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The Project Method: Its Vocational Education Origin and International Development

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The project is one of the standard teaching methods (Apel & Knoll, *in press*). It is generally considered a means by which students can (a) develop independence and responsibility, and (b) practice social and democratic modes of behavior. The project method is a genuine product of the American progressive education movement. It was described in detail and definitively delimited for the first time by William Heard Kilpatrick in his essay, "The Project Method," which became known worldwide (Church & Sedlak, 1976; Cremin, 1961; Kilpatrick, 1918; Röhrs, 1977).

In the 1970s, it experienced a remarkable renaissance, especially in Northern and Central Europe. Many current movements of educational reform—the comprehensive school movement, the movement for community education, open curriculum, and practical learning—make reference to the project method as far as implementation of their programs is concerned. The same is true in the U.S. with numerous approaches to revamping education. Whenever constructivist concepts, inquiry-based learning, problem-solving, and design are discussed in vocational and industrial education as well as in other fields of American education, the "project" is considered to be one of the best and most appropriate methods of teaching. Despite a plethora of books and articles on the topic, some important points of concern exist. In particular, the conceptual distinction between the project and other teaching methods remains unclear. The situation in Germany is particularly confusing. For example, Pütt (1982) defines the project as a "methodical device," Stubenrauch (1971) as a "didactic conception," and Suin de Boutemard (1976) as a "contrafactive idea" with which the existing capitalist system can be overcome. Much of this confusion is attributed to the fact that the history of the project method has, to date, been covered superficially and contradictorily. Thus, for example, American historians regard the agricultural expert Rufus W. Stimson with his "home project plan" of 1908 as the first project pedagogue and precursor of Kilpatrick (e.g., Bleeke, 1968; Kliebard, 1986), while German historians trace the origin of the project back to the university professors Charles R. Richards and John Dewey with their manual and industrial arts programs of 1900 (e.g., Magnor, 1976; Krauth, 1985).

Recently, however, historical research has made great progress in answering the question of when and where the term "project"—"progetto" in Italian, "projet" in French, "projekt" in German, and "proekt" in Russian—was used in the past to denote an educational and learning device. According to recent studies, the "project" as a method of institutionalized instruction is

not a child of the industrial and progressive education movement that arose in the United States at the end of the 19th century. Rather it grew out of the architectural and engineering education movement that began in Italy during the late 16th century (Knoll 1991a, 1991b, 1991c; Schöller, 1993; Weiss, 1982). The long and distinguished history of the project method can be divided into five phases:

- 1590-1765: The beginnings of project work at architectural schools in Europe.
- 1765-1880: The project as a regular teaching method and its transplantation to America.
- 1880-1915: Work on projects in manual training and in general public schools.
- 1915-1965: Redefinition of the project method and its transplantation from America back to Europe.
- 1965-today: Rediscovery of the project idea and the third wave of its international dissemination.

The insight that learning through projects began three hundred years earlier than is typically assumed opens up new perspectives for its interpretation. Projects offer the ideal opportunity for pursuing questions of continuity and the spread of educational innovations. These questions are central to contemporary education reform as illustrated in the work of Cuban (1990), Oelkers (1996), and others.

Project Work at the Academies of Art in Rome and Paris

In the 16th century, Italian architects sought to make their vocation "professional," no longer wishing to belong to the class of artisans, but to be elevated to the level of artist (Wilkinson, 1977). The training that they traditionally received as builders or stonemasons was not, in their view, adequate to meet the demands of art and science as well as to enable them to design buildings that were true, beautiful, and useful. In order to be prepared to fulfill their professional and social ambitions, they had to establish an important precondition. To be elevated to a profession, architecture had to develop a theoretical foundation in order to establish the *art of building* as a scholastic subject. Since this need was shared by painters and sculptors alike, architects forged an alliance with them and founded an art academy—the Accademia di San Luca in Rome under the patronage of Pope Gregory XIII in 1577 (Hager & Munshower, 1984). The early years, however, were quite difficult. When the academy was first opened in 1593, a lack of rooms, curricula, and funds restricted teaching to Sundays and public holidays.

