

# The Comprehensive High School in American Education

We must not abandon the institution essential to schooling  
for a democracy.

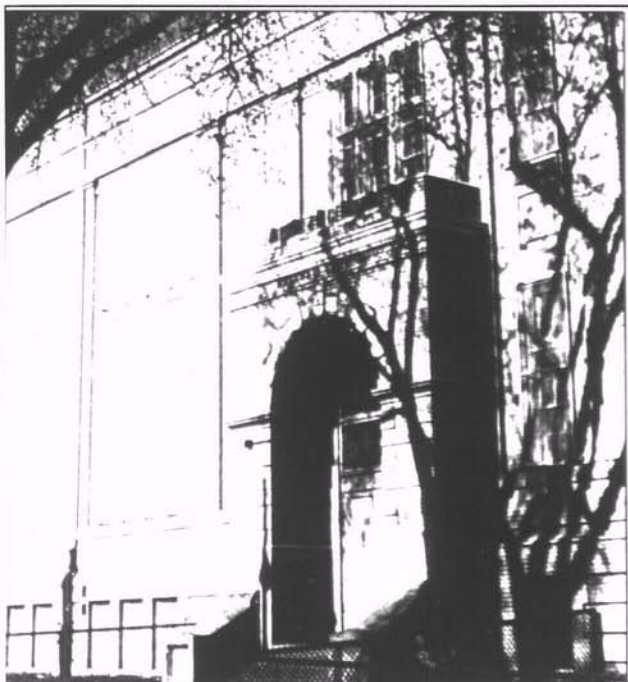
DANIEL TANNER



The contemporary educational literature is filled with proposed "strategies" for managing the decline of education in our society. At a time when other advanced nations are realizing that further investment in education and restructuring of their school systems are necessary for democracy and social progress, we appear ready to abandon our historic commitment to that unique American invention, the comprehensive high school.

Despite emerging positive findings on the power of schooling,<sup>1</sup> the contemporary national mood of educational and social retrenchment has resulted in issuance of several widely publicized policy statements calling for retreat from investment in secondary education. Four so-called national commissions or panels have issued reports calling for lowering the age of compulsory schooling and eliminating the comprehensive high school by putting noncollege-bound adolescents directly into industrial and business work programs.

In 1973 the National Commission on the Reform of Secondary Education of the Kettering Foundation declared that "the formal school-leaving age should be dropped to age 14." They went on to advocate alternative paths to high school education with the prospect that "as little as 40 percent of the student population may be graduated from conventional high schools." "The American comprehensive high school," continued the Commission, "is literally overrun with a mix of young people from inconsistent social backgrounds." The Commission went on to portray our urban schools as rife with disruption and crime, and "on the verge of complete collapse."<sup>2</sup> No effort was made to



identify successful urban high schools or to formulate strategies for improving the schools.

Whereas leading educators through the first half of this century looked to "strength through diversity" in school and society, such diversity was now regarded as a hindrance and liability. Whereas the comprehensive high school was conceived early in this century as the prototype of American democracy, it was now being viewed as an impediment to social control and social predestination.

In 1974 the Panel on Youth of the President's Science Advisory Committee, chaired by James Coleman, proposed several "routes of change" in secondary education. The first "route of change" called for specialized high schools to replace the comprehensive high school. "Specialized high schools have a clearer mission," declared the report, for "they can build organizational competence and identity around their more restricted focus, and they can attract students and faculty of appropriate and mutually reinforcing interest."<sup>3</sup>

It is puzzling that Coleman should be a party to such a scheme of social and institutional separation when his major educational research contributions have

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pointed to the advantages of heterogeneous school populations.

The report of the President's Panel went on to state that, "Time in school could be cut by reducing school functions to the more strictly academic ones," and that other kinds of learning would be attained through various non-school institutions.<sup>4</sup> Whereas the holding power of the secondary school was once viewed as a positive indicator, the panel attacked the comprehensive high school for increasing its holding power over the decades, declaring that "the forms of escape of the past have been steadily reduced."

