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1 CURRICULUM FERMENT IN THE 1890S

AT THE HEART OF AMERICA'S EDUCATIONAL SYSTEM IN THE NINETEENTH CENTURY was the teacher. It was the teacher, ill-trained, harassed and underpaid, often immature, who was expected to embody the standard virtues and community values and, at the same time, to mete out stern discipline to the unruly and dull-witted. But, by the 1890s, nineteenth-century society with its reliance on the face-to-face community was clearly in decline, and with the recognition of social change came a radically altered vision of the role of schooling. As cities grew, the schools were no longer the direct instruments of a visible and unified community. Rather, they became an ever more critical mediating institution between the family and a puzzling and impersonal social order, an institution through which the norms and ways of surviving in the new industrial society would be conveyed. Traditional family life was not only in decline; even when it remained stable, it was no longer deemed sufficient to initiate the young into a complex and technological world.

With the change in the social role of the school came a change in the educational center of gravity; it shifted from the tangible presence of the teacher to the remote knowledge and values incarnate in the curriculum. By the 1890s, the forces that were to struggle for control of the American curriculum were in place, and the early part of the twentieth century became the battleground for that struggle.

Preoccupation with the curriculum did not, of course, appear suddenly full-blown. There had been signs earlier in the nine-

teenth century of a growing attention to what had become the course of study in American schools. From about 1800 to 1830, the monitorial method, an English export, had enjoyed a short-lived favor in cities like New York and Philadelphia, and the Lancastrian system, as it was sometimes called, required a careful breakdown of the course of study into standard units of work (Kaestle, 1973). Perhaps the most profound standardizing influence on the curriculum of nineteenth-century schools was the widespread use of popular textbooks such as the McGuffy reading series and the famous blueback spellers. Insofar as poorly educated teachers had to rely on such textbooks as the standard for what to teach, these books contributed to a growing nationalization of the curriculum. In Chicago, between 1856 and 1864, the superintendent of schools, William Harvey Wells, divided all students in the city into grades and established a distinct course of study for each subject at each grade level (Tyack, 1974, pp. 45–46). This early attention to curriculum was a portent of what, in the twentieth century, became a national preoccupation.

Although changes in American society were being wrought throughout most of the nineteenth century, public awareness of those changes seemed to reach crisis proportions in the 1890s. An acute public awareness of the social changes that had been taking place for some time were tied to such developments as a tremendous growth in popular journalism in the late nineteenth century, including both magazines and newspapers, and also the powerful influence created by the rapid advance of railroads as a means of relatively cheap and reliable transportation. Both these developments, in addition to the continued growth of cities, were significant factors in the transformation of American society from one characterized by relatively isolated self-contained communities into an urban, industrial nation. The decade of the 1870s, for example, was a period in which the sheer number of newspapers in America doubled, and by 1880, *The New York Graphic* published the first photographic reproduction in a newspaper, portending a dramatic rise in readership. Between 1882 and 1886 alone, the price of daily newspapers dropped from four cents per copy to one cent, due largely to the success enjoyed by Joseph Pulitzer's *New York World* (Mott, 1941, p. 508), and the introduction in 1890 of the first successful linotype machine promised even further growth. In 1872, only two American daily newspapers could claim a circulation of over 100,000, but,

by 1892, seven more newspapers exceeded that figure (p. 507). A world beyond the immediate community was rapidly becoming visible.

But it was not newspapers alone that were bringing this new consciousness to Americans in the late nineteenth century. Magazines as we know them today began publication around 1882, and, in fact, the circulation of weekly magazines in America exceeded that of newspapers in the period that followed. By 1892, for example, the circulation of *Ladies Home Journal* had reached an astounding 700,000 (p. 507). Neither should book readership be ignored. Edward Bellamy's utopian and socialist-leaning novel, *Looking Backward,* sold over a million copies in 1888, giving rise to the growth of organizations dedicated to the realization of Bellamy's ideas. The printed word, unquestionably, was intruding on the insulation that had characterized American society in an earlier period.

Of at least equal importance to mass circulation journalism was the effect on American social life of the growth of railroads in the late nineteenth century. By 1880, the East and the Midwest had adopted four feet, eight inches as the standard track gauge, but the overwhelming majority of the Southern track lines were five feet, and the Western states had laid very narrow track lines in the early 1880s. By 1883, however, leaders of the railroad industry had created the system of standardized time zones that we use today, and, by the end of that decade, most railroad track in the United States had become standardized.

In 1889, the United States already had 125,000 miles of railroad in operation, whereas Great Britain had only about 20,000 miles and Russia 19,000. As Robert Wiebe (1967) has pointed out, "The primary significance of America's new railroad complex lay not in the dramatic connections between New York and San Francisco but in the access a Kewanee, Illinois, or an Aberdeen, South Dakota, enjoyed to the rest of the nation, and the nation to it" (p. 47). Like mass journalism, railroads were penetrating the towns and villages across the United States creating not only new industries and new markets, but changing social attitudes and remaking our sense of what kind of world we were living in.

For a time, that social transformation seemed almost unacknowledged, or, in some cases, attributable to radical influences or other visible enemies. By the 1890s, however, the signs of change were unmistakable, although these signs were sometimes viewed with alarm and sometimes

with approval. The population of the United States doubled in the last four decades of the nineteenth century due in large measure to the arrival of 14 million immigrants. Cities like Chicago grew enormously over that period, with that city reaching a million in population by 1900, a growth of about tenfold in forty years. Psychologically, the impending arrival of the twentieth century must itself have been one source of reflection and national soul-searching. Underneath the gaiety that, in popular terms, is supposed to have permeated the 1890s, there lay a profound psychic tension that made people wonder what kind of America was in the making. Surely, the panic of 1893 and the severe economic depression that followed were also the occasions for deep concern and reflection. With the society in such a rapid state of flux, it should not be surprising that the matter of what we teach our children in school should also come under scrutiny.

The curriculum status quo in the 1890s was represented by the doctrine of mental discipline and its adherents. Although the roots of mental discipline as a curriculum theory go back at least as far as Plato's notion that the study of geometry was a way to improve general intelligence, its nineteenth century version was derived most directly from the eighteenth-century German psychologist, Christian Wolff (1740), who laid out a carefully detailed hierarchy of faculties that was presumed to comprise the human mind. Mental disciplinarians built on that psychological theory by alleging that certain subjects had the power to strengthen faculties such as memory, reasoning, will and imagination. Moreover, mental disciplinarians argued, certain ways of teaching these subjects could further invigorate the mind and develop these powers. Just as the muscles of the body could be strengthened through vigorous exercise, so the mental muscles, the faculties, could be trained through properly conceived mental gymnastics. Thus, they were able to elaborate a rather coherent and seemingly plausible way of addressing the persistent problems that had perplexed educators and philosophers for centuries. Such puzzling questions as what we should teach, what rules should we apply to the teaching of subjects, and even questions of balance and integration in the curriculum could be addressed simply, but effectively, through the analogy of mind and body. There was even assumed to be a natural order for the emergence of faculties, and if this order were followed, a defensible sequence in the curriculum could be enunciated. Moreover, the range of faculties presented a basis for defining the scope of the curriculum. Since neglect of

any faculty meant atrophy, it became incumbent on educators to see to it that no imbalances were created in the curriculum by emphasizing subjects that developed some faculties and not others. An ideal education meant all around mental fitness, not just the development of one or two mental muscles.

The most famous document of nineteenth-century mental disciplinarianism was the report of the Yale faculty in 1828, essentially an impassioned defense of traditional education and humanistic values in the face of possible intrusions by the natural sciences and practical subjects. The report recognized two main functions of education, "the *discipline* and the *furniture* of the mind," ("Original Papers," 1829, p. 300), that is, strengthening the powers of the mind (what we would today call developing the ability to think) and filling the mind with content (what we would today call the acquisition of knowledge and skills). The authors of the report, Yale President Jeremiah Day and Professor James K. Kingsley, a leading classical scholar, had no doubt that the former was by far the more significant function of education (as we would probably assert today), and, to them, this meant a reaffirmation of the curriculum they had been teaching all along. Greek, Latin and mathematics as well as belles lettres had, after all, in their experience, established their value, whereas some of the newer subjects, such as modern foreign languages, were unproven quantities. Thus, there was firm resistance to any tinkering with what appeared to be a sound and proven program of studies. By the end of the nineteenth century, the textbooks being written for the growing number of normal schools in the United States overwhelmingly adopted the mind-as-a-muscle metaphor as the basis for explaining to future teachers what they ought to teach and how they ought to go about it. As that metaphor became firmly established, the implicit injunction to think of the mind *as if* it were a muscle, began to lose its "as if" quality, and, to many teachers, the mind became quite literally a muscle (Turbayne, 1962).

To a large extent, the belief that the mind was in fact, or at least like, a muscle provided the backdrop for a regime in school of monotonous drill, harsh discipline and mindless verbatim recitation. This may very well have gone on anyway, since the poorly trained and often very young teachers undoubtedly were at a loss to do anything else, but mental discipline provided them with an authoritative justification for continuing to

do it. Anecdotal accounts of school life in the nineteenth and early twentieth centuries attest to the fact that, with few exceptions, schools were joyless and dreary places. In 1913, for example, a factory inspector, Helen M. Todd, decided to find out from the child laborers themselves whether they would prefer to go back to school rather than remain in the squalor of the factories. Todd systematically asked 500 children in these factories whether they would choose to work or go to school if their families were reasonably well-off and they did not have to work. Of the 500, 412 told her, sometimes in graphic terms, that they preferred factory labor to the monotony, humiliation and even sheer cruelty that they experienced in school. These children, it would seem, did not choose the sweatshops of Chicago strictly out of economic necessity. To some extent, the schools around the turn of the century drove them there. With a reevaluation of America's social institutions in the air, it was no wonder that the doctrine that had become identified with existing conditions in the public schools should come under critical scrutiny.

By the 1890s visible cracks were becoming apparent in the walls of mental discipline. As a theory of curriculum, after all, it represented a curious and not very stable compromise. If, indeed, the mind were really like a muscle and could be strengthened by exercise, why could not we exercise it on a wide variety of different subjects rather than the restricted set that was customarily prescribed? Why even could not a faculty like memory be developed through exercise with nonsense syllables? The psychological theory of faculty psychology had merged with the nineteenth-century version of the liberal arts forming a shaky coalition that served to perpetuate a time-honored literary curriculum. The question emerging in many people's minds was whether a curriculum that had its origins in the courtly life of Renaissance Europe was appropriate to the demands of the new industrial society. Although the demise of mental discipline is often associated with its failure to survive the test of empirical verification, first by William James (1890, pp. 666–667) and later by several experiments conducted by Edward L. Thorndike (Thorndike & Woodward, 1901; Thorndike, 1924), the collapse of mental discipline and the effort to restructure the schooling that was associated with it was most directly a consequence of a changing social order which brought with it a different conception of what knowledge is of most worth.

Although lags between what knowledge a society values and what knowledge gets embodied in the curriculum of its schools are not uncommon, it is hard to imagine a culture in which the knowledge deemed to be valuable for whatever reason does not find its way into what is taught deliberately to the young of that society. This holds true whether it be knowledge of how to hunt in a society sustained by hunting animals or the study of Latin as a rite of initiation into a special class or sex education in a society where unwanted pregnancies have become a source of national concern. The route between the knowledge a society values and its incorporation into the curriculum becomes infinitely more tortuous, however, when we take into account the fact that different segments in any society will emphasize different forms of knowledge as most valuable for that society. Rarely is there universal agreement as to which resources of a culture are the most worthwhile. The practical knowledge of how to hunt animals must somehow be reconciled with a knowledge of the myths of the tribe; a knowledge of Latin declensions must be weighed against linguistic competence and literary traditions indigenous to the culture; and sex education must be seen against a backdrop of conflicting moral and religious values. Hence, at any given time, we do not find a monolithic supremacy exercised by one interest group; rather we find different interest groups competing for dominance over the curriculum and, at different times, achieving some measure of control depending on local as well as general social conditions. Each of these interest groups, then, represents a force for a different selection of knowledge and values from the culture and hence a kind of lobby for a different curriculum.

In the 1890s, not only do we see the theory of mental discipline starting to unravel as a consequence of increased awareness of a social transformation, but we see beginning to gel the interest groups that were to become the controlling factors in the struggle for the American curriculum in the twentieth century. One immediate impetus for change came as a consequence of a massive new influx of students into secondary schools beginning around 1890. In 1890, only between six and seven percent of the population of youth fourteen to seventeen years old was attending secondary school. By 1900, it was already over eleven percent, and in 1920, about a third of that age-group was enrolled in secondary schools. By 1930, the number had reached almost four and one-half million, over 51

percent of that population. It is difficult to establish precisely what created this sudden interest in secondary education on the part of American youth. To some extent, it may have been related to the growth of the American common school in the three or four decades preceding 1890 which created a new population whose children were ready to enter upon a secondary education. In addition, technological changes, such as the use of the telephone, affected the ability of early adolescents to find employment. (A ready source of jobs, for example, had been as a messenger.) A technological unemployment among teenagers, in a sense, left them with nothing better to do than to go to high school (Troen, 1976). To a large extent, also, clerical jobs requiring higher levels of training were consistently better paying than manual labor in this period making attendance in high school a worthwhile investment. In addition, the clustering of a larger segment of the American population into cities made attendance in high schools simply more convenient. Evidently, the social changes that were becoming increasingly visible in the 1890s were serving to focus new attention on the institution of schooling. Certainly, the dramatic rise in secondary school enrollments could not long go unnoticed. In particular, it raised the question as to whether the curriculum that had been so ardently defended in the Yale report and had remained essentially intact ever since could continue to serve a new population of students and, for all intents and purposes, a new society.