From the outset, it was clear that training at the Academy would necessarily remain unsatisfactory until lectures were accompanied by a second element, namely competitions (Bergdoll, 1989). Since the Renaissance, competition had played an important part in building. It contributed to the establishment of architecture as an independent profession which challenged architects to become creative artists. The development of artistic creativity was, of course, also the goal of academic training. Teachers gave the advanced students challenging assignments, such as designing churches, monuments, or palaces. These assignments introduced students to the demands of their profession and, at the same time, enabled them to apply, independently and creatively, the rules and principles of composition and construction that had been acquired in lectures and workshops. The Academy's initial competition took place in 1596, but it was not until 1702 that it was permanently incorporated into the schoolyear calendar.

The structure of the academic competitions corresponded directly to architectural competitions; in both cases there were assignments to be carried out, deadlines to be kept, and juries to convince. However, in contrast to real competitions for architectural commissions, the designs in academic competitions were purely hypothetical tasks. For this reason, they were called "progetti." "The projects were intended to be exercises in imagination, since they were not intended to be built," observed Egbert (1980, p. 11). It was at the Accademia di San Luca in Rome that the term "project" first appeared in an educational context (Marconi, Cipriani, & Valerini, 1974). However, this does not imply that the project method had emerged as a central teaching device, since the competitions organized by Accademia di San Luca were not viewed as an integral part of training. Participation was open to every young architect, regardless of whether he was a student at the Academy or not.

Patterned after the Italian model, the Académie Royale d'Architecture was founded in Paris in 1671 (e.g., Chafee, 1977; Egbert, 1980; Schöller, 1993); but the French architects did not simply replicate the Italian model. For instance, they altered the conditions of competition, limiting participation to registered students. The competitions also became more frequent. In addition to the annual "Prix de Rome" competition, a monthly "Prix d'Emulation" was also established. With the introduction of the Prix d'Emulation, training focused on learning by projects. Students had to complete several monthly "projets" to be awarded medals or gain recognition. These awards were necessary in order to progress to the master class and acquire

the title of academic architect (Knoll, 1991a; Levine, 1982; Pérouse de Montclos, 1984). With the Prix d'Emulation of 1763, the evolution of the project idea into an acknowledged scholastic and teaching method was completed.

The Project at European and American Technical Universities

Learning by projects did not for long remain unique to architecture (e.g., Knoll, 1991a; Picon & Yvon, 1989; Weiss, 1982.). By the end of the 18th century, the engineering profession (closely related to architecture) had been established and was being incorporated into the new technical and industrial colleges and universities. Important examples include (in order of their establishment): (a) the Ecole Centrale des Arts et Manufactures in Paris (1829), (b) the Ducal Polytechnic School in Karlsruhe (1833) and the Swiss Federal Institute of Technology in Zurich (1854), and (c) the Massachusetts Institute of Technology in Boston (1864). This transplantation of the project method from Europe to America and from architecture to engineering had an important influence on how the project method was used and supported theoretically.

Stillman H. Robinson, Professor of Mechanical Engineering at the Illinois Industrial University at Urbana, thought (around 1870) that theory and practice belonged together-the student must be a craftsman in order to become an engineer (Knoll, 1991a; Solberg, 1968). This view isolated Robinson from his colleagues in Paris, Karlsruhe, and Boston, where the "scientific" engineer was seen as the ideal. Students were required to learn how to apply the laws of science and technology, and be able to develop machines, apparatuses, and turbines. To Robinson, this was insufficient; he required his students to carry out the "complete act of creation." This involved not only drafting their "projects" on the drawing board, but extended to actually constructing them in the workshop. In his report to the Board of Trustees, Robinson observed, "In practice instruction consists mainly in the execution of projects, in which the student is required to construct machines, or parts thereof, of his own design and from his own working drawings" (Illinois Industrial University, 1872-73, p. 29). Through this "construction" requirement, Robinson wanted to achieve two purposes: enable students to become "practical" engineers and "democratic" citizens (i.e., citizens who believed in the equality of men and the dignity of labor).

Learning by Projects in Manual Training and the Industrial Arts

Robinson's conception, however, had one clear disadvantage. It restricted the amount of time that remained for the students to study and conduct research. Therefore, the engineers sought an alternative approach. In 1876, this alternative came via the Russian display at the Centennial Exhibition in Philadelphia. The display also had a powerful influence on John D. Runkle, President of the Massachusetts Institute of Technology and Calvin M. Woodward, Dean of the O'Fallon Polytechnic Institute at Washington University. Runkle and Woodward proposed moving training in the handicrafts down from college to the secondary school level and using the so-called "Russian system" as the medium of instruction. Woodward, in 1879, put this proposal into practice by founding the first Manual Training School in St. Louis (Bennett, 1937; Knoll, 1988, 1994; Runkle, 1876; Woodward, 1887).

