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Dewey, Vygotsky, and the Social Administration of the Individual: Constructivist Pedagogy as Systems of Ideas in Historical Spaces

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Current constructivists’ pedagogies draw on the writings of early 20th century Russian psychologist Vygotsky and the American philosopher/psychologist Dewey. This occurs without examining the historical spaces of the past and present in which that knowledge is socially constructed. This emptying of history in systems of knowledge is odd for an intellectual project concerned with cultural-historical theories. To address this omission, the writings of Dewey and Vygotsky are examined as part of the turn-of-the-century human sciences. They functioned to bring the new democratic political rationalities into the governing of individual conduct. Contemporary pedagogical theories that draw on Dewey and Vygotsky maintain this function of governing conduct, but with different narratives and images. The differences are made visible when comparing the “problem-solving individual” in education with the images of the individual inscribed in social theory, state policies, economics, and the military. My moving between the past and the present and between education and other social practices directs attention to the shifting terrain that relates school knowledge, power, and problems of social inclusion/exclusion.

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The assumptions behind turn-of-the-century discourses about childhood, the state, and schooling were based on a concept of social administration. Proper planning, it was thought, would produce a New Citizen/New Man who could perform competently in changing social, economic, political, and cultural contexts. Pedagogy would rescue the child so that the child could become an adult who is self-disciplined, self-motivated, and could function as a productive participant in the new collective social projects of the day. Similarly, modern pedagogical practices involve the social administration of the child through the inscription of calculated systems of self-inspection and self-consciousness. But today's governing principles are different from those of the past. One central theme in the debate about governing the child in mathematics and science teaching, among other school subjects, is a constructivism the premise of which is that the reasonable teacher (and, as a corollary, the new child) should find his or her own solutions through problem-solving strategies. Central to the constructivist pedagogies is the revisiting of the ideas of the American John Dewey and the Russian Lev Vygotsky, who wrote during the early part of this century.

To explore the governing principles in contemporary pedagogical discourses, I focus on the social contexts in which Dewey and Vygotsky wrote and on the reception of their ideas in current U.S. pedagogical research. On the surface, the research literature assumes an apparent continuity and evolution between the ideas of these past writers and current reform efforts. My argument here is different. While the names of the authors are the same in both periods, contemporary school reforms exist within an amalgamation of institutions, ideas, and technologies that are significantly different from those of the turn of the century.

This history that I speak of is a history of the present. It is to understand how the contemporary principles of reason in pedagogical practices are historically constructed as the effects of power (see, e.g., Dean, 1994; Foucault, 1979a, 1979b; Popkewitz, 1997, for discussions of this view of history in curriculum). But this history of the present is also to understand the ironies and paradoxes of pedagogy. Pedagogy is a practice of the social administration of the individual. Since at least the 19th century, pedagogical discourses about teaching, children, and learning in schools have connected the scope and aspirations of public powers with the personal and subjective capabilities of individuals. This administration of the child embodies certain norms about the inner capabilities from which the child can become self-governing and self-reliant. It is through examining the changes in the administration of the child that the theories of Dewey and Vygotsky can be understood in the past and the present. These changes in the principles of administration of the child, however, are not only changes in rules of pedagogical reason but changes in the strategies by which systems of social inclusion/exclusion are constructed. While my discussion focuses on certain historical registers that are prominent in pedagogical practices, I recognize that this history is not straightforward, involves multiple transactions and trajectories, and entails intense struggles.
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This essay emerges from a particular oddity in contemporary literature written from the standpoint of constructivist pedagogy. That literature draws on Vygotsky and Dewey to state the need for a cultural and social historical perspective, but it does not give any serious attempt to how thought is culturally and historically constructed. This article extends and historicizes previous discussions concerning the social linguistic limitations of constructivism (see, e.g., Bowers, 1993a; Gee, in press; Martin, 1992; Smagorinsky, 1995).

The Governing of the State, the Governing of the Individual, and the Invention of Modern Psychology

While there are important theoretical distinctions between Dewey and Vygotsky, there are also historical homologies in the construction of their ideas—that is, a historical relation in value and structure that is not reducible to the other. The ideas of Vygotsky and Dewey were shaped and fashioned within a period of intense modernization that involved the industrialization, urbanization, and rationalization that we now associate with modernity and the modern Western welfare state (see, e.g., Berger, Berger, & Kellner, 1973; Carnoy, 1984; Evans, Rueschemeyer, & Skocpol, 1985; Foucault, 1979b; Skocpol, 1985; Wagner, 1994; Zolberg, 1991). The psychologies written embodied a particular doctrine of modernity which linked an Enlightenment belief in the potential for reason to produce social progress with a faith in the rationality of science. But these two scholars recognized that science involved more than changing physical conditions. It also was to produce a citizen who would act wisely and autonomously in the new political and social institutions of the times. The social sciences would not only provide a cognitive knowledge but also discipline the capabilities, values, dispositions, and sensitivities through which individuals problematized their participation in the world. This assumption was part of a larger, profound, reshaping of social life in Europe and the U.S. during the early years of the 20th century.

A Historical Homology Between Vygotsky and Dewey

In this historical context, Dewey and Vygotsky are quintessentially modern in the sense that they believed that science could contribute to strategies that constructed the New Man. Their sciences, however, were different from the prevailing views of social and psychological theories that universalized and essentialized the problem of change and the subject of change (also see the work of Dewey's colleague, George Herbert Mead, e.g., discussed in Joas, 1985). Their theories emphasized a historically contingent notion of individuality. Wood (1932) argues that there was a general affinity between the Russian concern with creating a new unity of community and Dewey's belief that "disintegrated individuals can achieve unity only as the dominant energies of community life are incorporated to form their mind" (Wood, 1932, p. xi). Dewey visited the Soviet Union during the 1920s at a time when
many Soviet intellectuals considered pragmatism to be important for the construction of the democratic citizen that was to be an outgrowth of their revolution.

While Dewey and Vygotsky were interested in constituting self-governing citizens as part of a nation-building project, each ordered the problem differently. Where Dewey’s central focus was on community, Vygotsky focused on language as the instrument which would transfer social experiences to the individual. Drawing on the ideas of Russian Symbolism (Davydov, 1995), Vygotsky rejected the functionalist proposition that thinking involves innate patterns of action that undergo processes of maturation—that thinking is discovered anew by individuals. In a Marxian tradition, he argued for a democratic individuality by focusing on thought that arises through the individual’s absorption of social experience. Thought was viewed as an activity rather than as a passive, idealized process. He saw language as a means to individual knowledge, and the interiorization of language was one of the key ways individuals developed self-governing behaviors that guided actions and developed individual’s will to know.

Dewey and Vygotsky both rejected a Cartesian mind/body dualism as well as the separation of methods of inquiry from the substantive knowledge produced about the world (Bowers, 1993a, 1993b; Newman & Holzman, 1993). Each grounded ideas in a belief in the radical potential of knowledge, as well as in the variability of human societies and cultures. Both were pragmatic theorists in the sense that they saw all teaching and learning as conditional and contingent. Davydov (1995) says that, for Vygotsky, teaching and learning (and upbringing) were collaborative activities in which there were no uniform methods.

Yet at the same time, Dewey and Vygotsky each assumed a certain universalism that linked their construction of the reasoned person to the particular social/political contexts in which they worked. Vygotsky joined science and progress with the desire for a new social-political order in Russia. The context was one in which Marxism sought to produce a socialist economy from that of a rural, Asiatic mode of production. Vygotsky studied Marx and Engels after the revolution in order to relate psychology to the new social commitments of the state. Vygotsky’s universalism tied the Soviet revolution to French Enlightenment beliefs, which circulated with a context of particular Russian nationalism that ascribed a lack of reason among, for example, the minority groups within the Soviet Union (see, e.g., Smagorinsky, 1995).

Dewey’s notion of community was a hybrid in the sense that it joined together multiple sets of 19th century values and historical trajectories. For Dewey, the capacities and dispositions of the citizen were bound to a particular universalism of Protestant, bourgeois society. Dewey’s notion of community articulated an uneasy tension between 19th century U.S. Protestant pastoral images, ideological notions about human perfectibility, and science as the motor of social progress (Ross, 1991). The writing inscribed an American exceptionalism that transformed Protestant millennial visions
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about the U.S. as a New World into secular ideas about history and human perfectibility (for a general discussion of the religious and pastoral motifs in U.S. thought, see, e.g., Bercovitch, 1978; Marx, 1964; Ross, 1991; West, 1989; also see, e.g., O'Donnell, 1985). The modern citizen, for Dewey, embodied a Protestant notion of hard work, a commitment to science as a problem-solving approach for a democracy, and an Emersonian notion of citizen volunteerism in social affairs. At the same time, Dewey's ideas embedded the ideals of a professional code of ethics that was to challenge the unbridled competition and inequities produced through capitalism (Haskell, 1984).