In 1976 the National Panel on High School and Adolescent Education, sponsored by the U.S. Office of Education, issued its final report, which recommended eliminating the comprehensive high school and moving vocational training out of the schools and into the workplace. The report questioned the value of formal education for most adolescents by age 15 and advised reducing compulsory daily attendance to an academic day of two to four hours. The Panel went on to echo the dictum of earlier reports that the association of heterogeneous populations of adolescents in the comprehensive high school only serves to call attention to social differences and thereby exacerbates these differences.<sup>5</sup> No evidence was offered to support this sweeping allegation.

Just as the decade of the 70s was coming to a close, the Carnegie Council on Policy Studies in Higher Education issued its report, *Giving Youth a Better Chance*. The report echoed the allegations and attacks on the high school leveled by other commissions and panels. It caricatured the high school as an alienating experience for many youth—akin to a prison, albeit with open doors. The Council called for the end of compulsory schooling at age 16 and provision of federal incentives to remove most vocational programs from the high school and into job sites and community colleges.<sup>6</sup> No consideration was given to the fact that such prescriptions could, in effect, virtually eliminate the comprehensive high school.

All four of the commissions and panels would have us abandon the compre-



hensive high school and open-access schooling. Their prescriptions would lead to the creation of a dual or tripartite track system characteristic of traditional European education with all of its social-class strictures. The commissions would have our less-privileged youth population turned out of school after the ninth grade and placed under the direction of the corporate sector, whereas the more privileged would continue in school. The dire social consequences of such divisions are given scant attention by these national bodies.

The commissions also advocate education vouchers for the public financing of alternative schools, including private and church-related schools—again, with virtual disregard for the consequences: creation of even more social divisions in our polyglot society.

The current assault on the comprehensive high school is not unprecedented. What is unprecedented is that, for the first time, national commissions supported by both federal agencies and private foundations and composed of educators from the public sector, have advocated that we eliminate the comprehensive high school, sharply curtail the holding power of the high school, and turn the large proportion of noncollege-bound youth over to corporate America for industrial training financed through public funds. What is also unprecedented is the use of federal legislation, namely the Vocational Education Act of 1963, to create a dual system of education.

The previous major assault on the comprehensive high school came in the

wake of Sputnik. In testimony before U.S. Congressional committees, such figures as Admiral Hyman G. Rickover and the German-educated missile expert Wernher von Braun, called for scrapping the comprehensive high school for the sake of nationalistic and military efficiency. In Rickover's words,

One cannot argue the issue of comprehensive schooling versus separate secondary education on a philosophical basis. But one can argue it on the basis [of] whether the country really has a choice as between efficient education—that is, separate schools above the elementary levels—and pure "democratic" education which insists on the inefficient, time-wasting comprehensive high school. In my opinion, we no longer have a choice. We must opt for efficiency.<sup>7</sup>

In his testimony before a U.S. Senate committee, von Braun pointed to the high efficiency of the pre-World War II German system to which he had been exposed. He criticized the American educational system for its inefficiency and advocated that we adopt the German system of ridding the schools of "ballast" by washing out the less able at the end of elementary schooling through stiff national examinations.<sup>8</sup> Oddly, no Senator proceeded to ask von Braun about the connection between German education and the disasters wrought by Nazism. Scientists, militarists, and politicians during the immediate post-Sputnik period were finding it fashionable to blame our schools, particularly our comprehensive high schools, for the alleged missile gap—while ignoring the fact that if such a gap actually existed it was they and not the younger generation who were responsible.

### Record of Accomplishment

If the comprehensive high school's survival of the post-Sputnik onslaught is to be credited to any single individual, it would be James B. Conant. There may have been limitations, contradictions, and weaknesses in his 1959 Carnegie Corporation report to school boards, but Conant staunchly defended the American comprehensive high school over the dual European system of separate specialized academic and vocational schools.<sup>9</sup> As president of Harvard over a 20-year period, Conant had found that

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the comprehensive high school was producing more than its share of outstanding students in comparison with specialized academic high schools. In his 1959 Carnegie report, Conant analyzed the achievement in trigonometry and physics of students of matched aptitude who were enrolled in two types of schools: specialized academic high schools noted for their record of excellence in preparing students for college, and comprehensive high schools in which the majority of students terminated their full-time education at graduation. Conant found that the students in the comprehensive high schools performed at least as well as their peers in specialized college-preparatory high schools. (The school with the highest scores was comprehensive.) Conant concluded that there is far more promise in directing our efforts at improving the comprehensive high school than in developing selective specialized academic high schools. He stressed the great actual and potential contributions of the comprehensive high school for American democracy. Conant's report, which was widely implemented by school boards, came at a time when our nation seemed ready to opt for the alleged efficiency of the dual and social-class stratified structure of European secondary education. Ironically, leading democratic nations in Europe were at that same time making concerted efforts to transform their educational systems through the comprehensive secondary-school model.