At the Manual Training School, pupils worked successively in the carpentry shop, on the lathe, in the smithy, foundry, and machine shop. There, in accordance with the Russian system, students became acquainted with the art of handicrafts in two phases. First, by passing through a series of basic exercises, they learned the "alphabet" of tools and techniques. For example, in the machine shop they filed cubes, turned screws, and drilled cylinders. Second, at the end of each teaching unit and school year, they were given time to develop and carry out "projects" independently (Woodward, 1887). Woodward regarded the projects as "synthetic exercises." The techniques earlier learned in isolation (i.e., in the construction of lathes, steam engines, or electrical apparatus), were then applied in context. Thus, instruction was designed to progress systematically from elementary principles to practical applications, or, in Woodward's terms, from "instruction" to "construction." At the end of the third year, the manual training course culminated in what was called, the "project for graduation." As was stated in the "Ordinance establishing the Manual Training School" of June 1879.

Before receiving a diploma of the school, each student must execute a project satisfactory to the faculty of the Polytechnic School. The project consists of the actual construction of a machine. The finished machine must be accompanied by a full set of working drawings according to which the machine is made, and the mold used for the castings. Both the drawings and molds had to be the work of the student. All projects remain the property of the school. (Washington University, 1880-81, p. 50) (cf. Ham 1886, pp.100ff)

Thanks to Woodward's indefatigable efforts, the handiwork approach rapidly gained

credibility and support nationwide (Bennett, 1937; Cremin, 1961). A decade after the foundation of the Manual Training School, thousands of males and (since 1897) females at American high schools participated in instruction in carpentry and ironwork, cooking, and sewing. Manual training became so popular that, through the influence of kindergarten educators, it was also introduced into elementary schools in the 1890s. It was at this point that Woodward's conception was heavily criticized (Henderson, 1894, 1898; Larsson, 1893). A reform movement arose that was critical of using the requirements of work and study as the primary impetus for manual training. Rather, the view was that manual training should be based on the interests and experience of the child. Creativity, it was stated, was just as important as technical skills. Teaching should not only be arranged systematically, but organized so that it proceeded from the "psychology of the child" to the "logic of the subject." The chief exponent of this reform movement was John Dewey, philosopher and leading representative of pragmatism in American education. His idea of "constructive occupations" (Dewey, 1899) was adopted quickly by Charles R. Richards, Professor of Manual Training at Teachers College of Columbia University in New York.

Like Dewey, Richards thought that "construction" and, consequently, project work should not be the final goal of the educational process. Rather, construction should be the starting point of manual training or, as he called the new subject, industrial arts (Burton, 1929; Knoll, 1991b). Children should work with "natural wholes" before dealing with artificial parts. As they developed an understanding of tasks as a whole, they would then be equipped to identify with their work, and recognize and solve the identified problems. In a gentle critique of Woodward, Richards (1901) observed that "When we take up the problem of handiwork in this spirit, we are going to recognize that a nice sequence of difficulties in the work may be of less importance than the question of motive or the significance of a project to the real interest of the particular moment" (p. 102). Children were not expected to develop the entire plan and design for each thing done, since this would result only in "crude projects" and "unsatisfactory work." Commenting on Dewey's now famous sentence that "The only way to prepare for social life is to engage in social life," Richards added (1900) "Where the project is a common end that inspires all with a unity of thought and effort, such work is perhaps the most natural and effective means of bringing the community spirit and conditions into the school" (p. 256). Richards' concept of natural and social learning was put into practice at the Horace Mann School of the Teachers' College. On the teacher's initiative, for instance, second grade pupils decided to carry out an Indian project (cf. Richards 1900). They read Longfellow's poem "Hiawatha," discussed the customs and rituals of the Indians, and visited the Museum of Natural History. Then they constructed tents, made costumes, and carved bows and arrows in order to live as Indians for a day. The pupils acquired the knowledge and skills they needed to execute the project. Thus, the "instruction" did not (as with Woodward) precede the project, but was integrated into the "constructive" project work (pp. 267ff.).