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Although the National Education Association's Committee of Ten was appointed in 1892 originally to deal with another issue, the rather mundane problem of uniform college entrance requirements, their work and their recommendations inevitably were affected by the curricular implications of the growing demand by adolescents and their parents for a secondary school education. The immediate impetus for creating the Committee in the first place was that high school principals had been long bewailing the fact that different colleges were prescribing different entrance requirements and, since about half of the high school graduating classes went on to college (Krug, 1962), it beame exceedingly difficult to prepare so many students differently depending on their choice of college. While this in itself was a problem of considerable practical importance, almost inevitably, it became imbedded in broader matters of principle,

3 THE CURRICULUM OF THE DEWEY SCHOOL

i

WITHIN TWO YEARS AFTER JOHN DEWEY ASSUMED HIS APPOINTMENT AS head of the Department of Philosophy, Psychology and Pedagogy at the University of Chicago in 1894, the Laboratory School opened its doors. It is unlikely that Dewey's two years as a graduate student in the city of Baltimore had prepared him for the turmoil and excitement that was Chicago in the 1890s. It was a metropolis of striking contrasts ranging from the Gold Coast to the squalid slums of the newly arrived immigrants from southern and eastern Europe. It was the Chicago rampant with political corruption and a breeding ground of agencies of municipal and social reform, such as the Civic Federation, the Municipal Voters' League, the Chicago Women's Club and, of course, Jane Addams's Hull House. It was the Chicago where "Hog Butcher to the World," Philip Armour, built a huge industrial empire and where Marshall Field and George Pullman amassed vast fortunes; and it was the Chicago where factory inspector Helen Todd (1913) could describe the children of the working class as a human-rubbish pile" (p. 70). It was also the Chicago school system that Joseph Mayer Rice (1893b), in his celebrated series of exposes, had called "the least progressive" (p. 200), but it was the same Chicago school system where Ella Flagg Young had served as District Superintendent for twelve years, the woman Dewey regarded as the "the wisest person in school matters" with whom he had ever come into contact, (Dewey, 1939, p. 29).

The atmosphere at the University of Chicago must have been heady as well. Although the University was barely four years old

at the time of Dewey's arrival, President William Rainey Harper had already assembled a formidable array of scholars in a variety of fields, but particularly in the social arena. Albion Small, a brilliant disciple of Lester Frank Ward's had been recruited as Head-Professor of the Social Studies, and the subsequent appointment of scholars of such eminence as Thorsten Veblen, W. I. Thomas, George Herbert Mead and Charles Horton Cooley were to make the University of Chicago the nation's citadel in the area of social inquiry. Harper, who had been a renowned teacher of Hebrew at Yale University, had a particular interest in pedagogy and, undoubtedly, some of the appointments he made reflected his desire to make the University of Chicago a center, not only of scholarship in that area, but a resource for practicing teachers. Harper assiduously sought to build relationships with elementary and secondary schools, a practice quite common in state universities at that time, but unusual in private universities (McCaul, 1959, p. 261).

An early address of Small's, "Demands of Sociology upon Pedagogy" (1896), delivered to a meeting of the National Education Association, illustrates both the interest in pedagogy that pervaded much of the atmosphere in the early years at the University of Chicago and the general intellectual climate that surrounded Dewey in his new position. Three years after the report of the Committee of Ten was issued, Small began his address by apologizing for reopening "a closed incident of ancient history" in using the that Committee's recommendations as a vehicle for proposing a different conception of a proper course of study (p. 174). Small was particularly disturbed by the report of the Conference on History, Civil Government, and Political Economy, a report of a subcommittee that had included among its members James Harvey Robinson and Woodrow Wilson. Small interpreted that subcommittee as assuming that the purpose of education was, first of all, "completion of the individual," and secondly, "adaptation of the individual to such co-operation with the society in which the lot is cast that he works at his best with the society in perfecting its own type" (p. 174). Small felt that, lacking any social philosophy, what we have left and what the report presented was a "classified catalogue of subjects good for study" and no real sense of what it means as a whole. If there was any conception of education as a whole, it was dominated by "a naively mediaeval psychology . . . which would be humorous if it were not tragical" (p. 175). Such a dependence on faculty psychology

led the committee to believe, according to Small, that history can train the faculty called judgment, mathematics the faculty called reasoning, and so on as if powers of the mind existed as isolated entities and as if intelligence itself were somehow separated from the rest of existence. "Education," he claimed, "connotes the evolution of the whole personality, not merely of intelligence" (p. 175).

Throughout his address, Small emphasized that subjects as the report treated them were presented as "an unorganized procession of pedantic abstractions" unrelated to the real world and that such a conception served only to make us think of subjects as independent bodies instead of parts of one reality. "The proper educator," he said, "is reality, not conventionalized abstractions from reality" (p. 176). Turning to the question of whether one subject can serve as a center for the concentration of studies, a position closely associated with the Herbartians, Small simply denied that any such subject exists. Rather, "the rational center is the student himself . . . [and] pedagogy should be the science of assisting youth to organize their contacts with reality," not in thought alone, but "for both thought and action" (p. 178). Students must be led to see the whole if they are to make any sense or derive any meaning from the abstractions from the whole that these subjects presumably represent. Knowledge so far as it is gained at all, Small emphasized, must be seen in its relations, "not as self-sufficient knowledges" (p. 180). Not simply the study of sociology, but all branches of knowledge, should begin at the heart of "concentric circles of social activity" starting with the household and gradually extending outward until the "social *desideratum*" is finally reached, whereby "the developing member of society shall become analytically and synthetically intelligent about the society to which he belongs" (p. 182). Small concluded his address with a strong endorsement of the social meliorism of his master, Ward. Educators, he insisted, "shall not rate themselves as leaders of children, but as makers of society. Sociology knows no means for the amelioration or reform of society more radical than those of which teachers hold the leverage" (p. 184). When teachers begin to recognize and accept their social function, rather than thinking of themselves merely as providing "tonics for various kinds of mental impotence" (p. 180), Small concluded, they will begin to fulfill their vital role "in making a better future" (p. 184).

In general, Small's ideas on education reflected the growing impatience with the traditional course of study, but, more particularly, his ideas fore-

shadowed the growing tendency to see education not simply in terms of individual development of intellectual powers but in broad social terms. More often than not that tendency emerged from a concern for social stability in the face of a rapidly changing society. In Small's case, and later in Dewey's, the social significance of the curriculum lay in its promise of social progress. Intellectual development, the great purpose of schooling according to the mental disciplinarians, was of course vital, but it had to be reconciled with the school as a social institution and its place in the larger social order.

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Ideas do not arise *ab initio,* and it was from the educational and social conceptions of people like Small as well as from his reconstructions of the concepts of Harris, Hall and the Herbartians that Dewey began to forge the basis of what ultimately became the theory of the Laboratory School. Dewey seems to have begun his deliberations for an experimental school associated with the University of Chicago very shortly after his arrival there, and, within a year, he circulated a privately printed "plan of organization" for what he was then calling the University Primary School. Dewey (1895) began this statement by declaring that, "the ultimate problem of all education is to co-ordinate the psychological and the social factors" (p. 224), a problem that Dewey wrestled with all his life. On the one hand, we had the individual, and education aimed at the fullest possible development of that individual's powers. On the other hand, there was the social environment in which the individual lived, and social environment implied that the expression of the individual's powers would somehow be coordinated with "social end." One way of achieving such a coordination, Dewey believed, was to make the school a miniature community, where the child lived, participated, and contributed—where, in effect, the child's emerging individuality was at one and the same time used to enrich the social community and tested against the dictates of social reality. Particularly important in such a conception of a school was that the work of the school be directed toward what is of value to the child in the present and not "simply as a preparation for something else, or for future life" (p. 224). Such a conception of education rejected both the notion that the function of education was to prepare the next generation to operate efficiently in the existing social order and the idea that the present interests of the child must be subordinated to future rewards whether they were represented by vocational competence or by a command of the cultural heritage. The process of leading the child from present interests to an intellectual command of the modern world, however, remained for Dewey a controlling purpose, and the critical problem was to construct a curriculum that best facilitated that process. It was with this in mind that Dewey conceived of the proposed school as a laboratory by which theoretical designs for how this could be accomplished would be tested in a world of real teachers and real children.

At various times, both before and during the operation of the Laboratory School, Dewey considered the extant theories of curriculum in the light of what he had set forth as the controlling purposes for his school. Dewey was vitally interested in "the theories which have attempted to give some principle or philosophy for the various subjects of the curriculum," and Harris's position was certainly one of them (Dewey, [1899b, p. 187], 1966). Harris was generally sympathetic to the idea of representing in the course of study the whole of human experience, and through his five groups of studies, was attempting to do just that. It was important in the curriculum, Dewey thought, "to represent and present, with a certain degree of symmetry, all the intrinsic factors in human experience" (p. 189). The problem was that Harris's five subject areas just did not do that in any sort of cohesive way. Each of the groups of studies was taken, more or less, "ready made," Dewey felt, and each taught as isolated from the next with "no real principle of unity given us" (p. 189), thus reflecting the criticism the Herbartians had made of Harris's subcommittee report on that "immortal day in Cleveland" a few years before. As a result of this isolation of subject areas, the study of any given subject suffered: "geography loses much of its meaning when separated from history, and history loses a good deal of its content, if you isolate it entirely from geography" (p. 191). The distinctions among the various groups of studies, therefore, were formal and artificial, particularly in the way a child would see them. While such a system of organization and classification of subjects may make sense to the mature mind "to introduce them to the child as distinct from the start, is to disorganize and disintegrate, instead of coordinate and connect" (p. 193). Even at the highest levels of scholarship, neat demarcation among the various branches of knowledge may not be a good thing. Dewey recognized, for example, even at the turn of the cen-

tury, that some of the most exciting experimental work being done in biology was the result of the introduction of concepts and methods from physics and chemistry (p. 194).

A related problem arose when subjects were presented in a more or less finished form. Dewey was convinced that it just made it all the more difficult under those circumstances to see organized knowledge as related to human needs and human aspirations. Organized bodies of knowledge, Dewey was fond of pointing out, were, after all, the outcomes of a long period of historical development. Rather than springing up full-blown as rarefied abstractions, they were outgrowths of the human conditions and the attempts of people to do the things that had to be done. "Even mathematics," Dewey (1899a) claimed, the most abstract of the subjects commonly taught in schools, "originally sprang up, not out of the ground, not out of nature, but out of human life and human needs" (p. 191). To present school studies as finished abstractions not only distorted their origins, but widened the gulf between knowledge and human affairs. Dewey's basic objection to Harris's position, then, was not with its attempt to bring to the child the intellectual fruits of Western civilization, but with the fact that this was being attempted without respecting the way children see their world and with a view of knowledge that exaggerated and distorted distinctions among the branches of study and that obfuscated rather than enhanced their relationship to human purposes. Moreover, the promise of unity among the major subjects in the curriculum was not fulfilled as long as each of Harris's five areas of study were treated independently from one another. In bringing these criticisms to bear on Harris's basic position on curriculum, Dewey was aware that he was also criticizing the standard curriculum of his day, since what Harris advocated bore a striking resemblance to what the curriculum already looked like.

One curriculum that held out some promise for change in the right direction was, of course, culture-epochs; but Dewey had mixed feelings about its efficacy. Part of its appeal lay in its attempt to take children's interests directly into account in constructing a course of study. If children at a given stage in their development had a natural interest in the heroes of Norse mythology, why not take that as the starting point for leading on to something else? Furthermore, a culture-epochs curriculum proposed to move progressively from the early stages of human evolution to more or less contemporary civilization, and it was with the ability

to deal effectively with the modern world that Dewey felt the school curriculum should ultimately lead.

As an active member of the National Herbart Society, it was almost inevitable that Dewey should have to come to grips with the theory that, by common agreement, was the foundation of their approach to the course of study. The immediate occasion for Dewey's considered reaction to culture-epochs was a lengthy article on the subject by C. C. Van Liew (1895), a leading Herbartian and prominent figure in the child-study movement. Dewey (1896b) saw the theory in general as addressing the critical problem of finding a principle "that will give correspondence between child and subject-matter" (p. 233), and culture-epochs theory posited a sympathetic correspondence between what is contained in an historical epoch and what appealed to the child. While Dewey was careful to say that he did not question the fact of correspondence in a general way, he argued that its application to education was not really a fact but an analogy to biological recapitulation, and to draw implications from that analogy was a rather tricky business. "No one proposes," he said, "that the mother shall modify her diet when the human embryo has reached the 'fish' phase, or take any practical note of it" (p. 234). There were, then, two problems to be considered: one was that the parallelism between the child and the race was not as literal as was sometimes supposed and, therefore, one could not merely make inferences from race development to individual development without some sort of independent verification as to whether a corresponding stage actually existed in the child. If one were to recapitulate the historical epochs too literally insofar as the curriculum were concerned, one would certainly run the risk of "arresting development" (p. 234) by prolonging unduly some aspect of study simply because the human race had experienced a prolonged historical period in its development. At best, the existence of an historical epoch could suggest the possibility of a corresponding developmental stage in the child, and, even then, it was not clear that we should single out that interest as supreme, making the corresponding epoch the chief basis for what the child studied. In Dewey's view, it would have to be further recognized, even if these corresponding interests were identified in the child, that they exist among other interests. "There was never a mind," Dewey (1899a) said, "simply mythical or simply heroic" (p. 207). In an apparent reference to the sort of reasoning so often employed by Hall and others in the child-

study movement, Dewey argued that "any one can set out and collect lots of instances of the spontaneous myth-forming by children," but this does not warrant "the inference that the child at this stage of his being is essentially a myth-forming person and therefore is in the same kind of emotional atmosphere that the primitive people were when they formed myths" (p. 207).

The second major aspect of the culture-epochs curriculum to which Dewey objected was the practice, in both Germany and the United States, of using the cultural products of the historical period as the basis of what was taught. In practice, actually, the culture-epochs curriculum sometimes used such products of historical periods as the legends produced by the people of that era, but, often, it was not so much a true artifact of that period as it was a kind of literary representation of an historical epoch, such as the common practice in the United States of using Longfellow's *Hiawatha* to represent to children undergoing the "savage" stage in their development the corresponding stage in human history. This made Dewey's criticism all the more cogent. If there were such a thing as an agricultural stage in a child's development, Dewey (1896b) argued, it "requires, according to the true analogy, to be fed in just the same way in the child in which it was fed in the race—by contact with earth and seed and air and sun and all the mighty flux and ebb of life in nature" (p. 235). Dewey was here not so much objecting to the idea of a basic analogy of recapitulation guiding the curriculum as he was rejecting the common assumption in culture-epochs theory that history and literature had to be made the basis of study when such a parallelism was assumed. Myths, for example, so far as children were concerned, "are a very excellent thing" when regarded simply as stories, but, in another reference to the way Hall would interpret their pedagogical value, Dewey took the position that "it is self-deception to suppose that they have a value other than that of a story—that by some inner affinity to the child's nature, he is being morally introduced into the civilization from which the myth sprung, and is receiving a sort of spiritual baptism through 'literature'" (p. 236). Dewey concluded his analysis by alluding to the ability of children to engage in serious intellectual endeavor, a position almost directly opposite to that of Hall's: "Let us treat the intellectual resources, capacities, and needs of our children with the full dignity and respect they deserve, and not sentimentalize nor symbolize the realities of life, nor present them in the

shape of mental toys" (p. 236). While Dewey was intrigued by the Herbartian concept of culture-epochs, he was obviously a long way from giving it his complete endorsement.