Eight years after the Conant report, the International Project for the Evaluation of Educational Achievement (IEA) issued a two-volume report on mathematics achievement in the schools of 12 nations. The report noted that the American comprehensive high school exceeded by far all other nations in "educational yield" (having the highest proportion of the age cohort continuing through secondary schooling). The study also revealed that American secondary schools had the lowest social bias of any nation (having the highest proportion of youngsters from blue-collar workers continuing in school), while at the same time the populations of highest-achieving youngsters in Ameri-

can schools were found to be comparable in achievement to their European peers. The report also noted that seniors in comprehensive high schools were comparable in achievement to seniors in comparable courses in specialized academic high schools, despite the finding that the latter schools were endowed with superior resources and more highly qualified teachers. Finally, the so-called "nonacademic" students in comprehensive schools outperformed their peers in schools not having "academic" students. The IEA chairman, Torsten Husén, in pointing to the exceptionally high educational yield of the American comprehensive schools, concluded that "a nation need not fear for its most talented students when it contemplates the expansion of educational opportunity at the secondary school level."<sup>10</sup>

Nevertheless, Fred Hechinger, then Education Editor of *The New York Times*, wrote a front-page report captioned "U.S. Ranks Low in Math Teaching."<sup>11</sup> Another news account, which appeared the following year on page 74 of the same newspaper, reported the results of a study by the National Academy of Sciences showing that the U.S. "is universally recognized as the leading producer of mathematics and mathematical talent in the world."<sup>12</sup> Looking back on the misinterpretations and distortions of the IEA studies and the destructive attacks on American education in the U.S. press, Husén viewed Americans as suffering from a "spell of masochism" with an "eagerness to look for remedies in Europe."<sup>13</sup>

### Struggle for a Unitary System

In the foreword to Conant's 1959 Carnegie report, John W. Gardner called the comprehensive high school "a peculiarly American phenomenon"<sup>14</sup> and Conant noted that this institution "has no counterpart in any other country."<sup>15</sup> This unique American invention did not come about by accident or without an enormous struggle. The pressures for adopting the dual or tripartite European model with its attendant bias in favor of the privileged classes were clearly evident in our nation early in this century.

During the first World War a number of state legislatures were drafting bills calling for the establishment of a dual system of secondary education patterned after the European approach. It was John Dewey who hit the issue head on in an article in the *New Republic* in 1915 when he warned of the dangers of splitting the school system in these words:

The segregation proposed is to divide the children of the more well-to-do and cultured families of the community from those children who will presumably earn their living by working for wages in manual and commercial employment. . . . Many of us have been disturbed at the increasing tendency toward stratification of classes in this country. We have wondered if those European prophets were correct who have insistently foretold that the development of fixed classes in this country was only a question of time. Few would have dreamed that the day was already at hand when responsible and influential persons would urge that the public school system should recognize the separation as an accomplished fact, and adapt to its machinery of administrative control, its courses of study, and its methods of instruction in the public school.<sup>16</sup>

Dewey argued that the United States must opt for a unitary system through the comprehensive high school enabling students from different backgrounds to benefit from constant personal association and from constant reciprocal stimulation between the academic and vocational sides of the curriculum. Otherwise, Dewey warned, a dual system would divide our society and would reduce vocational studies to a mere adjunct of business and industry while the segregated academic schools would serve a privileged elite through the traditional academic curriculum. The result would be social predestination inimical to the very spirit of democracy. To Dewey, "the democracy which proclaims equality of opportunity as its ideal requires an education in which learning and social application, ideas and practice, work and the recognition of the meaning of what is done, are united from the beginning and for all."<sup>17</sup>

Dewey's influence came to be reflected clearly in the report of the Commission on the Reorganization of Secondary Education of the NEA,

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published in 1918 by the U.S. Bureau of Education. The *Cardinal Principles of Secondary Education* served as a declaration of independence of American schools from college dominance and from the European tradition. Printed in an edition of 130,000 copies, the report became the basis for a nationwide discussion of issues on educational policy, structure, and function.