While we might recognize the intellectual power of Vygotsky's and Dewey's ideas, we need to recognize that neither had a major impact on schooling. They wrote in a period of intense nation-building that focused on collective social projects which sought to identify universal solutions to social questions. This focus assured that their ideas, which were based on problem solving and historically contingent pragmatism, would occupy a politically marginal position. The world of business and government was being built on a type of expertise related to Taylorism, notions of economy of scale, and the formation of a single, collective, universal social identity—the effort to Americanize immigrants and marginalized groups in the USA and to Sovietize the individual in the USSR. In the U.S., it was the psychology of G. Stanley Hall, Edward Lee Thorndike, curriculum people like Franklin Bobbitt who merged industrial sociology with behavioral psychology, and William Kilpatrick who brought a developmentalism into curriculum theory that provided the directions to classroom practices.11

Dewey and Vygotsky are no longer marginalized in contemporary scholarship.12 However, to say that Dewey and Vygotsky's ideas are now central to much educational research is not the same as saying that we now are wiser than those before us. My argument is very different. It is related to a sociology of knowledge. The ideas of Dewey and Vygotsky are given value and structure today within a social context that embodies different principles of governing the individual and citizen than those that existed at the turn of the century.

The Problem of Governing: The Modernization of the Mind

Vygotsky and Dewey were part of what current sociological literature refers to as modernity, a movement of ideas, institutions, and technologies that is historically signaled in discussions of the Progressive Era in the United States.13 The concept of modernity directs attention to massive political, economic, and cultural transformations that occurred in the late 19th century and early 20th century. At one level, these transformations involved the construction of political and social institutions which extended political participation. These institutions produced changes that ranged from the broadening of voting laws to the creation of social welfare institutions that provided for the health, safety, child care, and economic well-being of citizens.

The transformations in institutions also embodied changes in the
governing principles by which individuals were expected to participate in society. What is often lost in U.S. educational discussions of progressivism is that the Progressive Era was a political movement that constituted new state institutions to administer social and individual life. (The particular manner in which a central administrative capacity developed in the United States is explored in Skowronek, 1982. For a discussion of the state as a dynamic and relational concept, see Wittrock, Wagner, & Wollman, 1991.) Contrary to popular myths about a decentralized political system in the U.S., particular systems of governing did emerge to join macro and micro patterns of social life. This governing was embodied in the systems of reasoning that circulated across institutions (Popkewitz, 1996). Expert systems of professional knowledge became paramount in the planning of social change. From the urban reform movements to the administration of the mass school, there was a shift from a normative and philosophical approach to society to a reformist tendency that was grounded in empirical knowledge.

The development of professional knowledge in the late 19th century entailed a new relationship between the governing of society and the governing of the individual. This relationship was particularly strong in liberal states, where individuals were now expected to act with self-discipline and self-motivation. I will call this link between political rationalities and the self-compartment of the individual governing the self. Many intellectuals, business leaders, religious leaders, and politicians believed that social progress was tied to the development of the New Man: a term circulating in Europe and in the U.S. which implied the development of an inner discipline through which individuals could navigate among and control their worlds (see, e.g., Wood, 1932; O'Donnell, 1985; Napoli, 1981). This new, secular citizen, it was believed, would shed the previous beliefs and dispositions of religion and an inherited social order and replace them with a subjectivity that embodied the obligations, responsibilities, and personal discipline embodied in liberal democratic ideals. The school was a central institution in this form of governance.

While there were ongoing debates and conflict concerning modernization in this period, there was a pervasive belief that the democratization of the individual was a problem of public administration (see, e.g., Wagner, 1994). At one level, the state was to produce the universalization of policies and routinization of politics that would remove strife and produce harmonious social development. At a different level, this state targeted the self as a site of administration. The inner dispositions, sensitivities, and awarenesses of the individual become an object of administration and site of individual salvation but now, in the name of individual freedom.

By the 19th century, for example, Enlightenment beliefs about the citizen were made into an entity of political reflection and social administration (see, e.g., Wagner, 1994). Nineteenth century constitutional doctrines of liberty, rights, and law which imposed limits on state activities were predicated on the existence of individuals who were self-governing and took responsibility for their own conduct (Rose, 1989). The state was expected
to shape the individual who mastered change through the application of rationality and reason. From Humboldtian to Hegelian and post-Kantian moral and political philosophy, the state functioned to develop people's faculties and the apprehension of the good (see, e.g., Hunter, 1994).

The social administration of the new citizen, however, should not be construed as a principled argument tied to political philosophy but as a pragmatic one related to multiple historical trajectories that begin prior to the 19th century. The particular joining of the governing of the state with that of the governing of civil society (the joining of public/private) emerges in the 17th and 18th century European religious wars (Hunter, 1995). Distinct realms of public and private, representing two distinct types of ethical comportment, were to pacify divided communities through the imposition of a politically binding conception of the public good. Hunter (1995) argues that the freedoms associated with liberal societies, religious toleration, and freedom of worship were produced as part of the administrative state efforts to govern fratricidal communities rather than being the expression of democratic institutions or popular resistance. A nonviolent tolerance and pragmatic sphere of political deliberation were created by forcefully separating the civic comportment of the citizen from the private persona of one's conscience and by subordinating spiritual absolutes to governmental objectives. Schooling was a mechanism used by the state to conceptualize and organize a massive and ongoing program of pacification, discipline, and training responsible for the political and social capacities of the modern citizen (Hunter, 1995, pp. 152-163).

The social imaginary of liberal thought which divided rhetorically the governing of the state from civil society has had important consequences in the present. Political philosophy and social theory make it seem that certain rights and obligations remained beyond the reach of formal governmental power. The division is embodied in the distinctions of political thought that separate society from the individual, ontology from epistemology, mind from body, the state from civil society, and economy (the entreprenurial man) and culture from politics. The separation of state and civil society (the public from private) is embedded in policies about the decentralization of school decision making, schools-as-markets, as well as pedagogical theories about voice, empowerment, and emancipation that separates the social and historical from conceptions of the individual (see, Popkewitz, 1996). Contemporary pedagogies and reforms in teacher education which have defined the dispositions of the child and teacher as the site of change also inscribe distinctions that separate mind and body (private) from the social and historical (public).

But the imaginary of the state/civil society binary obscures the complex webs that cross social and political institutions in the governing of the self. There was and is no clear demarcation between the state and civil society as the new citizen was administered through multiple institutions of the state and civil society. Schooling merely constituted one of the most explicit of these governing enterprises.
The focus on the inner capabilities and dispositions for self-discipline, a cornerstone of the new social and pedagogical sciences, therefore, should not be seen as "the antithesis of political power, but a key term in its exercise, the more so because most individuals are not merely the subjects of power but play a part in its operations" (Rose & Miller, 1992, p. 174). Foucault (1979b) called this new relationship governmentality—that is, the art of governing in which the tactics of regulating society would interrelate with the patterns of personal decision making and reasoning through which individuals judged their own competence and achievements. Thus, while there is continual talk about the individual being free from government and culture being separate from political realms, the social administration of the state has aligned political rationalities with the production of an individuality since at least the late 19th century.

The Social Sciences and the Problem of Governing

The task of the social administration of freedom is embodied in the formation of the social sciences during the 19th and the early 20th century (Haskell, 1977; Rueschemeyer & Skocpol, 1996; Silva & Slaughter, 1984; Wagner, 1994; Wittrock et al., 1991). In the 19th century, it was believed that the social world, like the natural one, could be acted on and changed through scientific practices. Social questions of the day were supposed to be solved through a calculated administration of social affairs.

The social sciences were active factors in the re-visioning of the principles through which individuals were to govern themselves and judge their participation in society. This governing had previously been the domain of spiritual advisors who elaborated the norms of conduct, criteria of self-judgment, and techniques of life conduct for the individual. However, in the 19th century, ethical guidance began to draw on the logic of positive knowledge. Achievement, moral deportment, and development/progress of the self in childhood were envisioned through the new classificatory systems of scientific reasoning.

The reigning belief was that expert scientific knowledge could be put into the service of the democratic idea. A central site of the production of knowledge and expertise was the social science which, in the USA, became housed in the new structures of universities that included graduate training and research and which, in the Soviet Union, became housed in institutes tied directly to the state. While the institutionalization of the social sciences occurred later in the Soviet Union than in the USA, the Russian state established an institute for educational psychology in 1905. Vygotsky worked there in the 1930s.