In developing the curriculum theory that was to guide the Dewey School, Dewey thus rejected the two alternatives that presented themselves most forcefully around the turn of the century. While each had its own appeal to Dewey, neither was able to deliver, in his view, on the claims made for it. The humanist curriculum, as exemplified by Harris, sought merely to impose a collection of subjects on the child, and, although the ultimate aim of intellectual development through the study of these subjects was a noble one, that curriculum had neither the coherence nor the appeal to the child's interests that Dewey sought. It was that appeal that attracted Dewey to culture-epochs as a curriculum theory, but, upon examination, the promise of a sympathetic relationship between the child and an historical epoch in human history appeared more symbolic than real. The implications drawn from the metaphor of recapitulation were just too farfetched. The promise of a curriculum sympathetically attuned to children's interests was simply unrealized. It remained for Dewey to construct out of those rejected theories something that could stand as the curriculum theory for the Dewey School.

iii

Early one Monday morning in January 1896, Dewey's school, with a complement of two teachers and sixteen pupils, held its first session. So far as has been recorded, that morning's activities consisted of a song, a tour of the premises at 389 Fifty-Seventh Street including the garden in back, the construction by the children of a paper container for their school materials, a story told by one of the children, and, finally some physical exercise ("The model school," 1896, p. 707). The curriculum that was to guide that school's activity in the years to come had not as yet been fully worked out in Dewey's mind, and, in the first couple of years of its existence, a casual observer could have construed it as a culture-epochs course of study. "Superficially," Dewey admitted, "there was a similarity to the 'recapitulation' theory in this method of enlarging the intrinsic experience of the children by means of subject-matter drawn from the development of the culture of mankind" (Dewey, 1936, p. 472). The skeleton of Dewey's curriculum did, in fact, bear a marked resemblance to that of

culture-epochs, especially in its progression from early stages in human history to later ones, but the flesh, muscles, and tissue were of a quite different order. In those early years, the youngest groups concentrated on the "building of the homes of the primitive peoples" (Mayhew & Edwards, 1936, p. 43), and "reinvented Ab's trap for the sabre-toothed tiger" (p. 44), while older groups dealt with the ancient Greeks and progressively later historical periods; but beyond those superficial resemblances, there lay a fundamental transformation that Dewey had wrought in what was to be the unifying center of the course of study. Like Small, Dewey felt the Herbartians to be misguided in assuming that any of the existing subjects, such as history or literature, could serve to provide the unity in the curriculum that he sought.

Instead, Dewey found that unifying concept in what he called *occupations*. The choice of term, perhaps, was an unfortunate one because it could easily be identified with vocational education or with an overriding emphasis on overt activity, but Dewey, at various times, took pains to explain the special meaning he attributed to that concept. Perhaps the fullest explication of the importance that he attached to the notion of occupations is found in one of his most brilliant essays, "Interpretation of the Savage Mind," a work written during the period of the Dewey school, but not on any pedagogical topic. In that essay, Dewey, usually a gentle critic, was uncharacteristically harsh in attacking the anthropological interpretations of Herbert Spencer. He was disturbed by the fact that Spencer, in his interpretations of so-called primitive peoples, seemed to take his own civilization as the standard for which to measure others, as if the savage mind could be gauged on some kind of "fixed scale" (Dewey, 1902b, p. 218). Primitive people were always seen as lacking this or that quality that the civilized mind possessed. But, as Dewey asserted, "the physical attitudes and traits of the savage are more than stages through which mind has passed, leaving them behind. They are outgrowths which have entered decisively into further evolution, and as such form an integral part of the framework of present mental organization" (p. 217). Curiously, he pointed out, such a positive view was commonly accepted in the case of the evolution of animals, but was lacking in the work of Spencer and some anthropologists in their interpretations of human evolution. Rather than seeing the human mind on some kind of hierarchical scale, Dewey urged that we see human intellectual activity and indeed the

culture as a whole in relation to the characteristic activities in which the individual or society engages and the ability of those individuals to achieve command of their environment. "The biological point of view," he argued, "commits us to the conviction that mind, whatever else it may be, is at least an organ of service for the control of environment in relation to the ends of the life process" (p. 219). Hunting peoples, agricultural peoples and so on cannot be judged by the extent to which they have mastered or adopted the trappings of what we call civilization, but in relation to the dominant activities required by the kind of world in which they live. "The occupations," Dewey said, "determine the chief modes of satisfaction, the standards of success and failure. Hence they furnish the working classifications and definitions of value. . . . So fundamental and pervasive is the group of occupational activities that it affords the scheme or pattern of the structural organization of mental traits" (pp. 219–20). Not only did an understanding of fundamental occupations give us insight into present mental operations, but it provided a way of understanding other features of a culture—art, religion, marriage, laws.

In a manner similar to the way Hall applied "ontogeny recapitulates phylogeny" to the construction of a course of study, Dewey took his own interpretation of the evolution of the human species and tried to reconstruct it in the curriculum of the Dewey School. In an important sense, like that of Hall and the Herbartians, Dewey's curriculum was also an historical recapitulation, but what it recapitulated was not the historical stages through which the human race had presumably passed; instead, it traced the evolution of the basic social activities that Dewey called occupations. "This simplified social life," he hoped, "should reproduce, in miniature, the activities fundamental to life as a whole, and thus enable the child, on one side, to become gradually acquainted with the structure, materials, and modes of operation of the larger community; while, up on the other, it enables him individually to express himself through these lines of conduct, and thus attain control of his own powers" (Dewey, 1896c, p. 418). For Dewey, then, a curriculum built around fundamental social occupations would provide the bridge that would harmonize individual and social ends—what for him was the central problem to be resolved in any educational theory. It would also serve to tie together the various component parts of the curriculum and give it the kind of unity that Dewey saw as lacking in Harris's course of study. The question

of whether children would be interested in such matters or whether the program of studies had the desired effect were things that simply had to be discovered in the setting of the Laboratory School, and modifications would have to be introduced based on the results of that experiment in curriculum.

About a year after it opened, Dewey outlined the general organization of the school and the framework of studies as it had evolved to that point. Insofar as organization was concerned, the nine years of the elementary school had been broken down into three subdivisions: the first included children from four to seven; the second from seven to ten; and the third from ten to thirteen. In the elementary period as a whole, Dewey (1897d) saw the distinguishing aim, not as providing technical knowledge or the "possession of a certain amount of information," but to build into the child's consciousness "an orderly sense of the world in which he lives" beginning with that part of the world that touches the child most directly, the family, and moving gradually outward to the school, the neighborhood, and further to the larger society" (p. 74), a general aim strikingly similar to that of Small's. The course of study had three main subdivisions: manual training, history and literature, and science. Dewey saw the purpose of manual training, not in terms of the development of useful motor skills, but in terms of the opportunities it presented "for cultivating the social spirit" and "supplying the child with motives for working in ways positively useful to the community of which he is a member" (p. 72). As basic social activities, furthermore, they could provide the starting point for tracing their evolution to the abstractions represented by the organized bodies of knowledge: "Cooking, for example, is a natural avenue of approach to simple but fundamental chemical facts and principles, and to a study of the plants which furnish articles of food" (p. 72). The introduction of carpentry work was not for the purpose of developing the skills of sawing and hammering, but because it presented an excellent opportunity for introducing calculation within a natural context and for the opportunity it provided in "cultivating a genuine number sense" (p. 72). Dewey was obviously interested in the child gaining a command of chemistry and arithmetic, and he thought this could be best accomplished by introducing them to the child in a manner similar to the way they first became matters of urgent necessity to the human race.

From such social occupations, such as growing food, constructing shelter and making clothing conventional subject matter was expected to evolve, but in a more vital and constructive way than in the typical curriculum. Arithmetic, for example, was expected to emerge from cooking activity. In one extant report by the cooking teacher, Miss Scates reported that the fractions 1/3, 2/3 and 3/3 and the ratio of 1:2 was included in the cooking of flaked rice and flaked wheat, although she noted that the "experiment was not a great success on account of poor scales" ("Scrapbook IX," 1900). Children also were called upon to evaluate their own handiwork on occasion as an apparent culmination of the effort to involve children, not only in the planning stages of their activities, but at their conclusion as well. Dewey's nine-year old son, Fred, for example reported:

> We made a wigwam. My wigwam is not made well. I could not make a good Indian. Harper's wigwam was very nice. William had a good one too. Yesterday we looked for thread in a sheep's knee. We found it. It was the tendon. ("University Primary School," 1896).

Dewey was concerned as well with the child's mastery of organized subject matter such as science, but he felt that the surest path to that achievement would be by initiating the child into the fundamental social occupations from which science arose. In 1900, for example, Group V tested seeds that would later be used in the garden to determine what percentage would germinate in the spring ("Group V," 1900). In a history class conducted by Miss Camp, children, through some smelting work, discovered the advantages of charcoal over wood in the smelting process. ("Group IV," 1900). In another group, children who had been creating a story about a tribe that had left their caves and started down a river expressed a desire to use the clay that the Indians in the story used and began experimenting with the uses of clay.

In developing the activities that were to constitute the curriculum of the Dewey School, Dewey was not reaching for a compromise between the positions of, say, Harris and Hall. Rather, he was trying to reconstruct the issue of the child versus the curriculum in such a way as to make their opposition unnecessary. Dewey tried to illustrate his point by reference to certain subject matter. "Geography," he said,"is not only a set of facts and principles, which may be classified and discussed by themselves; it is also a way in which some actual individual feels and thinks the world" (Dewey, 1897c, p. 361). To Dewey, the point of education was unquestionably the

latter, but the problem lay in the apparent gap between the way the child sees the world and the way a mature adult does. "To the child," he said, "simply because he is a child, geography is not, and cannot be, what it is to the one who writes the scientific treatise on geography. *The latter has had exactly the experience which it is the problem of instruction to induce.* . . . We must discover what there is lying within the child's present sphere of experience (or within the scope of experiences which he can easily get) which deserves to be called geographical" (p. 361). There was, for Dewey, no body of knowledge which has been "eternally set off" and defined as geography or any other subject. If we had a square mile of land, for example, there was no objective reality which would determine that the way of seeing it was geographical, or trigonometric, or botanical, or geological, or, for that matter, historical. The reference point of the individual viewing that territory was the starting point for any kind of logical organization of its features. So far as Dewey was concerned, the first curriculum question was, "how, out of the crude native experience which the child already has, the complete and systematic knowledge of the adult consciousness is gradually and systematically worked out" (p. 364).

As time progressed and the Dewey School grew both in terms of size and recognition, Dewey continued to report on the school's activities as well as to refine his theory of the course of study. A matter of increasing concern to him was the apparent opposition that existed in the pedagogical world between the psychological position, insisting on the primacy of the mental operations of the child, on the one hand, and the logical position, insisting on the primacy of the organized bodies of knowledge, on the other. He attributed the tone of "comparative worthlessness" directed toward the psychological position in Harris's Report of the Committee of Fifteen to the existence of a dualism that unnaturally separated "the subject-matter of experience" from "the mental operations involved in dealing with it" (Dewey, 1897c, p. 357). While Dewey recognized that the ordinary teacher does not usually raise such questions but simply follows the curriculum as laid out, he emphasized that those who deal theoretically with the curriculum as well as those responsible for laying it out cannot ignore the question of such an untenable dualism. Regarding Harris's position, one which he characterized as "the most philosophic answer which has yet been given to these questions in America," Dewey did not oppose the general proposition that "the standard for selecting and placing a study is the worth which it has in adapting the pupil to the needs of the civilization into which he is born" (p. 359), but he did take issue with the implication in the Committee of Fifteen report and in other writings of Harris that such a social determination of the curriculum somehow excludes a psychological one. Dewey was thus not taking sides in the continuing battle between the humanists and the developmentalists. He was essentially saying that they were fighting over a false issue.

The way history was studied in the Dewey School also illustrates how Dewey was using the school to help him reconstruct the curriculum concepts that were being put forward by the various interest groups of his time. "[T]o study history," he said, "is not to amass information, but to use information in constructing a vivid picture of how and why men did thus and so; achieved their successes and came to their failures" (Dewey, 1900,p. 199). The general aim of teaching history was to lead the child to an appreciation of the values of social life and to let the child see the forces that led to effective cooperation among human beings. The record of human history in Dewey's view was a record of how human beings used intelligence to gain command of their environment—"how man learned to think, to think to some effect, to transform the conditions of life so that life itself became a different thing" (p. 200). This applied to the study of how human beings in early times developed tools which helped them overcome adversity. It applied to the study of the American frontier period where people were required "to cope with a raw and often hostile nature, and to regain success by sheer intelligence, energy, and persistence of character" (p. 201). Thinking of history as social history rather than a rendering of events also "prevents any tendency to swamp history in myth, fairy story, and merely literary renderings" (p. 201), a reference to what the Herbartians preached and practiced. "I cannot avoid the feeling," Dewey said, "that much as the Herbartian school has done to enrich the elementary curriculum in the direction of history, it has often inverted the true relationship existing between history and literature" (p. 201). While he had no objection in principle to using *Robinson Crusoe* as a kind of idealization of how a human being can gain intelligent control over an adverse situation, it would be far better, he thought, to carry that theme through American colonial history. The same would be true of *Hiawatha* as a vehicle for the study of so-called savage life. Why not study the

accomplishments of the American Indian firsthand and how their social life emerged from the conditions that they had to face and overcome rather than through an idealized literary representation? Although Dewey clearly saw much value in the study of history, he questioned the need to follow a strict chronological rendering as implied in Herbartian culture-epochs. In determining the appropriateness of various periods, remoteness in time was not a guiding consideration. What was important was nearness "in spirit" to the child's own psychological outlook. Thus prehistoric life was much closer to the child than, say, the Babylonian period or the Egyptian period, because, in Dewey's words, either of the latter ones "does not simplify enough and it does not generalize enough; or, at least, it does not do so in the right way" (p. 202).

