mental competence" (p. 3)—had been supported by the evidence. Yet the essentially negative conclusion reached is important and much more reassuring: "Prenatal brain cell depletion in fetuses exposed to the famine during the third trimester probably occurred. . . . If it occurred . . . the organic impairment did not become manifest in dysfunction" among adult survivors, whatever their social class (p. 236). Nor were there any discernible effects of exposure to famine on physique. The fact seems to be that, provided conception is possible, evolution has provided remarkably effective protection for the human fetus against nutritional adversity: hence, no doubt, the explosive increase of population even in countries where nutritional adversity is the common lot. But that is not the whole story. The fetus of a severely malnourished mother may be permanently damaged by other adverse factors, such as infection, and the growing child may be exposed to all manner of hostile environmental agents and deficits. Infant (but not perinatal) mortality in Holland was considerably raised, probably by the interaction of famine with other factors. We cannot safely infer, from the Dutch experience, that physiological safeguards are equally effective where deprivation is the rule and not merely an interlude in a normally well-endowed social existence.

The authors describe all this, and more, in detail. If I have any complaint, it is that they may not have resisted sufficiently the temptation to wring the last ounce of juice from the subjects of the House of Orange. Yet readers professionally concerned with the matters at issue will find much to think about in theoretical analyses which others may prefer to skip and in biological conclusions some of which I, for one, consider arguable. The main story is so interesting and important that I hope this book will be widely read. It is beautifully produced.

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Schooling in America

The One Best System. A History of American Urban Education. DAVID B. TYACK. Harvard University Press, Cambridge, Mass., 1974. xii, 354 pp., illus. $15.

This book will be the "one best book" to recommend to those who would understand the evolution of the conventional "politics" of public schools in the United States, especially the power arrangements of present-day city school systems. The centralization of educational decision-making and the holding of power over schools by administrators have become such familiar features that, as Tyack writes, "many Americans [after 1920] would . . . forget the bitter contests of power and the conflict of values that . . . attended their origins" (p. 147).

In this work the nay-sayers are given their due. Their ranks include the unnamed residents of countless rural communities and urban ethnic neighborhoods who struggled against an ever more relentless campaign to unify, consolidate, and sanitize the schools; elected school superintendents like San Francisco's Alfred Roncovieri who helped delay until 1920 the implementation of a closed system of school governance on the corporate model to be run by business and professional elites, in favor of continuing "direct government by the people"; the German citizens of Cincinnati and St. Louis who resisted the assimilationist intentions of common schools in the 19th century by getting German used and taught in the public schools; the Jewish woman who, at a mass meeting during the rioting of thousands of parents and children in October 1917 against introducing into New York City the "Gary (Indiana) plan" of "platoon schools," shouted, "We want our kinder to learn mit der book, der paper und der pensil [*sic*] und not mit der sewing and der shop" (pp. 250–251); the voteless leaders of early teacher unions, the "Lady Labor Sluggers," who battled in the arenas of Chicago and New York politics and in the National Education Association on behalf of equal-pay-for-equal-work legislation, higher salaries, and teacher tenure protection, abolition of secret teacher-rating systems, and teacher councils to share in the formulation of educational policy.

By examining the contexts in which bureaucratic organization emerged and was elaborated—in the search for the "one best system" in whose existence most school leaders believed—Tyack would have us understand how the victimizing of the urban poor and cultural minorities by the educational system is made systematic and systemic. His personal concerns are frankly with the social injustice that is often reinforced by the processes of modern-day schooling and with the denial of power over educational policy to the nonprofessional and nonelite constituencies that have the most to lose if schools are racist, class-biased, and culturally insensitive. It is not altogether clear to this reader how much Tyack actually sees the former (injustice through education) as a consequence of the latter (the loss of meaningful community control over schools).