Psychologizing the Project Method by Kilpatrick

The project method attracted more adherents as the years passed, but it triggered little attention beyond manual training and industrial arts until Rufus W. Stimson of the Massachusetts Board of Education began his campaign for the popularization of the "home project plan" in agriculture around 1910 (Bleeke, 1968; Knoll, 1991b). According to this plan, pupils were first presented with theoretical knowledge (about vegetables, for instance) independently at school, before subsequently applying it by cultivating beans, peas, or carrots on their parents' farms. Thousands of copies of Stimson's pamphlets were distributed by the U.S. Bureau of Education. Through these efforts, teachers of academic subjects became familiar with the project idea for the first time. Suddenly, the project method was perceived to be the procedure of progressive education. It was highly regarded as an exemplary mechanism of realizing the demands of a new educational psychology according where children were not to be passively stuffed full of knowledge but rather engaged in applied learning designed to develop initiative, creativity, and judgment (Kliebard, 1986; Knoll, 1991c). To be applied more generally, however, the term "project" first had to be redefined. This task was taken on, in particular, by William H. Kilpatrick, philosopher of education and colleague of Richards and Dewey at Teachers College of Columbia University, through his essay, "The Project Method," in the fall of 1918.

Kilpatrick based his project concept on Dewey's theory of experience (Cremin, 1961; Knoll, 1993a). Children were to acquire experience and knowledge by solving practical problems in social situations. It should be noted that Kilpatrick was heavily influenced by Edward L. Thorndike's psychology of learning, even more than by Dewey's theory of experience (Kilpatrick, 1918). According to Thorndike's "laws of learning," an action for which there existed an "inclination" procured "satisfaction" and was more likely to be repeated than an action that "annoyed" and took place under "compulsion." From this, Kilpatrick concluded that the "psychology of the child" was the crucial element in the learning process. Children had to be able

to decide freely what they wanted to do; the belief was that their motivation and learning success would increase to the extent to which they pursued their own "purposes."

Using these insights, Kilpatrick (1925) defined the project as a "hearty *purposeful* act" (not as a "hearty *planned* act" as the German translation has it; Kilpatrick 1918, p. 320, Kilpatrick 1935, p. 162). "Purpose" presupposed freedom of action and could not be dictated. If, however, "the purpose dies and the teacher still requires the completion of what was begun, then it [the project] becomes a task"-mere work and drudgery (Kilpatrick, 1925, p. 348). Thus, Kilpatrick established student motivation as the crucial feature of the project method. Whatever the child undertook, as long as it was done "purposefully," was a project. No aspect of valuable life was excluded. Kilpatrick (1918) drew up a typology of projects ranging from constructing a machine via solving a mathematical problem and learning French vocabulary, to watching a sunset and listening to a sonata of Beethoven. In contrast to his predecessors, Kilpatrick did not link the project to specific subjects and areas of learning such as manual training or constructive occupations; the project did not even require active doing and participating. Children who presented a play executed a project, as did those children sitting in the audience, heartily enjoying it. In Kilpatrick's view, projects had four phases: purposing, planning, executing, and judging. The ideal progression was when all four phases were initiated and completed by the pupils and not by the teacher (1925). Only when the pupils exercised "freedom of action" were they able to acquire independence, power of judgment, and the ability to act-the virtues that Kilpatrick believed were indispensable for the maintenance and further development of democracy.

Kilpatrick's concept is usually illustrated through the "typhoid project," a world-renowned undertaking reported by Ellsworth [Collings](#), (a doctoral student of Kilpatrick) in 1923. When 11 pupils from the third and fourth grades discovered that two of their classmates had fallen ill with typhoid, they decided to explore how the infectious disease was caused, spread, and combated (1923). The children worked on their own, without help and interference from their teacher or direction from a formal lesson plan. Thanks to their research and activities, the sick classmates recovered quickly and the community was never again plagued by typhoid fever. While [Collings'](#) account is engaging, it is not borne out by the facts ([Knoll](#), 1996). According to reconstructions from the newspaper articles and essays [Collings](#) published at the time, the work never took place as described (i.e., the sick children did not exist and the students determined neither the project's content nor its direction). The teacher prepared the lessons by selecting the subject matter and material and giving thought to what questions were to be asked, what discussions would be pursued, and what activities would be proposed. There was little of the free and spontaneous learning that educators have admired and tried to duplicate in their own schools for more than half a century.