In the Laboratory School, therefore, there was nothing of what we would call today a survey of history. Instead, there was an attempt to introduce at appropriate periods in a child's development those aspects of history that provided insight into the social life of people with a particular emphasis on their typical occupations, occupations that served to shape that social life. For the first group, therefore, the six-year olds, there was an initial period of studying the occupations of people who live in urban and rural areas; seven-year olds looked at inventions and how they grew out of the need to overcome certain obstacles; and the eight-year olds studied explorers and discoverers as a transition from the child's immediate surroundings to things that are further removed in time. Chicago and the United States generally provided the main focus for the second group, with the third year of that group's work devoted to a transition by examining connections between European and American life. Finally, in the third group, chronological order was introduced beginning with the ancient world and leading to a more conventional study of European and American history. The order of study, Dewey (1900) was careful to point out, was "the outcome not of thought but of considerable experimenting and shifting of subjects from year to year" (p. 203).

Perhaps the most dramatic, and, in the long run, most controversial departure from the conventional curriculum of the day was the manner in which the so-called three R's were treated, and, in particular, reading, which for many people, then as now, was the touchstone of a successful elementary school curriculum. In general, Dewey believed that reading, writing and arithmetic could be most effectively taught within the context

of use and especially in connection with the basic occupations around which the curriculum revolved. Part of this belief was rooted in his overall curriculum theory and partly derived from his conception of changing American life. In an era when reading and writing meant the difference between being educated and uneducated, "all the meaning that belongs to these ends naturally transferred itself to the means through which alone they could be realized" (Dewey, 1898, p. 316). With the breakdown of the isolation that once existed, the immediate importance of reading and writing as a gateway to a "richer and wider mental life" (p. 316) had been diminished and the advent of the telephone and the telegraph, the great growth in newspapers and magazines, and various forms of amusement, at least in cities, had lessened the motive power that was associated with "those banks termed books" (p. 317). Instead of facing up to the fact of this change in how reading was regarded and then adapting our curriculum accordingly, Dewey felt that we had continued reading "as the centre and core of our course of study, and dressed it out with a variety of pretty pictures, objects, and games, and a smattering of science" (p. 318).

Dewey was obviously concerned that reading be taught successfully, but as long as reading was being taken out of its natural context, it appeared inevitable to him that the child would regard reading merely as a task to be accomplished without any sense of what a book is for. In characterizing the isolation of reading as a subject, Dewey (1898) deplored the fact that a book had become a "reading-lesson" (p. 322), and reading itself was nothing but uttering sounds and recognizing words. "When the bare process of reading is thus made an end in itself," he said, "it is a psychological impossibility for reading to be other than lifeless" (p. 322). The reading books themselves exemplify the "fatal divorce between the substance and the form of expression" in the utter triviality of their content. "Take up the first half-dozen or dozen such books you meet with," Dewey implored, "and ask yourself how much there is in the ideas presented worthy of respect from any intelligent child of six years" (p. 322).

The teaching of reading was so much an outgrowth of the basic activities of the Dewey School that one distinguished former student, a man of remarkable memory, could not ever recall being taught to read (H. K. Tenney, personal communication, October 18, 1976). Reading, writing and arithmetic were things that occurred naturally in the course of building a clubhouse, or cooking, or raising a pair of sheep. In this way, Dewey

was trying to avoid two common effects of the prevailing methods of teaching reading. The first was "exhibited in the paradox of the combination of slavish dependence upon books with real inability to use them effectively" (Dewey, 1898, p. 324) and the other was that "the regimen of the three R's" (p. 325) simply crowded out very important educative activities that children between four and eight or nine could be engaging in. Art, for example, in its various forms—music, drawing, modelling and so forth—was much more fitted to what the child needed at that age than a concentration on written symbols. Even literature and history suffered because reading material was not chosen for its intrinsic value, but because it presumably matched the child's ability to recognize verbal symbols. What Dewey did not anticipate at this point was that the rise of standardized achievement tests in the twentieth century would sharply accelerate the tendencies in the teaching of the three R's that he so much deplored and would help make his own emphasis on the relationship between reading and human purposes the object of scorn and caricature.

iv

At the same time that Dewey was establishing the order of studies in his school and the manner in which the subjects should be treated, he was also seeking to articulate the theoretical conceptions that guided that work. In April of 1899, Dewey delivered three lectures to an audience of parents and others in which he tried to express the basic rationale for the school, and these lectures formed the heart of *School and Society*, which, when it was published that year, added immeasurably to the fame of the school and spread Dewey's ideas to a worldwide audience. In "The School and Social Progress," the first of the lectures, Dewey attempted to link the basic core of his curriculum, the occupations, to the mighty changes that had been wrought in American society, particularly the arrival of what Dewey called the factory system. Dewey was not so much expressing nostalgia for the days when "the whole process of getting illumination stood revealed in its toilsome length, from the killing of the animal and the trying of fat to the making of wicks and dipping of candles" (p. 19), as he was trying to point out that such a process, toilsome as it was, was an educative activity in a way that flicking a switch and filling a house with electric illumination could never be. Those activities of an earlier day, furthermore, provided opportunities for cooperative action toward a common goal and for a

sense of accomplishment that was not as readily available in a modern technological society. For the "city-bred child of today" (p. 21), such opportunities were no longer present, and the educational problem then became one of recreating in the school something of the occupations that in former times not only provided a sense of real purpose, but linked intelligence and cooperative action to what the work of the world required.

The way to accomplish this, according to Dewey (1899b), was to create in the school "a miniature community, an embryonic society," (p. 28) and as various forms of social occupations were introduced, "the entire spirit of the school is renewed" (p. 27) and the school becomes a place to live rather than "only a place to learn lessons" (p. 28). Dewey was again careful to emphasize the social side of these occupations rather than their utilitarian value in what ultimately turned out to be a mostly futile effort to deflect the idea that he was mainly interested in teaching practical skills. "There is nothing which strikes the average intelligent visitor as stranger," he said, "than to see boys as well as girls of ten, twelve, and thirteen years of age engaged in sewing and weaving. If we look at this from the standpoint of preparation of the boys for sewing on buttons and making patches, we get a narrow and utilitarian conception—a basis that hardly justifies giving prominence to this sort of work in the school" (pp. 29–30). The children in the school sheared sheep, made the cards used to card the wool, and then spun the wool on a spinning wheel, hardly practical activities in a modern industrial society. Here, they were following through in something that they designed and created from its most elementary form to a finished product. Dewey once recalled that Plato defined a slave as one who had none of his own ideas but was always expressing those of someone else. How much more urgent it must be in a modern industrial society than it was in Plato's time, Dewey mused, that somewhere people learn to develop and bring to execution their own ideas. "When occupations in the school are conceived in this broad and generous way," he felt, "I can only stand lost in wonder at the objections so often heard, that such occupations are out of place in the school because they are materialistic, utilitarian, or even menial in their tendency" (p. 34). The miniature community that Dewey envisioned was designed to initiate the child into effective social membership and, by "providing him with the instruments of effective self-direction," in the words of one of Dewey's most oft-quoted statements, "we shall have the deepest and best guarantee of a

larger society which is worthy, lovely, and harmonious" (p. 40).

In his two subsequent lectures, Dewey tried to indicate how the activities that characterized the school not only had the social value he expressed in the first lecture, but followed the instincts that children brought with them to school. In "The School and the Life of the Child," he amplified on the four instincts or impulses that he believed characterized childrens' behavior: the social or communicative instinct, the constructive instinct—the desire to make things, the expressive impulse, which grows out of the first two and, finally, the artistic impulse. These impulses, Dewey (1899b) felt, were in fact connected somehow with primitive life as culture-epochs theory implied and that because "there is a sort of natural recurrence of the child mind to the typical activities of primitive peoples," (p. 58) one could use that correspondence in constructing a course of study. Despite Dewey's reservations about Herbartian theory, certain aspects of their ideas seemed to have made a lasting impression on him. When Dewey turned to the theme of "Waste in Education" in his third lecture, he was careful to delineate his version of waste from the typical emphasis on efficiency, then only in its incipient stages but destined to become a dominant theme in American education in the twentieth century. Dewey declared that he was not so much interested in "waste of money or the waste of things," (p. 75) but the waste in human life that is created by the isolation of the school from social life and, because "all waste is due to isolation," also to the waste created by the isolation of one subject from another as well as "to the lack of coherence in . . . studies and methods" (p. 74).

Increasingly, Dewey was associating the work of the Laboratory School with his epistemological ideas, and, in fact, with his overall philosophy. "The underlying theory of knowledge," he said of the Laboratory School, "emphasized the part of problems, which originated in active situations, in the development of thought and also the necessity of testing thought by action if thought was to pass over into knowledge. The only place in which a comprehensive theory of knowledge can receive an active test is in the process of education" (Dewey, 1936, p. 464). It was for this reason that Dewey tried to see the school as embodying a form of social life, one where cooperative social living in miniature could provide the setting for the development of thought. Dewey specifically denied that there was any

desire to "'adjust' individuals to social institutions, if by adjustment is meant preparation to fit into present social arrangements and conditions" (p. 466). It was rather that mental development was essentially a social process and required a congenial social setting in which to develop effectively. In the long run, it was intellectual development that Dewey sought to effect through the curriculum, not only because it gave the individual command of his or her environment, but because intelligent social action held out the most promise for a better society. Dewey's rejection of the traditional course of study was not because it emphasized intellectual content; it was precisely because it lacked it. "Custom and convention," Dewey asserted, "conceal from most of us the extreme intellectual poverty of the traditional course of study, as well as its lack of intellectual organization" (p. 468).

In designing a course of study for his school, Dewey, as usual, rejected both of the alternatives that were presented. One was "to follow the traditional arrangement of studies and lessons"; the other was "to permit a free flow of experiences and acts which are immediately and sensationally appealing, but which lead to nothing in particular" (Dewey, 1936, p. 469). The solution that he sought in the curriculum of the Laboratory School was to find those things within the child's life and interests that offer the best opportunity to lead gradually to a command of the abstract subject matter we associate with logically organized bodies of knowledge. Because Dewey's school, throughout its existence, was essentially an elementary school, and because Dewey left the University of Chicago before any attempt was made to develop a program of secondary education, we tend to get a truncated version of what Dewey envisioned as an appropriate course of study, emphasizing primarily children's interests and active occupations and slighting the importance that he attached to a command of the intellectual resources of one's culture.

Written two years before he left the University of Chicago, Dewey's *The Child and the Curriculum* is unquestionably the best known and, in most respects, the clearest exposition of his theory of curriculum. As usual, Dewey was trying to dispel what he regarded as an untenable dualism. On the one hand, we had "certain social aims, meanings, values incarnate in the matured experience of the adult" and on the other, "an immature, undeveloped being" (Dewey, 1902a, p. 4). The differences between those

two "fundamental factors" were obvious. The world of the adult is logically arranged with reference to general principles; it is classified and abstracted from the real world. The child, on the other hand, lives in a world of immediate and direct experiences, and Dewey elaborated on what these basic factors implied when the course of study was considered. Conventionally, subjects are divided into topics and topics into studies and each study into lessons, and finally each lesson into specific facts or skills to be learned. "The road which looks so long when viewed in its entirety," he said, "is easily traveled, considered as a series of particular steps" (p. 8). On the other side, the child and the facts of child development are taken as the starting point. The standard for what is taught lies in the child not with bodies of subject matter.

Dewey saw the solution in reconstructing the problem in such a way as to make that apparent opposition disappear. He believed that he found the key to that dilemma in the concept of *experience.* One had "to get rid of the prejudicial notion that there is some gap in kind (as distinct from degree) between the child's experience and the various forms of subject-matter that make up the course of study." Once that were accomplished, the child and the curriculum (the course of study) became "simply two limits which define a single process" (Dewey, 1902a, p. 11). What Dewey was constructing, essentially, was a continuum of experience, and it was the function of the course of study to move along that line from one defining point, the immediate, chaotic, but integral experience of the child, to the other defining point, the logically organized, abstract, and classified experience of the mature adult. What was being reconstructed in the curriculum, therefore, was not the stages in the development of human history as the Herbartians advocated, but stages in the way human beings gained control of their world through the use of intelligence—stages in the development of knowledge.

But that reconstruction could not be strictly a logical one; it had to be psychologized. Dewey (1902a) pointed out that, while there was no direct opposition between the viewpoint of the scientist and the science teacher, neither were they "immediately identical" (p. 22). The scientist was primarily interested in advancing knowledge, in developing new hypotheses and trying to verify them. While the teacher was also interested in the subject matter of science, his or her primary interest was in how that knowledge became part of the child's experience. It is not so much with

knowledge itself that the teacher was concerned but in the effect that knowledge had on the child. As the child progressed in the educational process, the child's experience would begin to take on the form of the logically organized bodies of experiences that we call knowledge and which evolved over many centuries. Dewey was thus hoping at one and the same time to put children in command of the intellectual resources of their culture and to break down the barriers that life in a technological society had erected between knowledge and human affairs. By reconstructing the evolution of knowledge in the curriculum, Dewey was hoping not only to educate children but to restore the role that he believed knowledge had once played in a pre-industrial society.

V

Dewey left the University of Chicago in 1904 after an unfortunate, almost tragic, dispute with President Harper. The Laboratory School continued to exist, but gradually lost the particular character that Dewey gave it. His appointment at Columbia University was in its Philosophy Department, and, although he maintained some connection with Teachers College, his work in his long career at Columbia reflected, in the main, general philosophical interests. Although his magnum opus in education, *Democracy and Education,* was not published until 1916, it is largely a comprehensive synthesis of the ideas that Dewey developed during his Chicago period. Dewey had established himself as an educational statesman continuing to interest himself in educational questions throughout his lifetime, and his pronouncements often attracted national attention. But, although all sorts of changes in educational policy and programs were attributed to Dewey's influence during his long career at Columbia, and although his work attracted devoted disciples, nowhere do we find a coherent and lasting attempt to implement his course of study. While it would be an obvious exaggeration to say that Dewey's influence on the curriculum of America's schools was nil, other reformers with quite different conceptions of what should be taught were far more successful, or to put it more accurately, their ideas were more congenial to the forces that in fact influenced the course of study in the twentieth century than were Dewey's.