The sciences in which Dewey and Vygotsky worked, then, involved more than the organization and the interpretation of social life. The human sciences were expected to spread modernity by giving focus to the microprocesses by which individuals became self-motivated, self-responsible, and reasonable. The social sciences generated principles for the particular type
of childhood, family, citizen, and worker who could operate with the dispositions deemed necessary for liberal democratic societies. While forms of scientific reasoning were contested, social betterment was viewed as dependent on the rational construction of the citizens who could act progressively to control their own circumstances and environment.

In the various arenas of social life, abstract, universal systems of ideas assessed personal competence, achievement, and progress. Bledstein (1976) argues, for example, that the middle classes developed professionalized communities through which individuals' life trajectories could be assigned and personal growth measured. Concepts such as career and character tied interpretations of individual success to occupational work in a way that was very different from previous conceptions of the individual.

The invention of social sciences, then, can be viewed as embodying the modernizing project of the late 19th and early 20th centuries. Its disciplinary qualities had a double meaning. The systemic, professional knowledge about society functioned as a guide for thinking about institutional reforms and social policy. But the disciplinary knowledge also generated governing principles that related the new political rationalities of a liberal democracy to the construction of the individualities. In the above senses, the production of the individual through the systems of ideas in the social sciences entailed a profound shift in consciousness. The social sciences merged what the sociologist Scheler (1924/1980) thought was separate—that is, the interests of power, achievement, and salvation. The psychology in which Dewey and Vygotsky wrote was an important note in the new disciplinary strategies of governing.

Transferring the Soul to Science: The Modern Invention of Psychology

The psychological sciences in which Vygotsky and Dewey participated were examples of the multiple attempts in the nascent social sciences to spread modernity through a revisioning of individuality. While Dewey is considered today as a philosopher, his work crosses philosophy and psychology and responds to the central currents of ideas in that later field of the human sciences. The construction of modern psychology embodied a commitment to reconstruct society. Psychology would transform Enlightenment beliefs into practical technologies that would construct people's understanding of experience and form the norms of conduct. Subjectivity was a site of struggle—that is, how individuals thought, felt, talked, and saw their self as actors in the world.

Emerging as an academic discipline during the U.S. Progressive Era (see, e.g., O'Donnell, 1985) and the Czarist regime just prior to the Soviet state, psychology was largely conceptualized and given moral justification by the project to construct the self-governing individual (Herman, 1995). Psychology sought to produce the disciplined self that embodied the ethic of self-control and the extension of processes of rationalization into personal
conduct (see, e.g., Lears, 1981). Demands for social amelioration incorporated the Victorian ethic of self-control and the extension of the processes of rationalization into personal conduct. Industrialization involved a call for “systematic methods of self-control . . . beyond the work place into the most intimate areas of daily experience—perhaps even into unconscious wishes, dreams, and fantasies” (Lears, 1981, p. 13; also see Berger et. al., 1973).

Psychology helped to administer the new institutions of governing, and, simultaneously, to provide for individuality and reason. It emerged as a subdiscipline of philosophy to give focus to the natural development of the mind and spirit. By the end of the 19th century in the USA, psychology was separated from moral and mental philosophy and positioned as the discipline to resolve the theological issues of Protestantism with the material issues of evolution. The presidents of universities, especially private East Coast institutions, embraced psychology as a way of reconciling faith and reason, Christian belief, and Enlightenment empiricism (O'Donnell, 1985). Psychology would also perform the tasks of dissemination and advancement of practical knowledge in an emerging industrial nation. While the discipline was not monolithic in its outlook, the various approaches shared a goal of organizing liberty and progress through the construction of individuals who could contribute productively to these transformations through their own self-discipline. Faith was placed in the rational individual as the locus of change.

The disciplinary processes made individual desires, affects, and bodily practices the object of change. This decentralization and individualization of subjectivities can be thought of as the governing of the soul (Foucault, 1979b; Rose, 1989). By soul, I mean that people’s desires, attitudes, and bodily practices were made the focus of scrutiny and administration. The social administration of the self was organized within a problem that transferred the church’s pastoral concern with saving the soul to secular confessional practices of rescuing the person by the social planning of the state (see, Foucault, 1977, 1979b; Rose, 1989).

The conviction that truth can be discovered through the self-examination of consciousness and the confession of one’s thoughts and acts now appears so natural, so compelling, indeed so self-evident, that it seems unreasonable to posit that such self-examination is a central component in a strategy of power. This unseemingness rests on “an attachment to the repressive hypothesis; if the truth is inherently opposed to power, then its uncovering would surely lead us on the path to liberation.” (Foucault, “Afterword,” cited in Dreyfus & Rabinow, 1983, p. 175)

It was not the ideas of Dewey and Vygotsky that found favor within the educational sciences of both the Soviet Union and the U.S. Within the U.S., for example, most psychological theories accepted the current social situation as a given. Psychology “would flourish neither as a mental discipline nor as a research science but as the intellectual underpinning and scientific
legitimator of utilitarian pursuits, especially in the field of education" (O'Donnell, 1985, p. 37). It focused on the procedural elements through which the institution could bring out what was already presumed to be natural and universal in the person (for the U.S., see, O'Donnell, 1985; in the Soviet Union, see, Gouldner, 1979). U.S. psychological research provided large scale assessment of groups of students. It also provided indicators of the quality of an entire school system. In future years, psychology was to provide school administrators with a way to monitor and control the work of teachers and students. Quantitative measures were used as a means "for establishing unchallengeable administrative authority in a time of growing school enrollments and expenditure" (Powell, 1980, p. 10).

The development of psychology was heavily supported by new school administrators centralizing the organization of teaching.16 The discipline provided a new form of expertise in selecting, organizing, and evaluating institutional and personal knowledge (Danziger, 1990). Psychologists believed that they had sufficient knowledge and disinterest to promote institutional change. Acting as "an evolutionary cadre," the psychologists "asked the public to have confidence not merely in their knowledge and skills but in their ability to construct a better world as well" (Napoli, 1981, p. 41). There was a belief that science was the "mainstream of inevitable progress" and that man "could make and remake his own world" (O'Donnell, 1985, p. 212). Promising what utopian thinkers had long sought, Hall (1905/1969) saw psychology as the means to overcome the problems of urban life, family, and inadequate social development.

At the center of the new scientific pedagogy was the expert who could provide the efficiency of science. Thorndike (1910) argued that education should be based on sound scientific fact rather than opinion. The human mind was considered to be susceptible to exact measurement similar to objects of the natural sciences. However, such measurement was considered to be beyond the capacity of kindergarten or other public school teachers. For that reason, measurement, and the formation of a curriculum based on it, now entered the domain of experimental psychologists (Bloch, 1987). Hall asserted that it was the scientifically trained psychologist "who could devise and administer tests such as motor and mental skills, as sensual acuity, muscular strength and coordination, speed of reaction, perception of movement and time, and simply memory necessary for the proper functioning of schools" (O'Donnell, 1985, p. 156).

When brought into pedagogical discourses, the psychological categories of learner and development, for example, produced particular discursive practices that replaced the early 19th century construction of teaching which saw children as part of a prophetic task of professing Christian faith. The child was good or bad, pious or nonpious. Developmental and learning theories, in contrast, opened the child's behaviors, attitudes, and beliefs to scrutiny, such that they could be acted on to effect change in cognition and affect.17 The disciplinary discourses were a productive force in which individuals would learn a self-discipline to act through the will to know.
The disciplinary practices that related psychology and pedagogy were instances of the merger of power, achievement, and salvation. While often contested in terms of what forms of scientific reasoning should prevail, social betterment was viewed as dependent on the rational construction of the citizens who could act progressively on their circumstances and environment. In this context,

the school was to act as a moral technology, not merely inculcating obedience, but also seeking to shape personality through the child's emulation of the teacher, through the use of pastoral techniques to encourage self-knowledge and enhance the feeling of sympathetic identification, through establishing the links between virtue, honesty, and self-denial and a purified pleasure. (Rose, 1989, p. 223)

The new systems of social administration in pedagogy for creating greater participation, however, also produced systems of exclusion. While learning and child development were supposed to increase individual freedom through education, the psychological notion of childhood ascribed universal characteristics by which to judge development and achievement. But the characteristics assumed to be universal were not. Instead, modern psychology was based on concepts drawn from the values of particular groups in society and applied in a way that presumed to judge all children. Baker (1998) argues, for example, that particular binaries were inscribed in the concept of childhood developed at the end of century. The binaries were: Whiteness/Blackness, male/female, and civility/savagery. The binaries were part of a scaffolding of ideas that classified and normalized the subjective dispositions of children through conceptions that privileged a particular Protestant view of individuality that was English-speaking, male, and racially charged. The effect of the scaffolding was to exclude by drawing discursive maps which designated those children who stood outside the normativity as noneducable since they existed outside of reason and salvation.