"The comprehensive high school embracing all curriculums in one unified organization, should remain the standard type of secondary school in the United States," declared the report, for "the comprehensive school is the prototype of a democracy in which various groups must have a degree of self-consciousness as groups and yet be federated into a larger whole through the recognition of common interests and ideals."<sup>18</sup>

Where the 1918 commission envisioned the serving of all youth in our high schools as an opportunity and responsibility, the contemporary commissions and panels choose to see it as a "burden." Where the 1918 commission viewed our societal strength as deriving from unity through diversity, the contemporary commissions and panels choose to see such diversity only in terms of incompatibility and conflict. Where the 1918 commission looked to youth as the rising generation in whose hands would be the future of the nation, the contemporary commissions and panels portray this generation as the "youth problem." Where the 1918 commission recognized the unique and democratizing function of public secondary education, the contemporary commissions and panels favor the surrender of the public interest to the private interests of business, industry, and the media.

### General Education for a Free Society

The *Cardinal Principles* laid the groundwork for a remarkable document that was to be issued a quarter of a century later when progressive educators were looking to the shape of American education for the post-World War II years. *Education for ALL American Youth*, issued by the Educational Policies Commission in 1944 (and reissued in 1952) showed how we might develop a truly comprehensive curriculum for the comprehensive high school to meet the common and special needs of all youth. It also envisioned an open-access system of higher education through the community college and state university.<sup>19</sup> The 1946 Yearbook of the John Dewey Soci-



ety, under the editorship of Hollis Caswell, was devoted to the comprehensive high school and its comprehensive curriculum as the vehicle for realizing our democratic ideals.<sup>20</sup> Through these documents, along with yearbooks of the National Society for the Study of Education<sup>21</sup> and the Report of the Harvard Committee on General Education for a Free Society, mid-twentieth century witnessed a new partnership between the secondary school and the college in forging the theory and implementation of general education. The concept of general education was seen as "that part of a student's whole education which looks first of all to his life as a responsible human being and citizen,"<sup>22</sup> and "that part of the curriculum that is designed to provide for a common universe of discourse, understanding, and competence."<sup>23</sup>

In 1950, F. Champion Ward, Dean of the College of Education at the University of Chicago, observed that general education was likely to become "the operative educational theory of the remainder of this century."<sup>24</sup> Unfortunately, it became instead a casualty of the Cold War and the ensuing era of knowledge specialization. In the secondary school, a narrow curriculum hierarchy emerged, geared to Cold War demands.

During the late 1970s, concern for general education reemerged. But this time its point of focus was general education in higher education, as our secondary schools became submerged by the back-to-basics syndrome. Where midcentury had witnessed a great partnership between comprehensive high schools and colleges in the development of a guiding theory of general education for a democratic society, the leaders in higher education today are disposed to view the lower schools as properly delimiting their focus on basic skills for the masses and as "tooling up" college

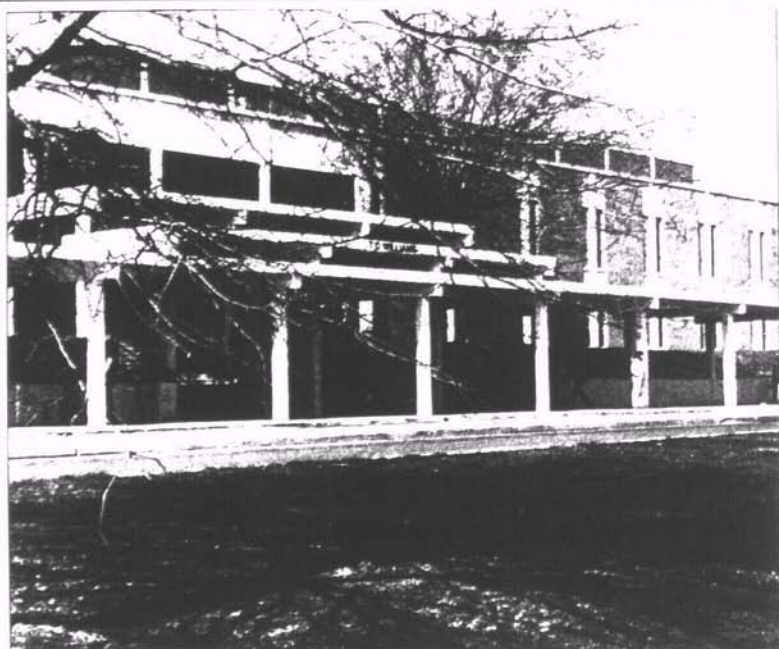
preparation for the college bound. For example, in stating the case for general education at the undergraduate level, Daniel Bell sees the college experience as "the testing years—the years of testing of oneself and one's values." College, he writes, should provide an environment "of broad intellectual adventure, the place where one can resist, momentarily, the harness that society now seeks to impose at an earlier and earlier stage on its youth," whereas the function of the secondary school is that of "concentrating on facts and skills."<sup>25</sup>