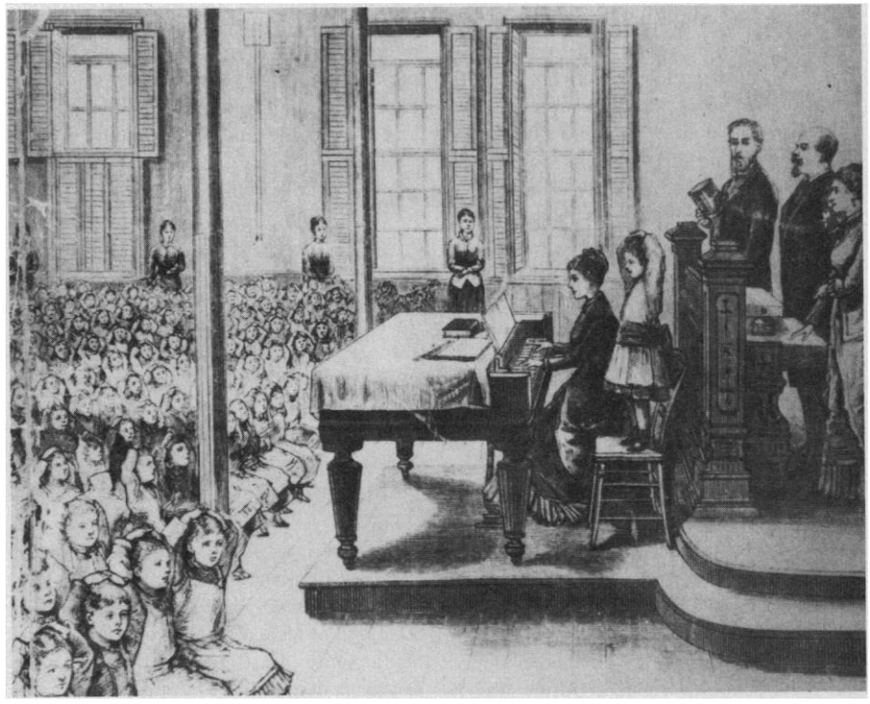
Be that as it may, Tyack gives a quite detailed account of the "organizational revolution" that he believes to have dominated American educational history over the past century and more. In the 19th century, the results were city school systems whose ideal components included highly formalized codes of teacher and pupil behavior, curricular invariability, rigid rules and standards, and military-style control of large, graded classrooms. In *his* commitment to efficient uniformity, Superintendent Frank Rigler of Portland, Oregon, met with his teachers every Saturday and proceeded, page by page, through the textbooks, specifying what questions to ask and what answers to allow. Through various coalitions formed with individuals active in chambers of commerce, municipal and civil-service reform organizations, the Association of Collegiate Alumnae, and philanthropic and civic organizations, and with the support of influential legislators and university presidents, schoolmen saw enacted a number of "reforms"—done largely in the name of insulating the schools from "ethnic politics," graft, and bossism—which centralized educational power in small, city-wide school boards.

As the 20th century unfolded a new generation of schoolmen took the place of Rigler and his kind, although they conserved the political alliances forged by their predecessors; this group Tyack labels "administrative progressives." In the interests of accommodation to new social and economic realities, especially to the pervasive authority of science, they sought a complex and differentiated organization, able to select and prepare youngsters to function in an increasingly complex and differentiated society. Considering that he views science as a key element in the intellectual and social change, called "modernization," that inspired educators to react and to rethink school purposes, Tyack gives few pages to the direct impact of science upon schools and defines the issue rather narrowly. Despite the energy and resources expended after 1900 in creating a multifaceted "science of education," he concentrates upon the rhetoric of efficiency-through-science, the school survey movement, and the testing movement with