With this historical horizon of modernity, I can now approach present pedagogical discourses that draw on the ideas of Dewey and Vygotsky. I will argue that the site of struggle in contemporary pedagogy is still the governing of the soul. The ethical life of the soul is spoken about in today’s reforms as the capabilities, beliefs, and conceptions/ misconceptions of the child and teacher. The difference between today and the past is in the principles of governing in which the struggle for the soul is enacted.

Homologies in the Governing Patterns of the Self: Social Theory, Politics, Economics, the Military, and Pedagogies

As we look at contemporary pedagogical discourses, Dewey and Vygotsky appear within particular educational discourses called constructivist teaching or constructivist learning. The picture is painted that the renewed interest in Dewey and Vygotsky is part of the evolutionary development of
scientific knowledge that will lead to school improvement. My concern here is to explore constructivism as not only an intellectual movement within education but as a historically produced system of reason that embodies more general changes in the governing practices through which individuality is constructed.

The argument of this section (and article) is that this rereading of Vygotsky and Dewey in the contemporary reform discourses is part of the recent changes taking place in the governing systems of the self, which differ in significant ways from those current at the turn of the century. I explore these changes by examining the various homologies between the images of the self in pedagogical discourses and those of contemporary social theory, politics, economics, and the military. I use the notion of homology to explore the generative rules that govern participation within different social fields. These rules are not reducible to one cause or to a single set of origins. They are similar to Wittgenstein’s families of resemblances in which multiple historical patterns overlap to produce a recognition of likenesses, without signifying causality or the reduction of one social pattern to another.

The homologies that I explore can be summarized as follows: in contrast to social science thought at the turn of the century, which assumed a certain fixed set of relations between identities and institutions, today’s individuality is presumed to be less stable. The image is of the citizen, worker, warrior, and teacher as problem-solving and flexible in responding to multiple and contingently defined contexts. The vehicles through which this image is constructed are language and community, which enable a resuscitation of the works of Dewey and Vygotsky. But the use given to Vygotsky and Dewey texts today involves different principles of governing of the soul, to return to the metaphor developed in the earlier section about the turn of the century. In the last and final section, I pursue the logic of constructivism to consider its irony and paradox. That is, while constructivist knowledge purports to produce a more inclusive practice in schooling, its principles of participation function to disqualify, but this disqualification is produced at the level of being or at the level of the dispositions and sensitivities that the child embodies.

The Pluralities of Disciplinary Knowledge and Cartesian Logic

The well-worn phrase that “knowledge is socially constructed” is reiterated in discussions taking place in the disciplines of anthropology, philosophy, political science, psychology, sociology, as well as education. (For example, see Bourdieu & Passerian, 1977; Butler, 1993; Giddens, 1990; Hall, 1986; in education, see Giroux, 1992; Kohli, 1995; McLaren & Giarelli, 1995; Popkewitz & Brennan, 1998.) These disciplines have begun to engage in a dialogue with linguistic, semiotic, and discourse analyses in the construction of social theory. The emphasis in these discussions is on fluidity, diversity, and the seeming break-up of permanence. Social and psychological theories, for example, no longer speak of identity in terms of universal norms of competence, such as those articulated in early 20th century role theory.
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Instead, identity is perceived as constructed through norms that speak to the multiple and pragmatic actions through which the self is constructed.

The discourses of educational constructivism, then, can be thought of as occurring within the broader conversations in the social sciences that have alternately been labeled as modernity/high modernity and/or postmodernity. At one level, contemporary social and political theories can be thought of as re-articulating an early 20th century view of knowledge as socially constructed. What is distinctive about current theory, however, is its privileging of language and pragmatism to understand social relations and the construction of subjectivity. Norms of language construction (rules of discourse) are viewed as functioning to form subject-identities (such as those of race, gender, class, sexuality) rather than as functioning to form a medium to interpret and represent the subject. Postmodern feminist literature, for example, focuses on the concept of women to understand how the knowledge of gender is itself the effect of power—“how difference is established, how it operates, how and in what ways it constitutes subjects who see and act in the world” (Scott, 1991, p. 777; also see, e.g., Butler, 1993; Di Stefano, 1990; Fraser, 1989; Gatens, 1991). In this general sense of making language central to theory, the work of Vygotsky is appealing. Furthermore, contemporary social theory is concerned with diversity, flexibility, and contingency as norms for interpreting social life. Revisiting pragmatic philosophy and Dewey’s notion of community has been pivotal (see, e.g., Bernstein, 1993; Rorty, 1979).

Within pedagogy, however, a particular type of constructivism appears that is related to cognitive psychology and symbolic interactionalism. The pedagogical discourses have a particular trajectory that is different from that being used in the social disciplines. Within pedagogy, the imagery is of the teacher (and the child) who is expected to collaborate, reflect, and construct knowledge in a decentralized system of education. The new teacher (and the child) is an empowered, problem-solving individual capable of responding flexibly to problems that have no clear set of boundaries or singular answers. The teacher is assumed to possess a pragmatic individuality that is tied to the contingencies of situations in which problems arise.

The discourse of the constructivist teacher (and the child) is expressed through discussions of teaching science and mathematics as well as in teacher education reforms where it is asserted that “the generic task of education” consists of “teaching students how to make knowledge and meaning—to enact culture . . . ,” turning away from “a template for a single conception” of reform to “multiple models” (Holmes Group, 1990, pp. 6, 10; also see, The Holmes Group, 1986; National Council of Teachers of Mathematics, 1989).

It is within this pedagogical and psychological literature about pedagogy that the rereading of Vygotsky’s ideas about language (communication) and Dewey’s pragmatism occurs. Simon (1995), for example, argues that educational constructivism is a pragmatic “epistemological theory” that “derives from a philosophical position that we as human beings have no
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access to an objective reality that is a reality independent of our way of knowing it" (p.15). Pedagogy focuses on the communicative systems employed to construct knowledge and the way these systems emerge and are sustained through community processes of mediation and negotiation (see, e.g., Cobb, 1994; Cobb et al., 1991; Cobb, Yackel, & Wood, 1992; Steffe & Kieran, 1994, 1995).

Constructivist Struggles Against the Cartesian Binary

One can read pragmatism, postmodern theories, and the pedagogical constructivism—with not necessarily the same ideological agendas—as concerned with undoing the Cartesian opposition of mind and body and undoing the distinctions between ideas and material existence. This agenda was common to both Dewey and Vygotsky. They, as is much contemporary thought, were critical of much 20th century European social theory that is built on Cartesian binariness that separate mind from body and individuality from social relations and history. The binariness, however, are not just theoretical. They also entail practices. This is evident in school pedagogies. Science theories of instruction, for example, have been built on binariness: Concepts are separate from methods, and the cognitive is separated from the affective. Teacher education courses that separate knowledge about school and society from that of learning stand as testimony of the binariness in which the social/personal and mind/body splits are naturalized in teaching.

We can think of constructivist research about teaching as rejecting Cartesian dualism through its pragmatic concerns. Instructional strategies to engage children in challenging problems and multiple interpretations are viewed as confronting the Cartesian dualism of mind/environment. Constructivist pedagogy attempts to see a relationship between the practices of knowing and what is known (see, e.g., Cobb et al., 1992; Steffe & Kieran, 1994). Knowledge is envisioned as tentative and uncertain, having multiple constructions, and formed through negotiations within community boundaries.

Dewey and Vygotsky are drawn into the pedagogical discussion to argue a relationship between mind and environment, or context, and the importance of language as a mediating system in the construction of the self. Dewey's notion of communities, for example, is deployed to consider the classroom as having the shared norms of community. Pedagogical discussions of Vygotsky direct attention to children's linguistic conceptions. Teaching mathematics is likened to Vygotsky's zone of proximal development (called a zone of potential construction) as teachers use students' mathematical schema in instructional planning (see, e.g., Simon, 1995). The Russian "teaching experiment" is made into a pedagogical strategy through which teachers can turn students' thoughts into data about children's conceptual development (Cobb et al., 1991; for a general discussion of the teaching experiment in Russian psychology, see Tabachnick, Popkewitz, & Szekely, 1981).
Reinserting the Cartesian Binary: The Social and Historical as Psychological and Interactional

The undoing of the Cartesian binary in constructivist pedagogy, however, reinscribes the binary of mind and knowledge at a different level. This occurs through the alchemy of pedagogy. The alchemy of pedagogy, like that of the attempt to transform lead into gold in the Middle Ages, involves a particular transformation. The alchemy transforms physics, history, and literature, for example, into psychological and social interactional processes. Disciplinary knowledge is treated as having universal structures that are stable, consensual, and fixed entities that children work on to learn. Pedagogical discourses give attention to the flexible processes through which children internalize the stable school subject knowledge. The distinction between disciplinary knowledge and pedagogical processes reproduces a binary division.