Such a prescription would deny the majority of our adolescents those testing years and that broad intellectual adventure. For the college bound, according to Bell, this adventure in learning would be postponed until the college years. Apparently, these youngsters are to keep their values, interests, and needs latent—hidden under their hats or in their pockets—as they are put on the waiting list for the great adventure of the college curriculum in general education.

In the course of history, there was once a monopoly of learning in which a "high-priesthood" guarded the treasury of knowledge and "doled it out to the masses under severe restrictions"—to use Dewey's words.<sup>26</sup> Under those circumstances the privileged leisure class viewed education as being properly conceived for the preservation of the cultural heritage—through the great literary works of the past. The rising industrialism of the early 19th century made it necessary to provide instruction in the three R's for children of the working classes. According to the noted British scientist and science historian J. D. Bernal, "the new working class needed enough acquaintance with the three R's to do their jobs properly, and provision for teaching them was reluctantly provided on the cheapest possible basis. But there was all the more reason for seeing that the education of the masses did not go too far, and that it introduced no unsettling ideas."<sup>27</sup>

Twentieth century democracy put knowledge into general circulation through universal secondary education and open-access higher education. No longer could education be divided between a leisure class and a working class. The theory and practice of general education is based on the premise that a free society requires a citizenry capable of engaging in the common universe of discourse, and capable of using the method of intelligence in shaping





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human destiny. Such documents as the *Cardinal Principles* of 1918 and *Education for ALL American Youth* of 1944 and 1952 called for a conception of general education geared to providing youth with opportunities to consider significant personal-social problems through the method of intelligence.

But the Cold War and Sputnik turned the curriculum to specialized knowledge production fashioned after the specialized disciplines of university scholarship. American education focused on narrow nationalistic interests; as a consequence, the problems of democracy were largely ignored. This turn of events lasted for a decade and half as the National Science Foundation alone allocated several hundred millions of dollars for discipline-centered curriculum reforms for the elementary and secondary schools. The reaction to this narrow focus was the call for relevance in our colleges and high schools. Unfortunately, relevance came to be interpreted as license to "do-your-own thing." The colleges and high schools responded by allowing more elective options and introducing new courses on *au courant* topics, while the curriculum became even more fragmented and divisive. The response in higher education has been the rediscovery of general education.

Unfortunately, in the elementary and secondary schools, a reaction set in, bringing us back to the basics once again. The narrow-minded skill-drill

emphasis treats skills as ends and not as tools for the forging of ideas to enrich life and solve life problems. The narrow focus on minimum competencies through back-to-basics reduces education to the lowest common denominator—especially for other people's children. (You can be sure that the more affluent communities are not content with such a narrow-minded function of education. They want the richest curriculum possible for their own children.)

Despite the contemporary atmosphere of retrenchment, the back-to-basics reaction cannot last. However, it must not be replaced by a counterreaction-reform. Reform by reaction has always failed because educational improvement can come about only through problem solving. This requires a reconstruction of the curriculum from a holistic vantage point. Segmental and fragmented approaches have resulted in cosmetic changes or in curriculum imbalance and conflict.

