |
| 1890 | 21 | .16* | .71 | 7.5 | -.017 | -.27 | .021 | -.019* | -.45 | .008 | -.008 | -.06 | .028 | .38 |
| 1900 ¹ | 21 | .11 | .52 | 6.5 | .025 | .31 | .022 | -.005 | -.13 | .007 | -.046 | -.16 | .050 | .52 |
| 1910 | 28 | .22* | -.48 | .11 | -.024 | -.30 | .019 | -.017 | -.22 | .014 | -.12* | -.37 | .06 | .13 |
| 1920 | 29 | .24 | .30 | .15 | -.051* | -.40 | .025 | -.001 | -.01 | .022 | -.22* | -.34 | .11 | .19 |
| 1930 | 29 | .17 | .23 | .16 | -.016 | -.13 | .029 | .007 | .06 | .022 | -.02 | -.05 | .11 | .10 |

¹ See note for Table 3.

* P < .10

** P < .05

Footnotes

1. The research reported here was conducted at, and supported by funds from, the Boys Town Center for the Study of Youth Development, Stanford University. However, the opinions expressed or the policies advocated herein do not necessarily reflect those of Boys Town.

2. Data sources and variable definitions are reported in Appendix 1.

3. Our primary concern is with the overall extensiveness of the educational system -- that is, with enrollments. It is important to remember, as Kaestle and Vinovskis (1976) point out, that more complete measures of educational expansion must also include data on average daily attendance (often lower in rural areas) and the length of the school year. (Table 1 supports their observation that urban schools were open for longer periods than rural ones).

4. In parallel analyses, we have replaced the Republican Dominance variable with other political measures which reflect individualistic nation-building: the state's vote for the Liberty Party in 1844; the vote for the Free Soil Party in 1848; and the vote for the Republican party in 1860. All three of these variables show positive effects (two are statistically significant) on primary enrollments in 1880.

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