The re-inscription of a binary world appears, oddly enough, through the acceptance of curriculum as identifying multiple strategies for learning. This flaw in the alchemy relates to the reliance on particular aspects of social psychology and psychology in curriculum development. The fixed, logical structures of knowledge form the foundation of a theory of learning. This foundation is assumed when researchers examine children’s problem-solving practices or when educationists identify how children develop conceptions/misconceptions of curriculum problems. The problem solving and conceptions/misconceptions assume fixed concepts that children are to internalize and master, an assumption of the alchemy that produces a division between knowledge and processes.

The alchemy can be examined in constructivism in mathematics education. That literature continually refers to the nature and structure of mathematics that children learn (see, e.g., Simon, 1995, p. 20; Cobb et al., 1991, p. 5). The notions of nature and structure refer to a view of an essential, deep, and underlying core of knowledge that children excavate through pedagogical processes. Learning mathematics becomes learning the logic of mathematical justifications through flexible, instructional approaches. Mathematics education, for example, is “to distinguish between the meanings that students give to representational systems in terms of their current ways of knowing and the mathematical structure [italics added] that the system embodied for adults who know mathematics” (Cobb et al., 1991, p. 5; also see Simon, 1995). Cognition is a developmental practice important in understanding the evolving psychogenetic processes related to Piagetian conceptions of stages of learning (see, e.g., Steffe & Kieren, 1994; for a critical discussion of this relation, see Bishop, 1991). A consequence of the alchemy is an acceptance of the logical structures of disciplinary knowledge as the foundation of curriculum so that pedagogical attention is directed to the appropriate strategies for enabling children’s learning of those foundations.

The communal and social aspects in the production of mathematics or
science are restricted to classroom communication patterns and context factors that foster or hinder children's learning of disciplinary structures of knowledge. Dewey and Vygotsky, for example, are brought into pedagogical conversations to talk about *principles that govern the soul* or the subjectivities that are required of teachers and students. In what otherwise would seem unproblematic, teachers and students are to be viewed and to view themselves as active constructors of their ways of knowing and "as participants in social practices rather than as mirrors of a world independent of experience, history, and culture. Knowing would then be seen as a matter of being able to participate in mathematical practices in the course of which one can appropriately explain and justify one's action" (Cobb et al., 1992, p. 15).

In this quote, the references to history and culture are rhetorical flourishes without any systematic reflection about what constitutes the relation of contexts and social in the production of scientific knowledge other than asserting some notion of communal shared norms. The socially constructed qualities of science and scientific knowledge are transformed into matters of participating in mathematic practices that explain and justify one's action. Community directs attention to the development of shared norms based on an equilibrium and consensus about knowledge (Cobb et al., 1992, Steffe & Kieren, 1995; Simon, 1995). "Collaborative learning approach" is used to "arrive at a taken-as-shared interpretation of the problem" (Simon, 1995, p. 120; Cobb et al., 1991). The social is thus presented as a psychological or symbolic interactional process of negotiations to construct knowledge, thus denuding pedagogical practices of any social mooring outside the classroom.

The limitation of the alchemy is further evident when semiotic theory is applied to science. The structure of science cannot be taken for granted but must be seen as a linguistic/semantic practice that is functionally produced in institutional settings. Halliday and Martin (1993), focusing on the semiotics of science, argue that the discourse of science is actively constructed through its structures of related meanings and grammatical forms. The language of science, they continue, does not simply correspond to or respond to human experience. Rather, the language of science is an interpretative activity of experience. Martin (1992) then draws semiotic theory into a consideration of pedagogical practices by arguing that children need to learn the grammatical systems of science through which experience is interpreted rather than to start with children's interpretations and constructions of meaning.

If one looks at the history and sociology of science that constructivist literature cites (but which I suspect is read only partially), the alchemy is apparent in the pedagogical celebration of shared norms, consensus, and equilibrium. The studies of science as a communal practice, for example, focus on the multiple layers of scientific work that involves both internal and external questioning and conflict. The social and historical moorings of knowledge are excluded from examination in pedagogical practices. For
example, how the concepts and methods of science, social science, and literature are embedded in historical relations and power structures is not studied (see, e.g., Bernstein, 1976; Gouldner, 1970; Popkewitz, 1977). The discourses of curriculum have more to do historically with the administration of children than with understanding the processes of knowledge production in the sciences, literature, and history (see, e.g., Popkewitz, 1987).

In fact, the re-inscription of binaries through the alchemy of pedagogy makes the values and norms inscribed in disciplinary fields unquestionable as children learn to problem solve. The coupling of a stable disciplinary knowledge with the individualization processes of pedagogical knowledge makes the purpose of teaching become the practice of governing children. Teachers assess and administer children’s conceptions (or changing misconceptions) of school subjects. The governing principles in the rules of problem-solving structures of the curriculum go unexamined. What is perceived as children participating in their constructions of knowledge is children participating in historically derived systems of reasoning that are themselves the unacknowledged effects of power.

The re-insertion of binaries helps to illustrate the way in which ideas are embedded in the social context surrounding the texts in which they are presented. Both Dewey and Vygotsky argued against Cartesian binaries. However, when used in contemporary pedagogical discourse, the ideas of Dewey and Vygotsky are no longer their ideas. Instead, they are embedded in, and thus reshaped by, sets of relations embodied within the discursive practices of constructivist pedagogies.

Why is this denial of the social in school knowledge important in pedagogical constructivism? Pedagogical reasoning includes the child in constructing personal knowledge but excludes the child from the recognition of the social and historical mooring of that knowledge. This determinism is significant as we pursue other homologies to constructivism in politics, work, and the military.

Reconstituting the Relations Between the State and Individual

The constructivist images of a problem-solving individual are also embodied in changes in the conceptions of political participation. Although 19th century projects of modernity were concerned with the social and the collective social movements, contemporary political discourses use local and communal metaphors to describe their focus. Today's political landscape with different ideological agendas calls for reforms that emphasize the community—community health, community schools, community-based welfare systems, and so forth (Rose, 1994). Current discourses about multiculturalism and the canons of university teaching construct society as if it is composed of different and disparate groupings of people located in the community. Neoliberalist concerns with markets and privatization also re-visions the political as located within the local, the communal, and the individual. Participation in the local and the community involves a pragmatic agent.
The new pragmatic outlook of social movements entails a form of constructivism that is organized through a particular type of expert knowledge (see, e.g., Laraña, Johnston, & Gusfield, 1994). Today's politics embody:

a range of other challenges to the mechanism of social government that emerged during these same decades from civil libertarians, feminists, radicals, socialists, sociologists and others. These reorganized programs of government utilize and instrumentalize the multitude of experts of management, of family life, of lifestyle who have proliferated at the points of intersection of socio-political aspirations and private desires for self-advancement. (Rose & Miller, 1992, p. 201)

The pragmatic, communal, and local outlook for change is embodied in current school reforms. The phrase systemic school reform is used within U.S. reform efforts to argue for a new set of relations among governmental agencies, professional teacher groups, research communities, and local authorities (see, e.g., Smith & O'Day, 1990). The systemic school reform is to provide the expertise to coordinate and to provide coherence in local reform strategies. At one level, discourses of standards and professionalism appear within a context of building strong U.S. government monitoring and steering systems that entail local flexibility, such as national curriculum goals, assessment techniques (e.g., from new achievement tests to portfolio assessments), and a national teacher certification test. At the same time, school-shared decision making, site-based management, and reforms concerning the reflective teacher and action research provide teachers with a sense of autonomy and responsibility in identifying the appropriate strategies to improve teaching.

Inscribed in the diverse organizational strategies of systemic school reform is a constructivist structuring of the capabilities of the individual who participates and acts. The reform discourses, for example, are based on the concept of a teacher who is personally responsible for problem solving in a world that is personally unstable. The professional teacher is self-governing and has greater local responsibility in implementing curriculum decisions—a normativity also found in the structuring of the new constructivist teacher that, as discussed earlier, cites Dewey and Vygotsky as sources of its vision (Popkewitz, 1991, 1993).