What was there about Dewey's ideas that caused them at best to be translated into slogans and at worst to be distorted altogether? Dewey himself may have had the most significant insights into that question. In a

paper given during the period of the Dewey School, he considered the general question of education reform and why it fails (Dewey, 1901). He tried to draw a picture of how innovations are introduced into the curriculum. First, he said, someone feels that a school system is behind the times, that there are new and exciting things going on elsewhere. Public sentiment is aroused and, after letters are written, editorials appear, and lobby groups do their work, the change is instituted: "The victory is won, and everybody—unless it be some already overburdened and distracted teacher—congratulates everybody else that such advanced steps are taking" (p. 334). Within a short time, however, complaints are heard that children do not read as well as they used to or that their handwriting is bad; there develops a public outcry to rescind the reform, and there is a return to the status quo ante.

One reason, Dewey (1901) felt, that these cycles occur is that there is "no conscious educational standard by which to test and place each aspiring claimant" (p. 335). Every movement for change whether it be a new way of teaching arithmetic or a new subject such as manual training is seen as isolated and independent from the rest of the curriculum; what we have is a multiplicity of standards for judging the worth of each reform, and these standards can easily work at cross-purposes. Secondly, Dewey called attention to what he called "the mechanics of school organization and administration" (p. 337). Although such things are usually seen as peripheral to the main business of the course of study, in fact, the organizational features of the school are often controlling factors in what gets taught. As long as the grouping of students, the selection of teachers, and the system of rewards remain the same, the reform is doomed. "We forget," Dewey said, "that it is precisely such things as these that really control the whole system, even on its distinctively educational side" (p. 338). The changes that Dewey sought in the curriculum were so sweeping and so revolutionary that they had to be accompanied by an equally great transformation in the way schools were run, and the key organizational features of any school are far more permanent affairs than any branch of study in the curriculum.

Moreover, the things that Dewey sought to promote through his curriculum were difficult to measure and therefore difficult to fit into a system that depended on "that kind of external inspection which goes by the

name of examination." "Technical proficiency," he said, "acquisition of skill and information, present much less difficulty" (Dewey, 1901, p. 340). Dewey also called attention to the minimal role that the teacher normally had in designing a course of study. It is, after all, the teacher "who alone can make that course of study a living reality," and "as long as the teacher, who is after all the only real educator in the school system, has no definite and authoritative position in shaping the course of study, that is likely to remain an external thing to be externally applied to the child" (p. 341). What Dewey called the question of democracy was also involved, but the practical question was derived from the fact that the teacher was the most important figure insofar as the curriculum was concerned, and there was simply no point in attempting a reform of the course of study without the active participation of the teacher and without taking into account the teacher's abilities, interests and desires. Curriculum change, therefore, required not simply a new conception of the course of study but a complex process of interaction involving both the organizational structure of the school and those people who were to be instrumental in bringing it to the classroom. From all accounts, such interaction did exist in the Laboratory School where Dewey had assembled a superb corps of teachers, but accomplishing that same dedication and commitment in the typical public school was another matter. With remarkable prescience, Dewey predicted that, without considered attention to the processes of change itself, "we shall be forever oscillating between extremes: now lending ourselves with enthusiasm to the introduction of art and music and manual training because they give vitality to the school work and relief to the child; now querulously complaining of the evil results reached, and insisting with all positiveness upon the return of good old days when reading, writing, spelling, and arithmetic were adequately taught" (p. 346).

Bandwagonism and pendulum swings from reform to conservatism in educational affairs did, in fact, become a persistent and almost mysterious phenomenon in the twentieth century. But beyond the shifts themselves, there remained a fundamental resistance to the sorts of changes that Dewey sought to introduce. In a larger sense, it is likely that what Dewey saw as the basic function of education, the development of the kind of intelligence that would lead to a command of the conditions of one's life and ultimately to social progress was not what most people saw as the

major requirement of a modern industrial society. The appeal of a stable social order with each person efficiently fulfilling his or her appointed tasks was far more compelling. John Dewey, the quintessential American philosopher, may, paradoxically, have been out of step, in at least some significant respects, with dominant American values, and while, personally, he was much revered in his own lifetime, his educational reforms remained confined largely to the world of ideas rather than the world of practice. The question of why certain proposed reforms do not become translated into practice, however, may be, in the long run, of equal importance to the question of why others do.

4 SCIENTIFIC CURRICULUM-MAKING AND THE RISE OF SOCIAL EFFICIENCY

I

OF THE VARIED AND SOMETIMES FRENETIC RESPONSES TO INDUSTRIALISM and to the consequent transformation of American social institutions, there was one that emerged clearly dominant both as a social ideal and as an educational doctrine. It was social efficiency that, for most people, held out the promise of social stability in the face of cries for massive social change, and that doctrine claimed the now potent backing of science in order to insure it. This was a vastly different science, however, from either Hall's natural order of development in the child or Dewey's idealization of scientific inquiry as a general model of reflective thinking. It was a science of exact measurement and precise standards in the interest of maintaining a predictable and orderly world. In a period when the influence of certain social institutions such as family and church was believed to be in a state of dangerous decline, the functions of schooling had to be restructured radically in order to take up the slack. The scope of the curriculum needed to be broadened beyond the development of intelligence to nothing less than the full scope of life activities, and the content of the curriculum had to be changed so that a taut connection could be maintained between what was taught in school and the adult activities that one would later be called upon to perform. Efficiency became more than a byword in the educational world; it became an urgent mission. That mission took the form of enjoining curriculum-makers to devise programs of study that prepared individuals specifically and directly

for the role they would play as adult members of the social order. To go beyond what someone had to know in order to perform that role successfully was simply wasteful. Social utility became the supreme criterion against which the value of school studies was measured.

In a general sense, the advocates of social efficiency were educational reformers. The fact that their brand of reform differed dramatically from that of Hall's and was the virtual antithesis of Dewey's should not obscure the fact that the basic intention of its proponents was to overthrow the established order in education as represented by the traditional humanist curriculum. Nor should one assume that the humanitarian impulse usually associated with reform was completely absent. That humanitarian impulse, reflected earlier in the work of Joseph Mayer Rice, expressed itself largely in a concern that the existing curriculum was of no interest and of no value to the new population then entering school, particularly secondary school. Beyond their interest in social stability, many leaders of the social efficiency movement indicated a genuine concern for the dissatisfaction that many children expressed about school and for the high rate of dropouts. The answer lay in a curriculum tied to direct utility and to tangible, albeit remote, rewards.

ii

The social theory that guided the development of social efficiency educators is probably best represented by the work of the renowned American sociologist, Edward A. Ross. Ross was not a sociologist of education, but his social ideas, especially as expressed in the most famous of his many books, *Social Control* (1901), strongly influenced the work of such educational sociologists as David Snedden, Ross Finney, Charles Ellwood and Charles C. Peters and they, in turn, devoted themselves to developing curricula consistent with Ross's ideas. By modern standards, Ross was more of a social philosopher than a sociologist, but, in his own day, Ross's work had the full support of science. Ross himself had, early in his life, experienced disillusionment with speculative philosophy, particularly Hegel, and he thought of his own work as an effective counterpoint to the vagueness and imprecision of philosophical thinking.

Social Control had its inception in a series of twenty-seven articles that Ross wrote for the *American Journal of Sociology* in the 1890s. By the turn of the century, he had completed his editing of that work and in 1901, it

was published in book form. The book reveals Ross to be beset by a kind of intellectual schizophrenia. On the one hand, he could scarcely conceal his admiration for "the restless, striving, doing Aryan, with his personal ambition, his lust for power, his longing to wreak himself, his willingness to turn the world upside down to get the fame, or the fortune, or the woman he wants," especially when compared to "the docile Slav or the quiescent Hindoo" (p. 3). In many respects, Ross identified personally and intensely with "the dolichocephalic blonds of the West" (p. 3) and admired the rugged indivudalism he believed they personified.

On the other hand, he saw civilized society teetering on the edge of a precipice. Modern industrial society, which he generally equated with capitalism, had corrupted those instincts that had once been appropriate in the Teutonic forests, and so American individualism, "the product of the last, most Westerly decanting of the Germanic race" had to be curbed (p. 17). Ross generally rejected the idea of a natural law insuring progress so prevalent in the work of Spencer and urged massive intervention in the interest of preserving society. "*Society,*" Ross fervently believed, "*is always in the presence of the enemy,*" (p. 190), and *Social Control* is, in a significant sense, a compilation of the weapons of self-protection in the arsenal of society. So powerful were these weapons in his view that he was impelled to issue a warning at the end of his book:

> I confess that no light responsibility is laid upon the investigator who explores the mysterious processes that take place in the soul of a people, and dissects in public the ideals and affirmations elaborated in the social mind. The fact of control is, in good sooth, no gospel to be preached abroad with allegory and parable, with bold type and scare headlines. The secret of order is not to be bawled from every housetop. The wise sociologist will show religion a consideration it has rarely met with from the naturalist. He will venerate a moral system too much to uncover its nakedness. He will speak to men, not to youth. He will not tell the 'recruity,' the street Arab, or the Elmira inmate how he is managed. He will address himself to those who administer the moral capital of society—to teachers, clergymen, editors, law-makers, and judges, who wield the instruments of control; to poets artists, thinkers, and educators, who guide the human caravan across the waste. In this way he will make himself an accomplice of all good men for the undoing of all bad men. (p. 441)

The weapons of social control that Ross had amassed in his book were so powerful as to be dangerous in the hands of anyone but the most upright.

Education was one of the most effective of those weapons in society's arsenal, particularly in the light of the decline of other modes of social control. "Underneath the medley of systems," Ross (1901) observed," we find *an almost world-wide drift from religion toward education* as the method of indirect social restraint" (p. 176). Unfortunately, according to Ross, American schools had been infused with "an intellectual bias" and, while the development of the intellect was not "without a moral value," that bias had led American schools to "become less an instrument of social control than an aid to individual success" (p. 176). The crisis represented by modern capitalism, he felt, required that the schools adopt a much more direct and more pronounced social purpose.

The decline in the influence of the family was another factor to be taken into account in the design of a proper educational system, but Ross's interpretation of that phenomenon was not entirely consistent with that of other reformers of his time. For Dewey, for example, the decline of the influence of the family meant that the school should build a closer tie between home and school and that the teacher should assume something of the role of an ideal parent by introducing into the course of study those household occupations now lost in an industrial society, social occupations that had once had such great educational value. The decline of a beneficent and educative family influence was, for Dewey, a loss that the school had to retrieve somehow. Ross (1901), on the other hand, happily welcomed the same phenomenon. The school in his view was actually in a better position than the family to instill "the habit of obedience to an external law" (p. 164). Anyone can be a parent, while the certification of teachers is a matter of state control. As a result, Ross explained,

> Another gain lies in the partial substitution of the teacher for the parent as the model upon which the child forms itself. Copy the child will, and the advantage of giving him his teacher instead of his father to imitate, is that the former is a picked person, while the latter is not. Childhood is, in fact, the heyday of personal influence. The position of the teacher gives him prestige, and the lad will take from him suggestions that the adult will accept only from rare and splendid personalities. The committing of education to superior persons lessens our dependence on magnetic men" (pp. 164–5).

Rather than decrying the loss of family influence, Ross obviously welcomed the opportunity to put the child in the hand of "picked" persons as

one more way of curbing anti-social tendencies. Ross, of course, was not the first to think of schools as an instrument of social control. The general idea of shaping individuals through a system of schooling is at least as ancient as Plato. For Ross, however, the social control function was overwhelming and urgent. Although both Dewey and Ross drew implications for schooling from the same perceived social change, one saw the need to restore in a different setting certain valuable experiences, while the other saw an opportunity to exercise a direct and desirable form of social control. The contrast between these two interpretations is one indication that the relationship between social change and educational doctrine is not so much a direct consequence of the change itself as it is social change as filtered through the perceptions of powerful individuals and groups.

iii

Besides the direct and explicit social control that Ross envisioned, the other key ingredient in social efficiency as a curriculum movement was efficiency itself. Here the principal figure was Frederick Winslow Taylor, the so-called father of scientific management. Like Ross, Taylor did not concern himself directly with education, although, through his disciples in the educational world, his indirect influence was enormous. In fact, the field of curriculum as a distinct area of specialization within the educational world was born in what may be described as a veritable orgy of efficiency, and the aftereffects of that orgy have been felt throughout the twentieth century. The bureaucratization of the American educational enterprise would likely have occurred anyway; it had already been under way for some time (Tyack, 1974), but it was aided immensely by the metaphors, procedures and standards of excellence that were drawn from the scientific management movement.

The immediate aim of Taylor's system of scientific management of factories was increased production at lower costs, but beyond that economic purpose lay a penchant for order and regulation that was at least the equal of Ross's. Nor was a moral dimension lacking. In Taylor's first paper before the American Society of Mechanical Engineers (1895), Taylor, in making the case for a "piece-rate system," expressed concern for loafing on the job (what was then called 'soldiering') and for the techniques that would insure an honest day's work (p. 856). "If a man won't do what is right," he once said, "*make* him" (Copley, 1923, p. 183). Like Ross, Taylor (1903)

believed that certain natural tendencies in human beings, such as laziness, had to be curbed, but there was promise in the fact that the output of a "first-class man" was considerably greater, "two to four times," that of the average worker (p. 1365). The work of the first-class man, then, could be used a a standard for how quickly and how well a particular job was to be done. Once the standardization of the techniques of production were achieved, the task of bringing the average worker up to the required level of work could be accomplished. In wage incentives, Taylor thought he had found the means that would at one and the same time be in the best interests of the worker and raise the production level of the average man to that of a first-class man. There were limits, of course, to the amount to be paid. "If over-paid," he warned, "many will work irregularly and tend to become more or less shiftless, extravagant, and dissipated" (p. 1346), but a carefully developed economic incentive could eliminate "systematic soldiering" (p. 1351) and bring higher production at lower cost.

By the time Taylor published his classic *Principles of Scientific Management* (1911), he was already widely recognized as the prophet of a new order in industrial society. The heart of scientific management lay in the careful specification of the task to be performed and the ordering of the elements of that task in the most efficient sequence. Taylor summarized the series of steps in this way:

> *First.* Find, say 10 or 15 different men (preferably in as many separate establishments and different parts of the country) who are especially skilful in doing the particular work to be analyzed.
> *Second.* Study the exact series of elementary operations or motions which each of these men uses in doing the work which is being investigated, as well as the implements each man uses.
> *Third.* Study with a stop-watch the time required to make each of these elementary movements and then select the quickest way of doing each element of the work.
> *Fourth.* Eliminate all false movements, slow movements, and useless movements.
> *Fifth.* After doing away with all unnecssary movements, collect into one series the quickest and best movements as well as the best implements. (pp. 117–18)

The technique is probably best illustrated in Taylor's (1911) account of how his colleague, Frank B. Gilbreth, analyzed the "art of bricklaying"

(p. 77). Every movement of expert bricklayers was analyzed, and, through the elimination of waste, a standard and carefully laid out sequence of movements toward the accomplishment of that standard was established. The key, really, to performing any complex task was to break it down into its most elementary components, each part so simple that it would not tax the ability of the worker and, thereby, error would be reduced and production increased.