Dewey's Criticism and the Return to the Traditional Concept

In the early 1920s, Kilpatrick's conception of the project attracted attention. A growing number of teachers began to define the project more broadly and considered it to be a viable "general" method of teaching ([Knoll](#), 1993a). However, this broad definition also faced strong resistance on several fronts-from "conservative" as well as "progressive" educators ([Alberty](#), 1927; [Bode](#), 1927; [Charters](#), 1923; [Horn](#), 1922; [Thayer](#), 1928; [Washburne](#), 1928).

It is noteworthy that John Dewey, Kilpatrick's teacher and friend, also intervened in the discussion, criticizing his disciple's conception ([Knoll](#), 1992, 1993d; [Swimmer](#) 1957). Dewey's primary objection was the one-sided orientation on the child. In his view, pupils by themselves were incapable of planning projects and activities-they needed the aid of a teacher who would ensure the continuous process of learning and growth. To Dewey, the "project" was not (as it was to Kilpatrick) to be an "enterprise of the child," but rather a "common enterprise" of teacher and pupils (Dewey, 1938; Kilpatrick, 1927). Dewey was also critical of Kilpatrick's definition of the project as a "purposeful" activity, observing that "A genuine purpose starts with an impulse but differs from an original impulse and desire through its transformation into a plan and method of action" (1938, p. 43). It is only as the teacher convinced pupils to abandon spontaneous behavior and go through the "complete act of thinking"-from encountering a difficulty, via drafting a plan, to solving the problem-could they expand their experience and broaden their education (Dewey 1916). According to Dewey, all teaching methods were based on scientific thought and the method of educative experience. The project method, however, differed from the other procedures by requiring a kind of problem-solving which-like building a boat or making a kite-was designed to challenge and develop the constructive skills of the pupils (cf. Dewey, 1916; Dewey 1933). Contrary to Kilpatrick, Dewey emphasized the role of the teacher in providing guidance and direction to students.

It is quite true that children tend to exaggerate their powers of execution and to select projects that are beyond them. But limitation of capacity is one of the things which has to be learned; like other things, it is learned through the experience of

consequences. The danger that children undertaking too complex projects will simply muddle and mess, and produce not mere crude results (which is a minor matter) but acquire crude standards (which is an important matter) is great. But it is the fault of the teacher if the pupil does not perceive in due season the inadequacy of his performances, and thereby receive a stimulus to attempt exercises which will perfect his powers. (Dewey, 1916, p. 205).

It should be apparent that Dewey's (1931) idea of the project was not identical to Kilpatrick's. In fact, whenever Dewey discussed the project approach, he reverted (as did all leading American educators of the time) to the traditional concept and sharply rejected the definition that Kilpatrick propagated in his name. Unlike Kilpatrick, Dewey did not regard project work as the "only way out of educational confusion" (Dewey, 1931, p. 87). Rather, it was viewed as only one of many methods of teaching.

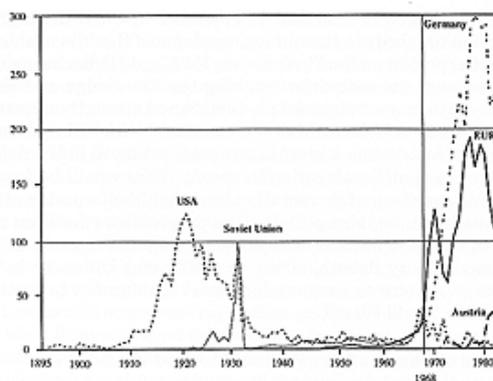
The criticism of Dewey and other educators had a dampening effect on the popularity of the project method. In the early 1930s, the term "project" was used less and less in its broad sense. Even Kilpatrick distanced himself from his own definition. In a letter to Abraham Flexner (dated January 25, 1950 and today housed in Special Collections at Mercer University), he admitted that he should not have connected his notion of the "hearty purposeful act" with the traditional project approach in 1918. "In the end [i.e., after 1927]," Kilpatrick wrote, "I decided I had made a mistake to marry my program to the term, and I stopped using the term as being provocative and ambiguous" (1950, p. 3). Indeed, Kilpatrick's self-critique makes the point and is self-explanatory. His project conception was ambiguous, since it disregarded the conventions of language and designated the subjective attitude of the student as an objective method of teaching. The project conception was provocative, since it neglected the traditions of the field and changed the project definition arbitrarily from responsible, constructive work to hearty, purposeful activity. In its original, narrow sense, the project has survived the years undamaged, and still exists today. Especially in science, agriculture, and technology education/industrial arts, American high school students have regularly completed projects that are judged by a jury and awarded prizes and certificates in a manner similar to the architectural competitions of the 17th and 18th centuries.