The new political rationalities for the organization of schools are also inscribed in the images of the teacher and the child (see, e.g., Fendler, 1998; Hultqvist, 1998). Educational reformers assume that the curriculum is "the form of culturally organized experience that is available as a tool [italics added] of governmental policy" (from educational studies by D. Newman, P. Griffin, and M. Cole cited in Cazden, 1986, p. 453). Drawing on the work of Vygotsky, pedagogy is visioned as administrating individuality through governing the patterns of communication of children. The site of change is now the cognitive and moral comportment of the individual. Instruction is "regulating [italics added] the interaction among children rather than just regulating the individual action" (Cazden, 1986, p. 450).
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A new sense of displacement and the new calculus of intervention reconstitute the principles of the participatory citizen (see Rose & Miller, 1992; also Popkewitz, 1996). The centralized/decentralized organization of the teacher and child seems not to have any single center, because all is negotiated within fluid boundaries. In these reform practices, the governing of the individual is not through the explicit defining of procedures but through the deployments of reasoning through which the teacher and child construct their capabilities and actions.

The Production of Work and the Worker

The re-visioning of work and the worker in the world of business provides other homologies to educational constructivism. According to the business pages of the newspapers as well as literature about the workplace, a new corporate structure is being formed that is less hierarchical and pyramidal than it was in the past.23 Furthermore, the Taylorism of mass production instituted in the first half of the century has been challenged because mass production no longer provides an efficient scheme in modern technological industries (Boyer & Drache, 1996; Kuttner, 1991; Lekachman, 1982). Business literature no longer speaks of stable roles. The new business entails an individual who is enterprising, with certain problem-solving capabilities, in an environment where highly variable customer demands, new technologies, multicentered business structures, and horizontal structures organize workers into groups concerned with specific projects that do not have the older layers of management (Fatis, 1992).

Self-managing teams and individual participation have been given priority in the reorganization of industrial production. The worker is empowered and develops flexible, responsive environments that can respond quickly to customer demands.

The changing subjectivities of the worker and their implications to education are discussed in the International Labour Organization’s report on metal workers (1994). The desirable worker is conceptualized as one who is not solely competent in skills but one who also has the appropriate capabilities and dispositions. This new worker is reminiscent of the constructivist teacher and is expressed by the following equation:

“I understand it + I can do it + I care about it = capability” (p. 23).

A new focus on capability revisits the turn of the century concerns with the social administration of the soul. But this governing is different from that of Taylorism and Fordism. The focus on capabilities and dispositions of the worker breaks the psychological ties which previously defined individual identity in terms of fixed roles of work and production (Donzelot, 1991). The new approaches accent the relationship between an individual’s autonomy and the capacity to adapt, the agency of change in a changing world and his or her self-fulfillment. “Instead of defining the individual by the work he
is assigned to, [the new psychology] regards productive activity as the site of deployment of the person’s personal skills” (Donzelot, 1991, p. 252).

One cannot ignore the homologies between the subjectivity to govern the citizen, the worker, and constructivist pedagogy (for relations to work, see, e.g., Gee, Hull, & Lankshear, 1996). Each has a similar emphasis on flexibility, problem solving, and contingent, personal or interactional communication. At the same time, these constructions of identity do not occur on an equal playing field in the sense of the availability of the rules of participation. The identities discussed are not universal because the world of business involves different capabilities of workers. The desirable worker described above differs substantially from the worker constructed by Taylorism and mass production, notions which still dominate a substantial fraction of the labor market. Furthermore, not all workers have equal access to the capabilities associated with the new worker (and citizen). In fact, these are not universal traits but, instead, specific norms produced within particular social groupings. Furthermore, these traits are embedded in power relations, as the specific norms referred to are produced and sanctioned by particular social groups. I will return to this issue later when I discuss the problem of inclusion and exclusion in the production of participation.

The Disciplining of the Military

It might seem unusual to relate the issue of governing and constructivism to the military, but it should not be. The disciplining technologies of the military have been important in the construction of schools since the 18th century. One cannot account for the school testing and measurement industries without paying attention to the problems of recruitment and organization of soldiers during the two World Wars (Herman, 1995). The systems analysis and budget-planning approaches to educational reform that were influential in the U.S. after World War II were strategies developed in the military and brought into government and the university as research and administrative technologies to guide educational reform (Popkewitz, Tabachnick, & Wehlage, 1982, esp. chap. 2). The war on poverty, subsequent interventions to produce educational equity, and the Defense Department’s sponsorship of cognitive psychology are important for understanding the revisions of the strategies of social administration. A particular war expertise was incorporated in the planning, guidance, and assessment of pedagogical practices.

But what is important here are the shifts in the governing principles that underlie the identity in the modern military during the past 3 decades. I conceptualize these changes as a movement from the traditional role of a soldier to that of a modern warrior; the latter incorporates much of what we have talked about as a constructivism into the dispositions of combat. Prior to World War II, military discipline was organized by a hierarchy of decision making that filtered through a chain of command. Furthermore, the technologies of the soldier involved a relationship with the mechanical hardware
of war. The airplane, tanks, and guns were designed through theories of mechanics and physics. The discipline of the fighting person involved learning competence in maintaining and applying the mechanical technologies in a hierarchy of command.

Recent rapid changes which have taken place in military technologies have required performances from personnel that relate the body and mind to systems of communication. It is in this transition that I think of the warrior as replacing the soldier. The modern fighter plane, for example, is inherently unstable and flies only through its monitoring systems. The processing of information is seen as a pragmatic problem in which one must assess the contingent qualities of the context in quickly changing situations that affect the survival of the pilot. The warrior assumes a world of instabilities, pluralities, and a need for pragmatic actions as individuals interact with dynamic communication systems rather than fixed mechanical systems.

In this context, it is very significant that American pilot training has depended on the development of a new expertise. This includes Defense Department sponsorship of artificial intelligence research, and support for the subfield of cognitive psychology in order to prepare pilots for pragmatic and coordinated decision making. (For a treatment of the relation of cognitive sciences and state sponsorship, see Noble, 1991.) It is interesting that research by the Russian psychologist Galperin, who had been influenced by Vygotskian theory, was first translated to help support such research.

The new constructivist capabilities of the warrior are evident in command structures. There has been a movement to a different command structure that entails both vertical and horizontal axes. Vertically, the central command is becoming more standardized through weapons procurement and technologies that can control battle information. Horizontally, certain sensitivities and dispositions toward the problem solving of the warrior are stressed that are homologous to what is emphasized in pedagogical literatures about constructivism. The military control structure makes professional flexibility and responsibility a precept of battle discipline. The contingencies of the battle, as determined by the warrior, are the final determinants of operational performance, including, when necessary, overriding prior commands.

Further evidence of the changes in identity is found in current legal investigations about accountability for action in combat. Accountability is no longer assumed to lie with the commanding officer. Now it is regarded as possible that individual pilots and soldiers share personal accountability for decision making in the field. These command structures are similar to the governing patterns found in the centralized/decentralized state patterns of governing, as well as in the constructivist pedagogies of schooling. One can view the military's provisions for greater inclusion of women into battle contexts as well as the recent revising of the hierarchical roles in training as related to the different cognitive structuring that directs the warrior. One can say that there is a conjuncture between the social and political pressures
about gender relationships in the military and the new training requirements for a less hierarchical, more pragmatic, local role in the instruction given to construct the new warrior.

We can bring together the previous discussions to think about the constructivist discourses in the construction of the citizen and child. The different arenas of politics, work, the military, and the social disciplines overlap and provide a historical specificity to the current discourses about the professional teacher and the child who are self-confident, self-disciplined, and have a capability and willingness to learn. The homologous practices also enables a historical reading of the changing social relations and governing principles in which Dewey and Vygotsky are read.

Pedagogy as Patterns of Inclusions/Exclusions

While I have pursued the relation of constructivism to the formation of the self in different social arenas, these arenas do not operate on a level playing field. This final section, then, examines how the current reading of Vygotsky and Dewey are re-situated to produce rules for inclusions and exclusions in contemporary pedagogy. The problem of inclusion/exclusion that I speak about is not about what groups are represented or omitted in school decision making or curriculum content. While this notion of inclusion is important, my concern is with the discourses of problem solving and reason in contemporary pedagogy that generate principles which classify and divide those who have and do not have the appropriate dispositions, sensitivities, and capabilities to act and participate.

This notion of inclusion/exclusion begins with the alchemy that I discussed earlier. Within the alchemy is the construction of problem solving and reflection that seem to exist outside historical and cultural influences. Reason is discussed in terms of a universalized conception of problem solving that is presented as if it were independent of time and place. The idea of context is discussed in terms of focusing on the ways in which individuals negotiate differences or in which the mind finds different strategies to engage in the finding of answers to problems (see Note 19). Although certain types of pedagogies are termed constructivist, then, the constructivist discourses do not systemically examine the way in which knowledge or reason is socially constructed except within psychological paradigms that obscure the historical conditions of reason itself.