But apart from the mere increase in production, Taylor foresaw that once his system were adopted, a new era in labor relations would emerge. It was in this way that his humanitarian impulse was expressed. In testimony before a Special House of Representatives Committee charged with investigating the Taylor system, Taylor argued that scientific management would bring about "the substitution of peace for war; the substitution of hearty brotherly cooperation for contention and strife; of both pulling hard in the same direction instead of pulling apart; of replacing suspicious watchfulness with mutual confidence; of becoming friends instead of enemies" ("Taylor's Testimony", 1912, p. 30). Here was the reformist's zeal that prompted Taylor in carrying through his mission to reconstruct American industry. His watchword was efficiency, but through efficiency he was trying to achieve the higher purpose of a more orderly and less contentious society. It was a reform that political conservatives could easily embrace.

With the rage for efficiency in full swing by the second decade of the twentieth century, it was inevitable that criticism of the inefficiency of American schools, criticism initiated by Rice's muckraking journalism, should soon be heard. The application of Taylor's system of managing factories to the management of schools was the most immediate and most natural step. In time, however, the use of scientific management techniques went far beyond the application of Taylor's ideas to the administration of schools; it ultimately provided the language and hence the conceptual apparatus by which a new and powerful approach to curriculum development would be wrought. The route by which scientific management became the basis for an education doctrine is actually no mystery. Those educational leaders who forged the new doctrine made no secret of the source of their ideas, self-consciously and conspicuously following the principles of Taylorism in an effort to make the curriculum a direct and potent force in the lives of future citizens and, ultimately, an instrument for creating a stable and smoothly functioning society.

iv

No one epitomized the new breed of efficiency-minded educators more than John Franklin Bobbitt. In fact, his work represents in microcosm the development of a field of specialization within education, the field of curriculum. It is probably this identification of social efficiency with the emergence of the field itself that is a significant factor in the persistence of many of its most central ideas today in only a slightly modified form. Bobbitt was brought to the University of Chicago in 1909 by Charles H. Judd, a psychologist who had just been recruited from Yale to head the Department of Education. Judd himself was a major exponent of the scientific study of education, and he probably saw in the young Bobbitt a kindred spirit. In the following year, Bobbitt, now promoted from lecturer to Instructor of School Administration, introduced a course entitled, simply, Curriculum. In his third year, that course, apparently a great success, was expanded to include both the autumn and the winter quarters. By 1912, Bobbitt published his first significant article on curriculum, "The Elimination of Waste in Education" and his career as a curriculum leader was launched.

A major portion of Bobbitt's (1912) article was devoted to extolling the virtues of the school system that had been developed by Superintendent Willard Wirt in Gary, Indiana, a "city having been practically created by the United States Steel Corporation" (p. 259). Wirt had devised a system, popularly called the "platoon system," which was designed to increase efficiency in the use of space within a school building by shifting students from classrooms to other indoor space, such as the auditorium, and to the playground in systematic fashion. Bobbitt was impressed by the fact that "the usual plant, if it is fully equipped is operated during school hours at about 50 per cent of efficiency," but that "the educational engineer at Gary was to formulate a plan of operating his plant during school hours at 100 per cent efficiency" (pp. 260–1). While the platoon system was clearly more managerial than curricular as an educational innovation, Bobbitt's use of such terms as "educational engineer" to refer to the superintendent of schools and "plant" to refer to the school was no merely decorative use of language; it had implications far broader than the pedestrian question of space utilization. It provided the emerging curriculum field with the root metaphor on which a new and powerful theory of curriculum could be built.

In enumerating the four principles on which an efficient school would be based, Bobbitt's first three, such as optimal use of the school plant, were basically administrative. But in enunciating his fourth principle of scientific management applied to education, he extended the factory metaphor to the question of how a curriculum should be constructed:

> Work up the raw material into that finished product for which it is best adapted. Applied to education this means: Educate the individual according to his capabilities. This requires that the materials of the curriculum be sufficiently various to meet the needs of every class of individuals in the community; and that the course of training and study be sufficiently flexible that the individual can be given just the things that he needs. (Bobbitt, 1912, p. 269).

Individual variation in ability had, of course, been recognized well before Bobbitt's time, but Bobbitt was now asserting that the curriculum be carefully adapted to each "class of individuals" as part of the drive for the elimination of inefficiency in education. People, after all, should not be taught what they will never use. That was a waste. In order to reduce waste, educators had to institute a process of scientific measurement leading to a prediction as to one's future role in life. That prediction would then become the basis of a differentiated curriculum. Within the framework of the new theory, "education according to need" was simply another way of saying, education according to predicted social and vocational role. Boys, for example, whose "needs" were different from girls in terms of such matters as vocation, recreation and citizenship were to be given a different course of study from girls in these respects (p. 270). Future men and women were destined to perform different roles in society, and it was simply inefficient to train them in the same way. Bobbitt's concern for the "raw material" in the context of his theory was not so much a concern for individual well-being as it was part of an effort to eliminate waste in the curriculum and, by extension, in the social order generally. The doctrine of social efficiency held out the then very appealing prospect of scientifically attuning the curriculum to the requirements of the new industrial society.

v

One of the most tangible and far-reaching manifestations of the drive to create a more directly utilitarian curriculum had its inception in a res-

olution passed in 1905 by the Massachusetts Senate and House of Representatives creating what came to be known as the Douglas Commission. That resolution authorized Governor William L. Douglas to appoint a Commission on Industrial and Technical Education in order to investigate the needs of the state in various industries and to determine "how far the needs are met by existing institutions," as well as to "consider what new forms of educational effort may be advisable"(Massachusetts Commission, 1906, pp. 1–2). A social scientist, Dr. Susan M. Kingsbury, was appointed as "expert investigator," and within a year the Commission issued its report based on twenty public hearings held in major cities around the state and on the testimony of 143 witnesses including manufactureres, farmers, repesentatives of labor unions and school officials. The report indicated general agreement between the "broader-minded students of education" on the one hand and, on the other, those "men and women who have been brought into intimate contact with the harder side of life": the "old-fashioned" curriculum of Massachusetts's schools was too far removed from the demands of life created by an industrial society and that in practical trade training lay the answer (p. 4). The justifications for this solution were drawn, as would be expected, from the doctrines being so insistently espoused by the emergent reform interest groups of the time. From the developmentalists, there came the expressed concern for the "fullest development of the child" and from the social meliorists the idea that such education could be useful "in the reformation of wayward and vicious children at reform and truant schools" in much that same way "that it is being used to elevate the colored race in the south" (p. 4).

Most pervasive was the insistence that the schools undertake the task of preparation for earning a livelihood. The report indicated that at almost every hearing they were told that "the processes of manufacture and construction are made more difficult and more expensive by a lack of skilled workmen" (p. 4). In that regard, the Commission chided the advocates of manual training for taking too narrow a view emphasizing its value as a "cultural subject a sort of mustard relish, an appetizer,—to be conducted without reference to any industrial end" (p. 14). By contrast, the Commission cited with approval the establishment of textile schools in Lowell in 1897, in New Bedford in 1899, and in Fall River in 1904 as affording the kind of education that would serve best both the citizens and

the Commonwealth of Massachusetts. While the Commission recognized that direct trade training was regarded with "suspicion and hostility of many of the labor unions of the State," on the grounds that the labor market was being expanded in order to lower wages, they felt those suspicions to be largely unwarranted (p. 6). Although the Commission did not engage in the open and often vitriolic attacks on the academic curriculum that became common in the educational world in later years, their sympathies clearly lay with a new system of education tied to the "callings in life . . . professional, commercial, productive and domestic" (p. 14). In fact, as they viewed it, the decline of the apprenticeship system made such a change a social necessity. Whereas at one time, the report argued, the system of schooling and the institution of apprenticeship were kept in a kind of balance in terms of their influence on youth, that balance had now been destroyed to the point where a dangerous bias had been created, with children and youth devoting their time almost exclusively to academic studies in school. That balance could be rectified by restructuring the curriculum in schools to include the functions once performed by the apprenticeship system. This was exactly the kind of argument that appealed to those leaders in American life who sought a restructuring of social institutions in line with what they saw as a major social transformation.

An important addendum to the main report was Kingsbury's "Report of the Sub-Committee on the Relation of Children to Industries," a report that focussed on the 25,000 children between 14 and 16 who were not in school. After a detailed and considered attempt to survey a sample of that 25,000, Kingsbury found that five-sixths of them had not completed an eighth-grade education and that virtually none had ever attended high school. As Helen Todd (1913), the factory inspector, was to find seven years later, it was not economic deprivation that was the principal cause of leaving school to work in factories. The chief blame for the unfortunate state of affairs that Kingsbury found lay in the "dissatisfaction" that children felt with their schoolwork and the fact that "the parent does not know where to find an occupation for his child" other than the unskilled labor available at the textile mills and other factories (Massachusetts Commission, 1906, p. 44). Moreover, with proper training, she argued, "our cloths can compete with the foreign market" and the state would prosper (p. 46). The chief obstacle to that prosperity as well as to the well-being of the child was a curriculum removed from any prospect of reward in occupational terms.

Under those circumstances, neither the child nor the parent could see any point to continuing school much after the sixth grade.

Kingsbury's was a powerful and timely case. The issue of school-leavers brought into focus elements from several reform streams and promised to become one of the most debated questions in twentieth-century education. But Kingsbury's temperate and balanced treatment of the issue left open the terms that would define that debate. The most powerful of these reform streams, however, social efficiency, soon moved to reconstruct the issue in its own terms. Three years after the Douglas Commission Report, Leonard Ayres published his enormously infuential *Laggards in Our Schools* (1909), one of the first avowedly "scientific" treatises in education. Ayres, who had once been superintendent of schools in Puerto Rico, had gotten a grant from the Russell Sage Foundation in 1907 to study the effects of retardation in schools. (The term "retardation" did not have the psychological connotations it has today but was used simply to refer to the problem of children not making normal progress in schools.) Ayres opened his report by alluding to the 1904 report of Superintendent William H. Maxwell of New York City indicating that 39 percent of the students in the elementary grades were too old for the grade they were in (pp. 1–3). The problem as he saw it was to discover why this situation existed and to suggest remedies that might correct it.

Ayres's study was conducted through the careful examination of school records, not through the observation of schools themselves as Rice's had been. The key to the problem as he saw it was that retardation represented a great loss in efficiency. Students who were supposed to be making their way smoothly through the grades were, in an alarming number of cases, taking twice as long to complete a grade as they should. The problem lay, of course, with the curriculum. "*These conditions,*" Ayres (1909) asserted with finality, "*mean that our courses of study as at present constituted are fitted not to the slow child or to the average child but to the unusually bright one*" (p. 5). In defining the problem in this way, he was sounding a theme that social efficiency reformers were to echo through most of the twentieth century: the "college-preparatory" curriculum that had held sway for so long needed to be replaced by a curriculum attuned to the needs of a new population and a new industrial order. As a result of an inefficient curriculum, Ayres pointed out, "in the country as a whole about one-sixth of all of the children are repeating and we are annually spending

about $27,000,000 in this wasteful process of repetition in our cities alone" (p. 5). No well-run manufacturing establishment would tolerate such waste.

To correct this scandalous situation, Ayres developed his famous Index of Efficiency which he applied to fifty-eight urban school systems. Given that Index, the production metaphor applied to the curriculum could be used with ruthless precision. Ayres wanted to know, for example, the number of students who begin each school year so that "the relation of the finished product to the raw material" could be computed. He sought to calculate the "conditions of maximum theoretical efficiency" in each grade so that the "relation of the actual plant in size to the theoretic requirements" could be determined. "Suppose," he argued, "we had a factory which instead of utilizing all its raw material (100 per cent) embodied only 50 per cent in its finished product" (Ayres, 1909, p. 176). That factory would be even less than 50 percent efficient if it were also found that the "theoretical product" of the plant were higher. Using the Index of Efficiency, it was evident that the schools of the nation were even more inefficient than the raw data indicated (pp. 176–7). More importantly, the genuine issue of the appropriateness of the curriculum to the school population that the Douglas Commission raised had been reduced to a problem of simple efficiency and cost-effectiveness. The power and appeal of the factory metaphor applied to curriculum issues was all too painfully evident in the way Ayres reconstructed the problem, a power and an appeal that was to put the social efficiency interest group in a commanding political position in the decades ahead.

In the next few years, the notion that the problem of "retardation" was primarily a problem of curriculum inefficiency became a constantly recurring theme. It was so persistent, in fact, that one of the leaders of the social efficiency movment, Charles A. Ellwood, a professor of sociology at the University of Missouri, complained just six years after Ayres's report that nearly everyone now seems "to think that the only way to remedy this evil is to make the curriculum of our public schools more 'attractive', so as to hold the child's interests longer. While "not opposed to the making of curricula attractive," Ellwood (1914) was more concerned with the loss of social control that the problem of "elimination" presented (p. 572). He was worried about the fact that children, under existing compulsory education laws, could simply 'soldier' until they are fourteen and then leave

school before their "efficiency as citizens" had been established. Since it was clear to Ellwood that "a *definite* sentence is the greatest of all impediments" in reforming delinquent children, why not impose on all the children of the nation an indefinite sentence of schooling? "If the indefinite period of detention in an industrial or reform school is good for the delinquent child," he insisted, "why is not an indefinite period of instruction and training in our public schools good for the normal child?" (pp. 574–5). In this way, schools would perform the "social service" for which they were intended, fitting the child to the demands of modern society. Even further, the schools, given enough time, could identify the feebleminded that the psychologist, H. H. Goddard's investigations had dramatically brought to the fore, and appropriate action could be taken before they "are allowed to go out into life, [and] by the laws of heredity . . . inevitably pass on to future generations their defects and even diffuse them in the population as a whole" (p. 576). In this way, consistent with Ross's ideal of the school as a weapon of social control, the school could serve the social function it so long failed to perform. While Ellwood's recommendations never were implemented in the form he proposed, they illustrate that along with simple efficiency the other key element in the powerful social efficiency equation was social control. It was principally in terms of efficiency and control that the complex and critical issue of "retardation" and "elimination" and their relationship to curriculum were defined for at least a half century.

vi

Two closely interrelated movements in psychology lent vital support to the way proponents of social efficiency defined the key curriculum issues that were to emerge in the twentieth century. One was the development of a psychological theory to replace the moribund faculty psychology, one which fit in neatly with the basic presuppositions of social efficiency; and the other was the mental measurement movement which provided the technology necessary for the kind of assessment and prediction that a curriculum based on social efficiency doctrine required. These two movements, both flowering in the first quarter of the twentieth century, in effect, created a new psychology, one so widely accepted that it inevitably placed the social efficiency interest group in a dominant, although not supreme, position *vis-à-vis* the others.