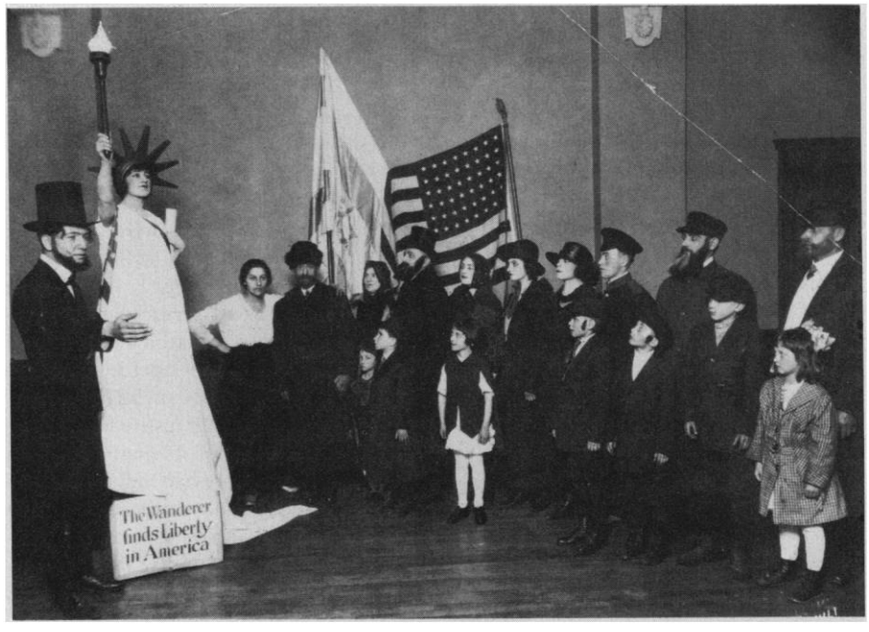
its concomitants of sorting, tracking, and giving of "scientific validation to garden-variety social prejudice" (p. 205). In this, Tyack's account is in line with the recent historiography of, most notably, Joel Spring (*Education and the Rise of the Corporate State*, Beacon Press, 1972), Clarence J. Karier (*The Roots of Crisis: American Education in the Twentieth Century*, Rand McNally, 1973), and some of their students. He does recount how the rudimentary "science" of educational measurement, around 1910, dramatized the facts of pupil retardation and the gross inefficiency that was represented by the hundreds of thousands of students held back year after year; this knowledge undermined and ultimately largely destroyed public confidence in the common 19th-century professional position that a low rate of promotion signified high standards and good schools. The consequences—in the forms of "social promotion" policies, broadened curriculum and school objectives, warming up of the "classroom climate," and emphasis on learner motivation—have been incalculably great. Among other things they set the stage for the current round of disillusionment and denunciation, out of which Tyack himself writes and which is a phenomenon itself supported by research into the learning outcomes of contemporary schooling. The role of educational science in inflating the profession's claims of expertise in the power struggle with laymen still awaits close and careful study.

At a time when some social scientists are finding a rather poor fit between bureaucratic theory and schools as they actually operate, when the concept of bureaucracy may have more political than analytical power, it is interesting to consider why a major historian of education has cast a major work on the history of American schooling so firmly in organizational terms. Broader in coverage in being a national study and in dealing also with pressures upon rural education, Tyack's study is a culmination of a genre that includes such important and influential case studies of school bureaucratization as Michael B. Katz's *Class, Bureaucracy and Schools* (Beacon Press, 1968), Marvin Lazerson's *Origins of the Urban School: Public Education in Massachusetts, 1870–1915* (Harvard University Press, 1971), Carl F. Kaestle's *The Evolution of an Urban School System: New York City, 1750–1850* (Harvard University Press, 1973), and Stanley K. Schultz's *The Culture Factory: Boston Public Schools, 1789–1860* (Oxford University Press, 1973).

Perhaps "academic lag" provides a partial explanation, but reflection on the ferment of the past 15 years surrounding the writing of the history of American education suggests more substantive influences. First, the studies in question emanate from a body of scholars that has been repeatedly and sometimes brilliantly harangued with the charge that educators heretofore have contributed a self-serving historiography that magnifies the social and political accomplishments of free, universal education, that has been blind to the class and cultural interests of leading educators masquerading as spokesmen of the public weal, and that ignores the schools' disservice to the poor and the powerless in the support of maintaining social control on behalf of privilege. At the same time there have been stirrings in the larger social history field that are producing new histories of the family, childhood, ethnicity, work, pov-



A New York school assembly, around 1880. [From *The One Best System*; originally published in *Leslie's Weekly*, 5 September 1881]



Americanization class in Milwaukee, 1919, with Golda Meir as the Statue of Liberty. [From *The One Best System*; photograph from the State Historical Society of Wisconsin]

erty, sexuality, crime, along with theories of institutional elaboration in response to changes affecting individuals and groups. The political confrontations that have taken place in and around schools and colleges have also helped to demolish the belief that education is or can be apolitical and that social institutions and services, however "professionalized," can be neutral or insulated from contested issues of public policy. Finally, congenial to these new concerns, there existed a tradition of educational historiography which, albeit wary of providing only "narrow institutional history," was nonetheless concerned with forms, structures, and the ideology and rhetoric associated with them and which had a continuing propensity to dwell upon such matters at the expense of diligent attention to actual outcomes—especially the outcomes for highly diverse individuals and groups.

However explainable its current popularity, educational history written in terms of organizational elaboration shares historiographic difficulties with other interpretive schemata, especially that the events predicted by the schema sometimes overshadow more elusive data. In his prologue Tyack invites his colleagues to "contest or refine [his book's] explanations, to make its periodization more precise, [and] to describe missing dimensions" (p. 3). The following comments are intended to suggest future efforts along these lines.