To find a way to bridge the relation of social and individual knowledge with the problem of inclusion/exclusion, Bourdieu's (1979/1984) concepts of social field and habitus are helpful. We can think of the different social distinctions that people make in their daily actions as analogous to players' positions on a field, such as a baseball field. On the baseball field, players occupy different spaces or positions. Each space maintains different skills, distinctions, and perspectives that enable the player to be skilled in the game. The distinctions and skills of a pitcher, for example, are different from those of an outfielder or a catcher. In a similar manner, we can think of the social world as a field where people occupy different positions and have
different sets of distinctions as they participate in the ordering relations of social life.

The differences among people, according to Bourdieu, are embodied in the habitus, the differential systems of recognition and distinctions which divide and organize people's participation. For example, Bourdieu examines the distinctions that different groups have in tastes, such as what people eat, buy for the home, wear as clothes, watch at the movies and on television, read, and so on. Bourdieu found homologies in the habitus among French primary teachers, secondary teachers, professionals, and engineers in how they appreciated art and organized their housing arrangements. These patterns of distinctions and appreciations were different from those of, for example, office workers and small-shop salespeople.

If we recognize that we do live in an unequal playing field, we can use Bourdieu's concepts of field and habitus to explore how constructivism functions in the production of systems of inclusion/exclusion. We can think of constructivism as taking particular, local knowledge (habitus) of certain groups in the social field and treating that knowledge as the global principles of reason and problem solving related to school success, achievement, and capabilities.\(^\text{25}\) The apparently universal norms are brought back into the particular interactions and practices of classrooms as the norms to judge and differentiate among children. This selectivity is not intentional but subtly embodied in the distinctions and differentiations to order and divide the things that are talked about as cognition, problem solving, and affective development. Educators and researchers refer to problem solving, community, and zones of proximal development as if they were universal processes rather than socially constructed norms related to habitus.

The exclusions are produced through the systems of recognition, divisions, and distinctions that construct reason and the reasonable person. The norms in the pedagogical discourses have no way of accounting for difference except in that they deviate from certain universal standards. In this way, diverse groups are only seen from the perspective of a being who is different from the norm (see, Dumm, 1993; Popkewitz, 1998b). It is thus implied that the best thing that can happen to such a person is to become like the normal person. At the same time, the focus on the subjective and communicative competence in constructivism shifts the blame for failure more securely to individuals themselves. This is because such thinking takes little account of differential access to the means for such self-expression.

These effects of power to distinguish and divide go unnoticed. They are unnoticed because the norms to discriminate seem to be general, natural, and unattached to any group. Research by Walkerdine (1988), often cited but systematically ignored within the constructivist pedagogy literature, empirically explores how child-centered pedagogies discursively create a normalized vision of the natural child and what is true. The emphasis on verbalization and justification in the constructivist teaching, she argues, relates to particular habitus that embody bourgeois and gendered conceptions. While the ideas of problem solving and community seem unambigu-
ous and naturally good in constructivist research, they can become dangerous when presented as universal principles without social mooring.

The idea of habitus helps us to understand an anomaly that continually appears in U.S. educational discussions that are often related to issues of inclusion and pedagogy. Research findings continually indicate that parents from different social and cultural groups value education for their children, although there is differential achievement among the groups. If we accept the idea of habitus, we can recognize that the distinctions available for action and participation in schooling among different groups differ as effects of power. All social economic and racial groups say they value education for their children, but they deploy different sets of distinctions and divisions in setting those values. (see, e.g., Sieber, 1983; also Fendler, 1998). While not the concern of this article, a limitation of current social policy related to school choice can also be considered by focusing on the available dispositions, sensitivities, and distinctions for generating action and participation. Choice assumes erroneously that the available distinctions are the same for all group positions with the field.

Some Concluding Comments

I end where I began this essay. It is easy to laud the conceptual changes in contemporary educational reforms and to accept rhetorical strategies as fact. Contemporary research captures a populist, democratic appeal. The reforms are posited as strategies to make schooling more democratic, more progressive and socially responsive through the making/remaking of the teacher and the child, in a way which I refer to, following Rose (1989), as governing the soul. But, if we look historically at the knowledge of school reforms as social practices, the logic and reasoning can be understood as having paradoxes and ironies that are the effects of power.

Using Dewey and Vygotsky to develop an historical and comparative perspective, I have argued that there are certain continuities between current and past liberal movements toward the social administration of freedom and the governing of the soul. The belief in the disciplined, self-motivated individual has persisted and become part of our current unquestioned assumptions about educational reform. The site of power remains the individual’s productive activity and capabilities. Further, my focus on the homologies between pedagogical reforms, social theory, the political governance of education, the economy, and the military explored the complex relations in which contemporary governing patterns are different from those which existed at the turn of the century when Vygotsky and Dewey wrote. When the words community, zones of proximal development, and so on appear in current reform texts, these words have no meaning outside of the set of relations in which the words are located.

Further, the effects of pedagogical practices to open up spaces for individuals to act cannot be assured. In fact, I argued that educational research needs to pose the concepts of inclusion and exclusion as mutually
constituted. Within the systems of inclusion are their opposite, as what appears to be a widening of opportunities simultaneously functions to divide and normalize. This inclusion/exclusion is historically tied to the social administration of freedom but given a particular form in contemporary educational reforms. I argued that constructivism remakes the problem of inclusion/exclusion through its focus on seemingly universal dispositions and the problem-solving capabilities of the child. But the capabilities are not universal. They inscribe norms that disqualify certain children at the level of their being, rather than through their subject positions—group categories of race, class, or gender.

This productive effect of power requires that we rethink not only constructivism but also many of the critical analyses of educational reform which consider the problems of current change to be conservative restorations and neoliberal systems of markets, privatization, and school choice (see Popkewitz, 1998a). These categories of change lack attention to the substantive and longer term changes in the governing principles that are described here. These analyses still focus on questions of representation and correspondence to social structures, rather than on the changing rules by which representation is made possible.

At this point, I return to the earlier paradox and irony of modernity which reappears in current educational reforms. The social administration of freedom was to produce a particular type of disciplined subject who was free from external policing. The situating of Dewey and Vygotsky in contemporary reforms points to the reconstitution of that paradox and irony. The universalizing of reason in constructivism is to produce a greater range of possibilities for teachers and children. But ideas are not merely logical principles to insert into discourses of research and reform. They also produce systems of exclusion as well as inclusion.

My arguments about the pedagogical discourses in which Dewey and Vygotsky are read are intended to historicize the systems of reasoning through which the teacher and child are constructed. As education is a central institution for the production of self-regulating individuals, the discursive principles inscribed in educational research require critical analysis and historical interpretation. Further, while the governing principles in pedagogical discourses are necessarily neither bad nor good, they cannot be taken unproblematically in a paradigm that argues about the social construction of knowledge.

Notes

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the internal logic and history of the argument.

1 My reference to modern and modernity is concerned with the developments in technologies, institutional developments of professionalized knowledge associated with the social science and the state that occur during the 19th century. In this focus, it is important to recognize that the historical trajectories that I speak about involve uneven developments which reach back into the 17th century.

2 While there are internal debates about the meaning of constructivism (see, e.g., Cobb, 1994), my discussion concerns certain general assumptions that structure the debates about the constructivist teacher and child. The work of Dewey and/or Vygotsky appears prominent in this literature. See, e.g., Cazden, 1986; Moll, 1990; Newman et al., 1989; Wertsch, 1985, 1991.

3 There has been a lot written about Vygotsky in the U.S. This educational literature that focuses on his ideas and on its implications to questions of didactics is: Cole & Scribner, 1974; Confrey, 1991; Davis et al., 1990; Davydov, 1981, 1988; Davydov & Radzikhovski, 1985; Driver et al., 1994; Goodman & Goodman, 1990; Moll, 1990; Newman & Holzman, 1993; Van der Verr & Valsiner, 1991; Vygotsky, 1962, 1971, 1978, 1985, 1986, 1987, 1994; Wertsch, 1985, 1991. For discussion of Dewey's ideas, see Blacker, 1995; Feinberg, 1993; Karier, 1986; for social context, see Ross, 1991; West, 1989. My intent is not to replicate these intellectual discussions but to construct a social epistemology through exploring the changes in the regulatory patterns as the ideas of Vygotsky and Dewey are brought into contemporary educational discourses. But I can note that the literature tends to view the ideas as part of the past as part of the evolution of the field. Much of the reform literature celebrates, for example, the movement of the ideas of Dewey and Vygotsky into constructivist reforms (see, e.g., Sperry, 1993). That development is seen as more enlightened than previous approaches in identifying what makes for a successful school.

4 My assumption is that all scientific discourses are governing ones in the sense discussed here, including my own (I discuss this in Popkewitz, 1991, 1993). The problem of modern scholarship requires what Bourdieu, Chamboredon, and Passeron (1968/1991) call an epistemological vigilance. Also see Bourdieu and Wacquant, 1992.