One of the most critical points in the development of a new psychology consistent with the emerging ideas of the scientific curriculum-makers centered on the psychological concept that is conventionlly called "transfer of training." It is universally assumed that what one learns in school somehow carries over to situations different from that particular time and that particular setting, but the process by which that transfer takes place was and still remains a subject of great debate. It is, in a sense, part and parcel of what we call learning, and without a plausible account of how we learn, no curriculum theory could really gain widespread acceptance. James had in 1890 fired one of the first salvos at the mental disiplinarian notion of transfer when he reported that his experiments on memory had failed to show any improvement in what mental disciplinarians had imagined to be a discrete faculty of memory. If memory could not be improved by memorizing, then it could hardly be justified as a pervasive school activity, since much of the things being memorized were hardly worth committing to memory in the first place, and they were most likely to be forgotton in any event.

By the early twentieth century, experimentation to discredit the mental disciplinarian concept of transfer became almost a cottage industry (Rugg, 1916), and leading the way was James's brilliant and illustrious student, Edward Lee Thorndike. Thorndike had been brought to Teachers College, Columbia University by Dean James Earl Russell as part of what turned out to be a successful effort to build the preeminent institution for the study of education. Thorndike's first major foray into the intricacies of the problem of transfer was a series of experiments he conducted with his student, R. S. Woodworth that were published under the general heading, "The Influence of Improvement in One Mental Function Upon the Efficiency of Other Functions" (Thorndike and Woodworth, 1901). In a variety of mental operations, such as estimating the areas of rectangles, subjects were given intensive training until they achieved a high degree of proficiency. Then they were given a similar task, such as estimating the areas of figures of the same size but of different shapes, and the amount of transfer from one learning task to the other was computed. This was repeated with such other tasks as estimating the lengths of lines or estimating the weights of objects. The effectiveness of the special training in the learned task was not at issue—only the exent to which learning that task carried over to a similar one. Thorndike's conclusion based on

these experiments was devastating to commonly held beliefs about transfer: "Improvement in any single mental function need not improve the ability in functions commonly called by the same name. It may injure it" (p. 250). In a major book published a dozen years later, Thorndike (1913) extended that conclusion to cast doubt on even the existence of such mental operations as memory, perception, reasoning, and observation. They were, in effect, fictions and should be discarded along with a lot of other conceptual baggage left around by faculty psychologists (pp. 363–5). But without those concepts the whole value of general education was cast into doubt.

In place of a concept of mind comprising a limited number of discrete faculties, Thorndike and other psychologists in the early twentieth century sought to construct something more consistent with their experimental evidence. The mind that Thorndike envisioned was a machine in which there were thousands—millions—of individual connections each one bearing a message having little in common with the next. The mind in his view consisted not of large capacities such as memory and reasoning waiting there to be developed, but of "multitudinous separate individual functions" (Thorndike and Woodworth, 1901, p. 249), a kind of switchboard with innummerable wires (bonds) connecting discrete points.

As if this were not enough, Thorndike conducted an experiment two decades later that was even more unsettling to traditional curriculum beliefs. This time it was the value of particular school subjects that was called into question. Between 1922 and 1923, Thorndike administered two forms of the same intelligence test to 8,564 high school students. He then divided that population according to groupings of subjects they had studied over the course of that year to the extent that that was possible. Once he had corrected for such factors as initial ability and special training, the value of these courses of study in raising intelligence levels could then be computed. We would then know how much better Latin or mathematics was in raising general intelligence than, say, domestic science. Thorndike's conclusion in this study amounted to another bombshell: "We find notable differences in gain in ability to think as measured by these tests, but they do not seem to be due to what one studies. . . . Those who have the most to begin with gain the most during the year. Whatever studies they take will seem to produce large gains in intellect" (Thorndike, 1924, pp. 94–5). There may be some question as to whether Thorndike

was warranted in drawing such sweeping conclusions on the basis of this as well as his 1901 experiments, but the ready inference that curriculum-makers drew was that improving intelligence, in effect, teaching students to think through a course of study designed for that purpose, was a pipe dream. What really mattered was native intelligence.

By 1924, Thorndike's attacks on mental disciplinarian concepts already had a sympathetic audience. Not only was mental discipline dead as a formal theory, but the new scientific curriculum-makers such as Bobbitt and Charters were developing a theory of curriculum entirely consistent with the concept of mind inherent in the new psychology. If transfer from one task to another was much less than had been commonly believed, then the curriculum had to be so designed as to teach people specifically and directly those exact skills required for the tasks that lay before them in life. Gilbreth's atomization of the "art of bricklaying," Thorndike's image of mind as consisting of innumerable tiny functions, and Bobbitt's scientific curriculum drawn from a laborious analysis of the multitudinous tasks that comprise human life were all of one conceptual piece.

So was the companion movement in psychology that was to affect the curriculum of American schools profoundly, the calibration of intelligence into minute units—I.Q. points. The sources of mental testing lie in the efforts of Francis Galton in England to trace the components of genius as well as the experimental laboratories established in Germany by Wilhelm Wundt, but most directly in the work of Alfred Binet, who was charged by the French Ministry of Education to find a way of identifying those French schoolchildren who needed special education. The simple scale of tasks he developed in that regard underwent a kind of sea change once it was transported to American shores. In the hands of psychologists such as H. H. Goodard, Lewis H. Terman, R. M. Yerkes, and Edward L. Thorndike, that scale became not just a diagnostic device, but a powerful tool by which society could be regulated (Gould, 1981).

As Ross had foreseen, a vital force in the creation of such a stable and orderly society was a system of schools dedicated to that purpose, including, most specifically, a curriculum tied to the destined roles that future citizens were to perform. Since future citizens were to perform different and complementary tasks, a differentiated curriculum was needed in line with the determination of native capacities that a scientific system of mental measurement would provide. In particular, secondary education

would be that period when the differentiation should be the sharpest. In fact, the creation of a new educational institution, the junior high school, was given special impetus by the perceived need to "explore" children's needs and capacities before entering upon the high school period.

Thorndike himself was unequivocal on the need for differentiation in the high school curriculum. "The problem before the high school," he declared, "is to give the boys and girls from fourteen on who most deserve education beyond a common school course such a training as will make them contribute most to the true happiness of the world" (Thorndike, 1906, p. 180). That task required exactly the kind of "prognostication" that Hall had earlier proposed and that Eliot, in his defense of the Committee of Ten Report, had so vehemently opposed. Thorndike was in absolute agreement with his fellow psychologist Hall that "no high school is successful which does not have in mind definitely the work in life its students will have to perform, and try to fit them for it" (p. 180). The majority of students entering high school, he felt, were not "efficient at dealing with *ideas,* but whose talent is for the manipulation of *things*" (p. 181) making them more suited for cooking than for writing compositions or performing experiments. Moreover, in a modern industrial society, schools had to supply the knowledge that once was the province of other institutions. "The time has passed," Thorndike affirmed, "when the rule of thumb was enough for the building trades; when science was a luxury to the farmer, when old wives' lore passed on from mother to daughter was the best available education for housewifery and motherhood" (p. 181). He went on to estimate that not more than a third of the secondary student population should study algebra and geometry since, in the first place, they were not suited for those subjects and, in the second, they could occupy their time much more efficiently by studying those subjects that would fit them more directly for what their lives had in store. The curriculum for the new education needed to be expanded far beyond the traditional subjects that the Committee of Ten had recommended just a few years before, and curriculum differentiation became a necessary concomitant to that expansion. In the drive to implement such a reform, the mental measurement movement performed a vital legitimating function.

At the same time that psychologists were shaping a new psychology consistent with the emerging field of curriculum, those sociologists of education who had embraced the social efficiency ideal were not only endorsing

the scientific work of their colleagues in psychology, but elaborating the social theory that was to guide the curriculum changes they sought. Ross Finney, for example, an influential professor of sociology at the University of Minnesota, saw clear implications for how the curriculum should be organized from the experience gained from the Army Alpha mass testing. What angered Finney was the persistence of the "rise-out-of-your-class" philosophy of society that continued to dominate educational policy in the face of conclusive evidence that "the great majority are *predestined* never to rise at all" (Finney, 1928, p. 180). From Plato to Charles Horton Cooley, Finney felt, social theorists were continuing to make the mistake of assuming that people actually can be taught to recongize or somehow to "discern the one man in the right" when establishing a good society (p. 385). Fortunately that question had been unequivocably settled. "And now come forward the psychologists," Finney announced, "with scientific data for headlining what we all knew before, namely, that half the people have brains of just average quality or less, of whom a very considerable percentage have very poor brains indeed" (p. 386). In spite of that evidence, the mistaken notion persisted that the school's function was to teach people to think, a position he attributed (correctly) to James Harvey Robinson and "Doctor" John Dewey. "But this solution," Finney pointed out, "will hardly bear inspection. In the first place, the barber's I.Q. is only . 78, according to the army tests. I.Q. 's below . 99+ are not likely to secrete cogitations of any great social fruitfulness" (p. 388). His solution was to teach that half of the population without the power to "secrete cogitations" to follow dutifully what those who have that power tell them to do. In fact, in curriculum terms, he envisioned one curriculum for leadership and another for "followership" designed for that purpose. Finney's is one case in point among many of how the concept of I.Q. and mental measurement generally fit perfectly into the idea of a curriculum tied to the particular qualities of the "raw material," rather than assuming anything like the ability to think across the entire student population.

Probably the most eminent of the new breed of educational sociologists was David Snedden. Snedden first came under Ross's influence while an undergraduate at Stanford University beginning in 1895. After completing a doctorate at Teachers College, Columbia University, he became an adjunct professor of education there. Later, as Commissioner of Education in Massachusetts, he was in a position to help guide the course of

American education, especially in his efforts to enlarge the scope of vocational education and to create a socially efficient curriculum generally. It was in his period as Commissioner that he appointed two men who were to put their own marks on the future course of the curriculum in the United States. Snedden chose his former student, Charles Prosser, as deputy commissioner for vocational education who over his long career became the pivotal figure in the development of vocational education in the United States and who emerged after World War Two as instrumental in the ill-fated life adjustment movement. His second appointment, in 1912, was Clarence Kingsley, a high school teacher from Brooklyn, New York, as his assistant in secondary education. Six years later, Kingsley was to engineer, almost single-handedly, the Cardinal Principles Report, a major landmark in secondary education in the United States. In 1916, Snedden returned to Teachers College to accept a professorship in educational sociology and thus was able to point that fledgling discipline in the direction of his master, Ross. For the next two decades, Snedden was a central figure in a group of educational sociologists that included Ross Finney, C. C. Peters, and Charles Ellwood.

In terms of his ideas on the curriculum, Snedden was in agreement in almost every detail with the preeminent scientific curriculum-makers such as Bobbitt and W. W. Charters, but he had a much grander and more explicit social vision. Writing in 1921, Snedden predicted that "by 1925, it can confidently be hoped, the minds which direct education will have detached from the entanglements of our contemporary civilization a thousand definite educational objectives, the realization of which will have demonstrable worth to our society" (Snedden, 1921, p. 79). Snedden recognized, however, that it was not necessary nor was it even desirable for all persons to achieve all the objectives that had been so determined. Objectives had to be set in relation to what he called "case groups" defined as "any considerable groups of persons who in large degree resemble each other in common possession of qualities significant to their school education" (Snedden, 1923, p. 290). Like his contemporaries, Snedden felt that the junior high school period was where "differences of abilities, of extra-school conditions and of prospects will acutely manifest themselves, forcing us to differentiate curricula in more ways, probably, than are as yet suspected" (Snedden, 1924, p. 740) and thus the creation of case groups was particularly germane to that institution.

The curriculum itself would be built of "peths," tiny units of which a single spelling word would be an example (Snedden, 1925, p. 262). Persisting in his penchant for neologisms, Snedden then proposed that peths be organized into "strands," built around "adult life performance practices" such as "health conservation through habitual safeguarding practices," for which something like 50 to 100 peths would serve. A strand for anything as simple as becoming a streetcar motorman would require only 10 to 20 peths but to produce a good farmer or a good homemaker, anywhere from 200 to 500 peths would have to be assembled (p. 288–9). Snedden (1924) also created the "'lotment' . . . the amount of work that can be accomplished, or the ground considered, by learners of modal characteristics (as related to the activity covered) in 60 clock hours" (p. 741). Snedden's vision of a school and its curriculum was almost a caricature of Taylor's vision of a factory and the manufacturing process virtually replete with the stopwatch which had become practically a symbol of industrial efficiency.

But Snedden's penchant for quaint terminology should not obscure the fact that he was representing what amounted to the dominant curriculum ideology of his day. When in 1923–24, for example, George S. Counts conducted his study of high school curricula, the wide acceptance of different curricula for different segments of the high school population was clearly evident. He reported 18 different curricula in Los Angeles secondary schools and 15 in Newton, Massachusetts (Counts, 1926, p. 13). In the very same school year, Robert and Helen Lynd (1929) discovered in the schools of Middletown a "manifest concern . . . to dictate the social attitudes of its young citizens" that was reflected in a variety of required courses in civic education, a curricular emphasis second only to vocational training.