Transplantation of the Project Idea Back to Europe

By the dawn of the 20th century, the United States had been firmly established as a world power. Her influence was noticeable not only in politics and trade, but also in education. Like Europe, America had become an important exporter of innovative and progressive educational ideas. The project method, principally in the broad version of Dewey *and* Kilpatrick, as it was repeatedly and wrongly said, was discussed in Canada, Argentina, Britain, Germany, India, and Australia (cf. Schäfer, 1988). (See Figure 1 for an overview of the number of publications on the project method in selected countries).

Figure 1

Number of annual publications on the project method in selected countries and regions, 1895-1982.



EUR = Netherlands, Great Britain, Denmark, Sweden, Belgium, Switzerland, Norway.

From Gottfried Petri: *Idee, Realität und Entwicklungsmöglichkeiten des Projektlernens*. Graz: Bundesministerium für Unterricht, Kunst und Sport, Zentrum für Schulversuche und Schulentwicklung 1991, p. 271. - Petri took the data of the bibliography from Ulrich Schäfer.

The center of the discussion, however, was in Russia where, since the revolution of 1917, substantial effort had been invested in developing progressive alternatives to the bourgeois and capitalist methods of teaching through lectures and books (Anweiler, 1978; Helmer, 1994). In the early 1920s, project work was introduced and promoted to Russian educators, primarily by Lenin's wife and colleague Nadezhda K. Krupskaya. Somewhat later (around 1930), it acquired eminent importance when Victor N. Sulgin, head of the Institute of Educational Research in Moscow, proclaimed his concept "withering away of the school" and declared the "metod proektov" to be the one and only truly "Marxist" and "democratic" method of teaching (Holmes, 1991, p. 123). According to Sulgin, the project was the ideal approach to combining theoretical insights with revolutionary practice, and to accelerating the transition from capitalism to communism. In contrast to bourgeois schooling, teaching in the proletarian state extended beyond stringing together abstract subject matter. Rather, it consisted of an unbroken sequence of projects where the pupils would acquire, by productive work, the knowledge with which they could spur on the political and economic development of the Soviet Union. Thus, fifth grade students were encouraged to go to factories and support workers in their fight to fulfill production and financing plans. This was accomplished by writing reports on the heroes of labor, demonstrating against idlers, and exhibiting workpieces and products of their own. Sulgin's proposals were initially discussed at specially-convened pan-Russian "project conferences" and then were formalized into a comprehensive national "project curricula" (Holmes, 1991, pp. 137ff.).

However, the new curricula had just been passed when the Central Committee of the Communist Party of the Soviet Union intervened. In a resolution dated September 5, 1931, the highest decision-making body in the country condemned the "ill-considered craze for the project method" (Anweiler, 1978, p. 431), declaring that the project was not suited for teaching the knowledge and skills necessary to increase industrial production and strengthen communist consciousness. Indeed, there was considerable risk that, through the fusion of instruction and work, progress achieved in the field of general and scientific education in recent years would be jeopardized. This governmental resolution brought the discussion of the project method to an abrupt halt. Like progressive education as a whole, the project method was no longer on the agenda of the educational theory debate, either in the Soviet Union or in the countries that were to come under Soviet domination in Eastern Europe after World War II.

Renaissance of the Project Method in the 1960s

In contrast to its Eastern European neighbors and after the end of the Hitler dictatorship, Western Europe went through a phase of restoration. The ideas that had flourished during the period between the wars emerged once again. Progressive methods of teaching became viable options in discussions of school reform, on both historical and conceptual grounds (Frey 1996). In the late 1960s, the situation once again changed radically. Students not only protested against imperialism, capitalism, and authoritarianism, but also rebelled against structures of repression and domination which were perceived to be at the heart of academic institutions (personified in college and university administrators). Projects emerged as an alternative to traditional lecture and seminar formats. They were viewed as a form of learning through inquiry and were promoted for their practical relevance, interdisciplinarity, and social bearing. The project idea spread quickly from the universities to the schools, and from Western Europe throughout the world; but the center and focus of this third great wave of project discussion was and remained in Germany (cf. Schäfer, 1988).