Other historians have provided evidence that early school bureaucratization was in good measure a response to a rapid proliferation of students, teachers, schools, and expenditures and to public complaints about costs and inefficiencies; we must know much more about all these pressures for system building. Tyack himself makes clear the importance of a nativist distrust of culturally diverse urban populations and their leaders in the centralizing reforms of the later 19th century; the children of immigrants, as community leaders and teachers, were also acting as sometimes enthusiastic agents of public schools in the service of forced cultural assimilation. The claims of a rational science of educational psychology and measurement entered the picture still later. Closer to our own times (and not dealt with by Tyack), one may observe signs of a greater degree of simple institutional aggrandizement at work. Now these diverse motives do not just manifest themselves in historical succession; "appearances" of them may be found together in any one period. For example, in his study of New York City before 1850, Carl Kaestle found both a strong animus against Catholic immigrants on the part of the Free (Public) School Society which was securing a virtual monopoly over public education and evidence to suggest that schoolmen, failing to erase ethnic difference and to solve the social problems of poverty and crime through education, sometimes turned means into ends, basing their sense of accomplishment on what *could* be achieved: erection of an organizational structure, which later generations might work at perfecting. The point being made here is also that system building, system rationalizing, system elaboration and differentiation, and system protection may differ as much in their motivations and experiential meaning (and therefore in their historical significance) as in their origins and strategies. One still wonders if "bureaucracy" (even "bureaucratization") is as meaningful a handle for the historian of education as it seems to be for today's activists in the movements for school decentralization, community control, alternative schools, and teacher unionization. This cannot be known until historians are even more zealous in acquiring the testimony of a far broader sampling of the range of participants in the educational enterprise. When *The One Best System* is superseded, as it will be, Tyack is well equipped by scholarship, historical sensitivity, and modesty to write the next "one best book."

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The Monetary Value of Education

Higher Education and Earnings. College as an Investment and a Screening Device. A Report Prepared for the Carnegie Commission on Higher Education and the National Bureau of Economic Research. PAUL TAUBMAN and TERENCE WALES. McGraw-Hill, New York, 1974. xxxiv, 302 pp. $17.50. General Series 101.

This analysis of the impact of education on the 1969 earnings of males who were born between 1916 and 1926 and who in 1943 had at least a high school diploma reveals some startling facts. An undergraduate degree lifted annual earnings by 31 percent, but for those with some graduate work (but no graduate degree) the increase over high school earnings was only 26 percent. A master's degree yielded a 32 percent increase but a Ph.D. only 27 percent. In law and medicine the differentials were three to four times those accruing to undergraduate and graduate degrees: 84 percent for the L1.B. and 106 percent for the M.D. recipient. Social rates of return to educational investment, deflated by the Consumer Price Index, were not high: from high school to some college, 11 percent; to the B.A. degree, 8 percent; for some graduate work, 5 percent; to a master's degree, 6 percent; to a Ph.D., 2 percent; and to an L1.B., 9 percent. Private rates of return were only slightly higher.

For those who would justify higher education on the basis of its contribution to earnings there is more bad news. Attempting to isolate the effect of education per se on earnings, the authors separate the contributions of mental ability, family background, age, marital status, and health from those of quantity and quality of education. They find that poor health cost a man $7000 in 1969 earnings; being single cost him $3000. The variable for marital status, incidentally (usually interpreted as a proxy for motivation and need for income), is not only significant; its coefficient is larger than the effect of the education or ability variables. As the father's education rose, so did the son's annual earnings, with the latter being $4000 higher if the father had a bachelor's degree than if he had never gone to high school.

Of the abilities included—mathematical, coordination, verbal, and spatial perception—only mathematical ability (primarily numerical fluency and only secondarily problem-solving competence) had a significant influence on earnings. Further, "the pretest variation in quantity and quality of schooling had little effect on test scores or earnings .... Thus the ability coefficients should be closer to measures of the effect on earnings of inherited mathematical ability than anything else." The earnings of the men who ranked in the highest fifth in ability were 15 percent higher than the average high school graduate earnings in 1969; those in the next highest ability group earned 2.9 percent more. Ability had little effect on earnings at the beginning of work life, however, and later appeared to be most effective for those with graduate education and very high levels of ability.

Two other findings are of particular interest. First, the quality of education (judged on the basis of the Gourman academic rating) has a significant effect on earnings. Depending on their college's quality, the earnings of males with three-year graduate degrees varied between 53 and 98 percent above those of the high school graduate. Second, the screening effect of education on earnings is quite high, accounting for perhaps half the returns to