Snedden's protégé, Clarence Kingsley, the mathematics teacher from Brooklyn, was the man who in 1918 produced the document that proved to be the capstone of the quarter-century of furious efforts at curriculum reform that began with the Committee of Ten report. The report of the Commission on the Reorganization of Secondary Education or, as it has been popularly called, The Cardinal Principles report (National Education Association, 1918) met with almost universal approbation when it was issued, and, unlike Eliot's Committee of Ten report (which had by this time fallen into almost universal disfavor) continues to be cited as

embodying the highest wisdom in curriculum matters. It was perhaps inevitable, given the intense and largely successful efforts at curriculum reform since 1893, that some form of repudiation of Eliot's report should be forthcoming and that it should reflect the growing belligerence toward academic subjects through the ascendance of social efficiency in the educational world. Given the pervasiveness of that doctrine and the calls for a radical transformation of the curriculum, Kingsley's report was rather moderate. By far the most prominent portion of the 32-page report was the statement of the seven aims that would guide the curriculum: "1. Health. 2. Command of fundamental processes. 3. Worthy home-membership. 4. Vocation. 5. Citizenship. 6. Worthy use of leisure. 7. Ethical character." (pp. 10–11). With the possible exception of the second one, these aims each represented an area of life activity, and the curriculum would be directed toward efficient performance within that area. Thus would a much closer connection be maintained between education and the actual activities that people are called upon to perform in their daily lives. Unlike the Committee of Ten report, where the four programs of study represented the heart of the recommendations, the Cardinal Principles Report centered on something beyond the curriculum itself. The curriculum became the instrument through which the aims were to be achieved.

Although a significant shift in emphasis, this represented a rather temperate stance given the pedagaogical climate of the times. Social efficiency proponents such as Bobbitt, Charters and Snedden were calling for the elimination of the conventional subjects in favor of subjects that were themselves areas of living such as citizenship and leisure. Kingsley, however, did not call for the elimination of history and English—only that they reorient themselves toward the achievement of at least one, and preferably several, of the seven aims. Snedden, Kingsley's erstwhile mentor, decrying the fact that vocation appeared lost amid the full list of seven aims, declared the report to be "almost hopelessly academic" (Snedden, 1919, p. 522) and accused the Commssion of being "chiefly preoccupied with the liberal education of youth" (p. 526).

Neither did the report go as far as Snedden would have liked in the direction of differentiated curricula. Although the report refers to "curriculums," there was more than a passing reference to the need in a democracy for the school to perform a unifying function through common experiences in school, including the high school period (National Education Association, 1918, pp. 22–3). In that regard, the Commission was unequivocal in its support of the comprehensive high school, a position that in 1918 was being widely debated, with social efficiency educators leading the way in calling for different forms of secondary education for different kinds of youth. As a whole, however, the report reflected with reasonable accuracy the winds of change that had swept the educational world in the previous quarter-century. So widely accepted were Kingsley's recommendations that 1918 may be regarded as the year when the humanist position reflected in Eliot's Committee of Ten report was forced to go on the defensive, no longer playing the dominant role it once did in the battle for the American curriculum.

vii

By 1918, social efficiency as a curriculum theory was almost at its zenith, and attention to curriculum reform had reached the point where curriculum was being recognized as a vital subspecialty within the broader spectrum of education. One sign of the new status accorded the curriculum was the publication of the first modern book devoted exclusively to that topic, a book entitled simply, *The Curriculum* (Bobbitt, 1918). In it, Bobbitt summarized the state of the art up to that point. He also provided what is probably the most concise and at the same time most explicit definition of the theory that he and his fellow social efficiency educators were advocating:

> The central theory is simple. Human life, however varied, consists in the performance of specific activities. Education that prepares for life is one that prepares definitely and adequately for these specific activites. However numerous and diverse they may be for any social class, they can be discovered. This requires only that one go out into the world of affairs and discover the particulars of which these affairs consist. These will show the abilities, attitudes, habits, appreciations, and forms of knowledge that men need. These will be the objectives of the curriculum. They will be numerous, definite, and particularized. The curriculum will then be that series of experiences which children and youth must have by way of attaining those objectives. (p. 42)

Almost every sentence in Bobbitt's summary of the theory marks off a vital facet of what was the ascendant mode of thinking about the curricu-

lum in the twentieth century. There was first its simplicity. Compared to Dewey's conceptually complex version of recapitulation or the mystical romanticism of Hall's culture-epochs, simplicity itself must have had a tremendous appeal. That simplicity was expressed largely in a conception of curriculum planning that could be reduced to a series of steps, an idea perfectly consistent with Taylorism and one that has maintained its appeal even to the present. There was also the appeal to specificity, an ideal drawn from scientific management as well as Thorndike's connectionism, and, in the minds of many, from science itself. Imbedded in Bobbitt's description of the essentials of the theory was the mechanism by which the curriculum would actually be constructed, a mechanism that Bobbitt (1918) was convinced was "a scientific technique" (p. 42). Activity analysis or, as it was sometimes called, job analysis, consisted of a procedure whereby one first created an inventory of the "particulars" that comprised human life. These were the things that people in fact did, and those things would be converted into curricular objectives. The next step was simply to create that "series of experiences" that would most efficiently achieve each objective. What Bobbitt was proposing was essentially that Gilbreth's technique for analyzing bricklaying be applied, not simply to "vocational labors" as in the case of scientific management, but to all the activities in which human beings engage, to "their civic activities; their health activities; their recreations; their language; their parental, religious, and general social activities" (p. 43). The scope of the curriculum would be nothing less than "the mosaic of full-formed human life" (p. 43).

Bobbitt (1918) recognized that the total range of human activity was so vast that no curriculum could encompass it all, but he found a solution to that problem in the idea of "directed and undirected experiences" (p. 43). Some objectives, Bobbitt asserted, may be "attained without conscious effort" and although the "curriculum-discoverer" must be aware of these as well, "he will be content to let as much as possible be taken care of through undirected experiences." Fortunately, the schools did not have to teach everything. Some things are simply learned through a natural process of socialization. "*The curriculum of schools,*" Bobbitt emphasized, "*will aim at those objectives that are not sufficiently attained as a result of the general undirected experience*" (p. 44). Those abilities not so attained Bobbitt called *shortcomings*, that is, the deficits that people exhibited once the full range of activities had been discovered. (Shortcomings is the

counterpart of the contemporary concept of "needs" in curriculum construction.) He cited approvingly, for example, the research that his like-minded contemporary, W. W. Charters had conducted in discovering the errors made by Kansas City children in both oral and written language. Each of the noted errors in grammar, once classified by type, constituted a shortcoming that had to be addressed. "Only as we list the errors and shortcomings of human performance in each of the fields," Bobbitt concluded, "can we know what to include and to emphasize in the directed curriculum of the schools" (p. 52).

Neither Bobbitt nor Charters gave extensive attention to the implications of their conception of curriculum to larger social questions or to the role of the school in relation to social progress. In the main, they saw themselves simply as bringing the light of science to a field that had been governed by drift, tradition and fruitless speculation. In *The Curriculum,* for example, Bobbitt seems to have seen the relationship between social progress and what is taught in schools almost exlusively in terms of instrumental efficiency. "As agencies of social progress," he maintained, "schools should give efficient service. And efficient service, we are nowadays coming to know, is service directed, not by guess or whim or special self-interest, but by science" (p. 69). Schools, in other words, were charged with providing society with what it needed as determined by scientific analysis.

Their own perceptions notwithstanding, there was a highly significant social dimension to the work of the scientific curriculum-makers. This is perhaps best illustrated in some of the work of Charters. Charters, even more than Bobbitt, devoted himself to the actual task of activity analysis in a variety of fields. Most of his influential research was related to various occupational roles such as librarian and veterinarian, applying Gilbreth's bricklayer analysis to many other fields as a basis for vocational training in those fields. His *Analysis of Secretarial Duties and Traits* (with I. B. Whitley, 1924), for example, became a classic in the area of business education. But it was when he turned to the more general activities that human beings engage in that some of the techniques that seemed so plausible in a vocational context began to exhibit strong social overtones and where some weaknesses were exposed.

Around 1920, Charters was asked by Stephens College of Columbia, Missouri, a private women's college, to devise a new curriculum. It seemed clear to Charters that the job of being a woman was of the same

order as any other job requiring the same techniques of curriculum development that he had employed in relation to other occupational roles. Charters took the occasion of his first report on that curriculum to reaffirm the urgency with which he viewed the matter of curriculum reform. "The curriculum situation has become acute," he began. "The masses who send their children to school are growing restive under what they consider to be the useless material taught in the grades" (Charters, 1921, p. 224). One of the main missions that social efficiency reformers set for themselves was that of replacing what was useless and merely symbolic in the curriculum with what was directly useful. According to Charters, this involved a combination of an analysis of the activities that human beings engage in along with a determination of the ideals that will control those activities. In accordance with one of the most central principles of social efficiency, he believed that "we should define curriculum on the basis of what people are going to do" (Charters, 1926a, p. 327). Just as we would not provide the same education to a prospective doctor as to a prospective engineer, we should not prescribe the same education for women as for men. As Bobbitt had discovered, men and women were destined to do different things.

In order to secure a scientific inventory of women's activities, Charters solicited from the women themselves a statement of what they did during the course of one week. In all, an incredible 95,000 replies were received, and the activities were initially broken down into about 7,300 categories. These were then further divided into categories such as food, clothing and health, and these categories, in effect, became the subjects in the curriculum. Attention was given to those activities that were characteristic of "homemakers" as opposed to "unmarried women" with only those categories shared by both groups destined to become the required subjects. The study of clothing would be required of all women, but an "appreciation of art . . . would be purely elective" even though the study seemed to point to the conclusion that "the aesthetic is sufficently prominent among women to presume that they may get greater appreciation from these than from other subjects" (p. 329). Unlike someone like Hall, who would consider interest to be a crucial criterion in determining a curriculum, the social efficiency educators were primarily concerned with efficient performance in a future social role, and using that criterion, aesthetics hardly mattered. In considering a curriculum for homemakers in particular,

Charters (1926b) decided to present a list of 48 traits to a group of 3,440 judges who were asked to rate them as 1) most important, 2) neither unusually important nor unimportant, and 3) least important (p. 680) When these rankings were subjected to statistical treatment, it was discovered that Care of Health [e. g. "She plans her family's diet to meet their physical needs" (p. 676)] ranked first, and Honesty [e. g. "She shows no deceit in handling of the family finances" (p. 678)] and Love [e. g. "She has an ideal of love and expresses this love for her husband, children, and home" (p, 678)] were tied for second. Ranking last was Philanthropy [e. g "She is engaged in some organized club work that has a philanthropic purpose" (p. 679)]. Such a trait study would be used, according to Charters, to build a curriculum first by infusing some attention to these traits in "every subject taught" and secondly by directly training women to secure these traits when an individual profile chart" showed them to be weak in some of them (p. 684).

As Charter's efforts to create a curriculum for women indicate, scientific curriculum-making almost inevitably was tied, first of all, to the social status quo, with the activities that people already were engaging in serving as the norm for what people ought to do, even when, as Charters never tired of saying, those activities would have to be "idealized" before they could serve as legitimate objectives in a course of study. The curriculum lacked any utopian component, social progress being seen in terms of simply performing more efficiently what one would do anyway. Little or no attention was given to the potential for social change having the effect of transforming the nature and scope of those activities. Secondly, despite the persistent invocation of science in the interest of a curriculum tied to direct utility, the technique of activity analysis almost inevitably resorted in the end to consensus. Whatever may have been the scientific procedure used to create the list of activities or traits originally, they were incapable of standing on their own as elements in the curriculum without the intervention of human judgment.

This was the case, for example, in Bobbitt's celebrated Los Angeles school survey, a study which culminated in his most influential book, *How to Make a Curriculum* (1924). Although Bobbitt insisted that the method of activity analysis required that "at all stages of the analyses, attention should be fixed up on the *actual activities of mankind*" (p. 9), the list of curricular objectives he presented in the book represented not direct

observation of actual activities but "the practically unamimous judgment of some twenty-seven hundred well-trained and experienced adults" and even, in a few cases, "only majority approval" (p. 10). In point of fact, Bobbitt arrived in Los Angeles with a long list of objectives that his graduate students at the University of Chicago had prepared and then presented them for approval by the Los Angeles teachers (Bobbitt, 1922, pp. 4–5).

Whatever may have been the practical difficulties of activity analysis, one persistent legacy of the scientific curriculum-makers is the continued insistence upon stating precise and definite curricular objectives in advance of any educational activity. This is, of course, an argument by analogy from the world of manufacture where, at least according to Taylor, precise specifications and standards had to be established in advance in order to achieve the desired product with maximum efficiency. "The first step in curriculum-making," Bobbitt (1924) asserted, "is to decide what specific educational results are to be produced" (p. 32), and the fact that his injunction has become a vital ingredient in the predominant approach to curriculum planning in the twentieth century is testimony to the success of the overall position he represented. The idea of stating numerous, precise and definite objectives, by contrast, never seems to have arisen in the work of Harris, Hall or Dewey.

Moreover, the scientific curriculum-makers' conception of education as preparation for what lies ahead has become thoroughly infused into contemporary educational thought. As Bobbitt (1924) made this point, "Education is primarily for adult life, not for child life. Its fundamental responsibility is to prepare for the fifty years of adulthood, not for the twenty years of childhood and youth" (p. 8). Dewey regarded his own position as one that "contrasts sharply" with any doctrine based on education as preparation. He objected to placing children on a "waiting list," a kind of "probation for another life" (Dewey, 1916, p. 63). That kind of education, he insisted, has no motive power and puts "a premium . . . on shillyshallying and procrastination" instead of capitalizing on the natural powers of attention and energy that children bring with them to school (pp. 63–4). In the end, he claimed, "the principle of preparation makes necessary recourse on a large scale to the use of adventitious motives of pleasure and pain" just because a remote future has no power to direct children's energies. It has cut itself off, he claimed, from the "possibilities of the present" (p. 64). Resorting to a system of education based on preparation also, in Dewey's view, subverted the ethical force of education. "Who can reckon up the loss of moral power," Dewey (1909) once said, "that arises from the constant impression that nothing is worth doing in itself, but only as a preparation for something else, which in turn is only a getting ready for some genuinely serious end beyond?"(pp. 25–6).

Profound differences of the sort that existed between the social efficiency educators and Dewey on such a fundamental matter as whether education should be seen as a form of preparation or not signifies, not a single reform thrust aimed at dislodging the old order in education, but several. And, insofar as effect on actual school practice is concerned, the prominence and persistence of the basic ideas of the scientific curriculum-makers indicates that someone like the relatively obscure Bobbitt may have been far more in touch with the true temper of his times than the world-renowned Dewey.