Educators should be disturbed by the dangerous signs calling for a renewed Cold War curriculum reaction, such as those presented in the February 1981 issue of *Educational Leadership*—advocating priority for mathematics and science so as to catch up with the Soviets.<sup>28</sup> We have heard that song before. Apparently, if there is one thing we learn from history, it is that we do not learn from history. According to Mark Twain's Law of Periodical Repetition, "everything that has happened once must happen again and again and again—and not capriciously, but at regular periods, and each thing in its own period."

The periodic cycle of repetitive curriculum reform can be broken only by seeking problem-solutions—as ASCD is doing in forming a network of high schools charged with redefining general education. Other commissions have recently been established to study the high school, but the ASCD project is unique in focusing squarely on the key issue: the kind of curriculum and educational setting that are true to the ideals of American democracy. (See "The 1980s: Season for High School Reform" by Dennis Gray, this issue.)

The key elements of a comprehensive high school are (1) a heterogeneous adolescent population and (2) a comprehensive curriculum serving the needs of youth who will go on to higher education as well as the needs of those who will enter the world of work upon graduation. The comprehensive curriculum



must provide not only for specialized, special interest, exploratory, and enrichment studies, but also for a core of general education shared by all adolescents in deliberately designed heterogeneous classes so as to avoid tracking. The problem of excessive size of such schools can be solved through campus-style facilities, house plans, and schools-within-schools.

In our largest cities, every comprehensive high school need not have identical specialized programs. Some schools, for example, might provide for such broad areas of vocational education as trades and industries, distributive education, and office occupations—along with specialized college preparatory studies. Other comprehensive schools would provide for the latter but would have programs in health occupations, home economics, ornamental horticulture, certain areas of technical education, and the performing arts. The possible curricular combinations are many, but they must be construed so as to ensure a balanced student population in terms of socioeconomic mix, sex, and career interests.

No other nation has made higher education so accessible to such a large proportion of its youth. America's achievement in this direction is clearly the result of our unitary structure of secondary education. Advanced democratic European nations have discovered that increasing the investment in higher education for purposes of expanding educational opportunity does not work without a corresponding restructuring of secondary education to provide the needed access. They have discovered that the greatest promise lies in the comprehensive secondary school. They are also beginning to realize that a unitary structure requires curriculum reconstruction.

In the U.S. there has been a tendency in many of our so-called comprehensive high schools to favor the college-preparatory side of the curriculum while neglecting vocational studies. But instead of seeking to make our schools truly comprehensive, our contemporary commissions and panels seek to write them off as a failure and proceed to call for specialized schools to serve the separate and special interests of special groups. They are party to the New Educational Retrenchment that seeks a hardening and fragmentation of our educational arteries.

James Conant ended his autobiography, published when he was 77, with an

appendix containing only four speeches of which he was especially proud. Each speech focused on the essential connection between educational opportunity and democracy, and one speech was devoted entirely to the comprehensive high school. In that speech, delivered in 1952, he warned that advocating use of taxpayers' money to create a divided school system would be suggesting "that American society use its own hands to destroy itself." He ended his address in these words:

A system of schools where the future doctor, lawyer, professor, politician, banker, industrial executive, labor leader, and manual worker have gone to school together at age fifteen to seventeen is something that exists nowhere in the world outside of the United States. That such schools should be maintained and made even more democratic and comprehensive seems to me to be essential to the future of this republic.

The growth of free public high schools in this country would indicate to me that public opinion in the United States has been committed to a single, not a dual system of education. The history of the rest of this century will prove whether or not the commitment is irrevocable. The verdict will depend, I believe, in no small measure on whether the comprehensive public high school can win wide support.<sup>29</sup>

Almost two decades later, Conant reiterated his support of the comprehensive high school and warned that its future in the United States is far from certain:

It is strange that the enthusiasm for an American invention is so limited in this country just at the time when other nations are beginning to explore application of the basic idea. . . . Far more than the nature of our schools is involved. The entire structure of our nation may be at stake—possibly even its survival as an open society of free men.<sup>30</sup> ■

<sup>1</sup>Theodore W. Schultz, "Human Capital: Policy Issues and Research Opportunities," in *Human Resources* (New York: National Bureau of Economic Research, 1972), p. 35.

<sup>2</sup>B. Frank Brown, Ch., National Commission on the Reform of Secondary Education, *The Reform of Secondary Education* (New York: McGraw-Hill, 1973), pp. 5, 8, 10, 21.