The uniqueness of the German situation during the period between the wars was that her educational reformers were suspected of having paved the way for Fascism and National Socialism (Fishman & Martin, 1987, p. 166ff.; Knoll, 1989, p. 217ff.). Their proposals for educational innovations were largely rejected in the 1960s and 1970s in favor of American progressive education movement concepts. With Dewey and Kilpatrick's project method, many of the new reformers believed that they had found the mechanism for the democratic and libertarian transformation of school and society. However, their appropriation of American models was only fragmentary. From Dewey's formula of "education for democracy" and Kilpatrick's slogan of "heartly purposeful activity," they concluded that all actions could be classified as projects as long as they satisfied the criteria of self-determination and self-satisfying needs. When the realities associated with imparting systematic knowledge and skills through independent project work emerged, the new reformers developed a more differentiated approach. On typical, routine school days, a reduced form of project-oriented teaching was used; but on special occasions (e.g., before public holidays and vacations), an ideal form of project teaching was employed. Implementing this ideal form consisted of special project days and project weeks during which the normal curriculum and the teacher's "planning monopoly" were suspended (Fishman & Martin, 1987; Knoll, 1997). During project weeks, the process was sometimes so open that virtually anything the pupils fancied, from making cider to staging peace

demonstrations, qualified as a project. This project euphoria soon evaporated. Since the 1980s, much of the sharp disparity between the standard course of instruction and the project method has been resolved. Currently, substantial effort is being directed toward harmonizing project work with more conventional methods of teaching (Apel and Knoll, 1997).

Concluding Comments

The development of the term "project," within its broader conceptual and historical contexts, extends its customary interpretation. As a result, traditional historiography should be modified in the following three respects:

1. The "project" is a concept dating from the 17th and 18th centuries, belonging in the same category as the "experiment" of the natural scientist, the "case study" of the jurist, and the "sand-table exercise" of the staff officer. Like the experiment, the case study, and the sand-table exercise, the project method has its origin in the professionalization of an occupation. It was introduced in the curriculum so that students could learn at school to work independently and combine theory with practice. In contrast to experiment, case study, and sand-table exercises, the project method is not a matter of empirical, hermeneutical, or strategic studies, but of "construction" (i.e., designing a house, building a playground, or producing a machine).
2. The two basic models of the project method still used today were already developed in the 19th century. According to the older model (e.g., Woodward), students first learn, in a course of instruction, the skills and knowledge that they then apply independently and creatively in the practical project. According to the more recent model (e.g., Richards), the project is moved from the end of the unit to the center of teaching, in accordance with the fundamental idea of the new psychology that "natural wholes" must be the subject of learning if valuable interests and insights are to be developed. Here, the course of instruction does not precede the project, but is integrated into it.
3. At the beginning of the 20th century, a movement arose among American progressive educators (e.g., Kilpatrick) that attempted to replace (a) the traditional narrow definition of the project with a new, broad one, and (b) "constructive" activity with "purposeful" action as the crucial feature of the project method. This new definition was unable to gain ascendancy in the United States, but in other countries it was accepted as an innovation and a truly democratic achievement, with the paradoxical result that in Europe today the broad "American" concept predominates, while in America the narrow "European" approach plays the leading role.

The history of the project method makes it clear that the progressive education movement at the turn of the century represented only one, and not even the most important, international reform movement in modern times. Unlike Cremin (1961) and Röhrs (1977), for example, we cannot simply regard the 19th century as "prehistory" and the 20th century simply as "post history." We must, with Jurgen Oelkers (1996), see progressive education as part of a continuous, albeit differentiated, development springing from definite social and educational needs and reaching from the 17th century up to the present. Only from this broad perspective can industrial education-like professional and vocational education as a whole be properly perceived as a fecund source of modern progressive educational practices (e.g., Knoll, 1993b). However, the history of the project method also illustrates how necessary it is to embed current thinking about educational reform within a historical context. Otherwise, as Cuban (1990) and Tyack and Cuban (1995) have correctly observed, reform moves from initiative to initiative without a clear understanding of why they dissipate and vanish. The results are frequently disappointing and meaningless. In the case of the project approach, a specific and indispensable method of teaching is turned by Kilpatrick and his followers into a general and blurred philosophy of education (Katz & Chard 1989).

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