<sup>3</sup>James S. Coleman, Ch., Panel on Youth of the President's Science Advisory Committee, *Youth: Transition to Adulthood* (Chicago: University of Chicago Press, 1974), p. 153.

<sup>4</sup>*Ibid.*, pp. 80, 156.

<sup>5</sup>John Henry Martin, Ch., National Panel on High School and Adolescent Education, *The Education of Adolescents* (Washington, D.C.: U.S. Department of Health, Education, and Welfare, 1976), pp. 13, 26.

<sup>6</sup>Carnegie Council on Policy Studies in Higher Education, *Giving Youth a Better Chance* (San Francisco: Jossey-Bass, 1979), pp. 1, 22.

<sup>7</sup>Hyman G. Rickover, *American Education—a National Failure* (New York: E. P. Dutton, 1963), p. 89.

<sup>8</sup>Hearings Before the Committee on Labor and Public Welfare, U.S. Senate, Eighty-fifth Congress, *Science and Education for National Defense* (Washington, D.C.: U.S. Government Printing Office, 1958), pp. 72, 73.

<sup>9</sup>James B. Conant, *The American High School Today* (New York: McGraw-Hill, 1959).

<sup>10</sup>Torsten Husén, ed., *International Study of Achievement in Mathematics*, vols. 1, 2 (New York: John Wiley & Sons), vol. 1, pp. 28, 237, 273; vol. 2, pp. 123, 131.

<sup>11</sup>*The New York Times* (March 7, 1967), p. 1.

<sup>12</sup>*The New York Times* (November 24, 1968), p. 74.

<sup>13</sup>Torsten Husén, "Does Broader Educational Opportunity Mean Lower Standards?", *International Review of Education* 17 (1971), p. 77.

<sup>14</sup>John W. Gardner in *The American High School Today*, p. ix.

<sup>15</sup>*The American High School Today*, p. 7.

<sup>16</sup>John Dewey, "Splitting Up the School System," *New Republic* 17 (April 1915), p. 283.

<sup>17</sup>John Dewey and Evelyn Dewey, *Schools of Tomorrow* (New York: E. P. Dutton, 1962), p. 226 (originally published in 1915).

<sup>18</sup>Commission on the Reorganization of Secondary Education, *Cardinal Principles of Secondary Education* (Washington, D.C.: U.S. Bureau of Education, Bulletin 35, 1918), pp. 25, 26.

<sup>19</sup>Educational Policies Commission, *Education for ALL American Youth* (Washington, D.C.: National Education Association, 1944).

<sup>20</sup>Hollis L. Caswell, ed., *The American High School: Its Responsibility and Opportunity*, Eighth Yearbook of the John Dewey Society (New York: Harper & Row, 1946).

<sup>21</sup>Nelson B. Henry, ed., National Society for the Study of Education, *General Education*, Fifty-first Yearbook, Part I (Chicago: University of Chicago Press, 1952).

<sup>22</sup>Report of the Harvard Committee, *General Education in a Free Society* (Cambridge, Mass., 1945).

<sup>23</sup>Daniel Tanner and Laurel N. Tanner, *Curriculum Development: Theory Into Practice*, 2nd Ed. (New York: Macmillan, 1980), p. 445.

<sup>24</sup>Champion Ward and others, *The Idea and Practice of General Education* (Chicago: University of Chicago Press, 1950), p. v.

<sup>25</sup>Daniel Bell, *The Reforming of General Education* (New York: Doubleday Anchor Books, 1968), p. 181.

<sup>26</sup>Dewey, *School and Society*, p. 25.

<sup>27</sup>J. D. Bernal, *Science in History*, Vol. 4 (Cambridge, Mass.: M.I.T. Press, 1971), p. 1149.

<sup>28</sup>Wirszup, Izaak, "The Soviet Challenge," *Educational Leadership* 38 (February 1981), pp. 358-360.

<sup>29</sup>James B. Conant, *My Several Lives* (New York: Harper & Row, 1970), p. 670.

<sup>30</sup>James B. Conant, "The Comprehensive High School," in Alvin M. Eurich, ed., *High School 1980* (New York: Pitman, 1970), pp. 73, 80.

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