5 I use the concept of register as a theoretical concept to recognize that the present is composed of multiple and overlapping records—ideas, events, and occurrences that historically come together as the rules of reason (for a discussion of this notion of history and social practices, see, e.g., Popkewitz, 1997). My discussion of different sets of ideas is to present a grid or overlay of historically formed ideas, the pattern of which gives intelligibility to today's debates.

6 My use of homology is theoretically to recognize a noncausality in relations (see Bourdieu, 1993). My argument about Dewey and Vygotsky is in contrast to Newman and Holzman (1993), who argue for conceptually seeing Dewey and Vygotsky as different. Newman and Holzman focus on the particular logic of their arguments. While I accept this conclusion, my argument is to understand the epistemological and social spaces in which Dewey's and Vygotsky's ideas circulated—what I refer to as modernity at the turn of the century—and to understand the textual convergence of their ideas in contemporary pedagogical reform literatures.

In light of the eventual repressive conditions of the former Soviet Union, it is easy to lose sight of its unique promise at the time of its revolution and its incorporation of the word democracy in its constitution.

7 I use the idea of homology to suggest here, an historical relation between Dewey and Vygotsky in the modernization projects of the turn of the century and later, to think about the relations among different social sites. In each instance, my concern with homologies is with sets of relations that are not causal but are families of resemblance.

8 Dewey, in Democracy and Education, does connect the idea of community to communication, but he does not make communication a central concept. Also see Dewey, 1916, 1938, 1956, 1971–1972, 1998. My discussion of Vygotsky was helped by my conversation with Dienné Nel.

9 Vygotsky's scholarship was often viewed with suspicion by those in power within the Soviet government, especially after the initial period of experimentation ended in the mid-1920s. I have heard current Russian scholars say that, if Vygotsky had not died at an early age, he probably would have been sent to prison by Stalin.
Psychology in the U.S., for example, moved away from Dewey's pragmatism and began to treat achievement as if it were institutionally fixed and separate from action. It thus focused on artificially designed experimental situations to understand how learning occurred.

One has to look at the development of neopragmatism, in which the ideas of Dewey are prominent, in the work of Richard Rorty and Richard Bernstein (in education, Cherryholmes, 1993; Stone, in press; and St. Maurice, 1993, among others), in the pages of the American Psychologist, or in constructivist pedagogy, discussed later, to recognize the appeal of Dewey in contemporary scholarship.

I use the term Progressive as a descriptive historical label to discuss political and social transformations and do not mean to imply a connotation of progress (see, Popkewitz, 1991). The changes have lines of development that are uneven and date back to previous centuries but are clearly discernable in the 19th century (see Kaestle, 1985; Kliebard, 1986). The name, Progressive, however, captures a general ideological belief about social change and rationality in bringing social betterment. It mostly refers to the northern tier of the United States and initially did not include women, African Americans, or Native Americans. Its assumptions have, over the century, become important, because they provide part of the ideology in the civil rights movements and efforts to check antidemocratic excesses in the legal/administrative patterns of the state. It is interesting that educational literatures tend not to make the link between the larger political and social transformations and the visioning of schooling in progressive education.

Religious systems of authority were also redefined, in part, through the merging of the state with religion and, in part, through changes in social cosmologies in which religion was constructed (see, e.g., Berger, 1969; Luckmann, 1967; also see the early writings of Dewey, 1971).

While we can speak of the development of a modern consciousness as “middle class” and related to the rise of capitalism, it is important to recognize that the formations of capitalism were not logical necessities, nor can we understand notions of “class” and capitalism as a structural categories that are historically unchangeable (see Boltanski, 1982/1987).

Psychology became predominant in pedagogy. Schooling was becoming a major U.S. institution, expanding in numbers and resources at a phenomenal rate. Between 1902-1913, public expenditures on education doubled; between 1913-1922, they tripled; more public funds were invested in education than in national defense and public welfare combined during these decades (in O'Donnell, 1985, p. 229). Psychological clinics, child study research, and curriculum development projects provided jobs and financial support for psychologists.

The treatment of the child as “a learner” has become so natural in the late 20th century that it is difficult to think of children as anything but learners.

As I stated before, my focus is on certain problematics in the production of disciplinary knowledge. I recognize that there are internal debates and struggles about the interpretations and the normative commitments to educational research. My purpose is to consider constructivist discourses about teaching reform as an historical problem related to problems of governing. I do not consider the reception of Dewey in critical pedagogical thought, but these discussions also contain the pitfalls of not considering ideas as historically positioned. (See as, e.g., Bowers, 1993b; Popkewitz, 1998a)

There is a relation between constructivism and a prior U.S. Piagetian psychology in education in that they ignore the social construction of disciplinary knowledge and accept a certain biological-evolutionary notion of development. I thank Ingrid Carlgren and Joanna Hall for pointing out this legacy of constructivism in education (see, e.g., Hall, 1994).

Cobb et al. (1992, 1994), for example, argue that knowledge is both an individually constructed activity and a communal social practice. They assert a need for an anthropological theory to consider how meanings are constructed within the classroom. But that interest appears only as a rhetorical flourish when a psychological-interactional notion of knowledge is emphasized. Mathematics is taken as having logical structures (analytical things) which function as foundations from which learning is to occur. Work such as Wertsch (1991) points to the need to integrate the psychological with the social/anthropological. Lave and Wenger (1991) are also cited, but their limitation is in their
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micro-ethnographic approach, which does not go beyond assertions about institutions.

This is illustrated in citations that reference the historical and social contingency of knowledge. The literature serves only as icons to justify a narrower psychological and interactional view of knowledge that is devoid of history. For example, the work of Walkerdine (1988) is cited in mathematical education to suggest that activities are "interpreted in the social setting of the classroom and must necessarily differ from everyday interpretations in which people typically invent ways to reduce or eliminate the need to calculate" (Cobb et al., 1991, p.13). But what Walkerdine argues is that social practices discursively regulate subjectivities through creating a normalized vision of the natural child and what is true. While constructivist approaches could take issue with the arguments of Walkerdine, Walkerdine is read selectively to legitimate what Walkerdine argues against. (For an institutional analysis of mathematics as socially constructed, see Popkewitz, 1988.)

I find the same selective reading of the history and sociology of science, particularly, in Lakatos (Steffe & Kieren, 1995) and Bachelard (Simon, 1995). If we look at the work of Lakatos, it was during the 1970s and early 1980s that there was a soft program in the history of science. People looked at the everyday patterns through which scientists produced knowledge. That soft program has been severely criticized, and current work seeks to interrelate the hard and soft programs to understand the multi-tiered production of knowledge. The work of Canguilhem provides a different example of a selective reading. His work is part of a tradition of the history of science that considers historical change as tied to the conditions and the manner in which concepts change. It is not a psychological focus but one which places epistemologies into historical and sociological contexts. The history of science works at a level of analysis that challenges contemporary constructivist assumptions about the socially negotiated knowledge of individuals. In both instances, citations provide a selective misrecognition of scholarship and a re-reading that justifies rather than scrutinizes the stances taken. For general treatments of changes in the epistemological constructions of science and social science, see Bachelard, 1984; Brante et al., 1993; Canguilhem, 1988; Kuhn, 1970; Manicas, 1987; Tiles, 1984; Toulin, 1990. For discussion about education, see Popkewitz, 1991. In one sense, the work of Resnick et al. (1991) cited earlier also tries to dissolve such dualisms. Also see Elzinga's (1985) discussion of epistemic drift in the science which focuses on the relation of state and business policies to the forming and reforming of fields within science.

Perhaps when this literature talks about a radical constructivism (see, e.g., Steffe & Kerian, 1994), we can understand it, not as something radical, but as a shift in a pedagogy from the consensus and equilibrium outlined previously in textbook conclusions to a pedagogy that now looks at developing a consensus and stability through children's and teachers' shared norms. The assumptions of stability of disciplinary knowledge are obscured through a rhetoric about social interaction and negotiated knowledge.

Where alternative accounts of history, science, and mathematics occur in this literature (e.g., Ball & McDiarmid, 1991), the discussions give priority to the logical stability of concepts within disciplines but not to how concepts vary within intellectual traditions or to the interrelation of knowledge, methods, and social conditions in the production of social knowledge.

The changes in business organizations have dual qualities. They produce a revamping of such giant international corporations as General Motors, Sears, and IBM. The loss of 25,000 jobs within the giant computer company, IBM, reflects the changing world of work as smaller units with greater self-management are constructed (Meyerson, 1992). To cite another example, every 3 years, the world's microchip makers have been able to put four times as many microprocessors on a silicon chip, leading to vast increases in power and miniaturization. Each new generation of microchips has created a new computer industry which has overthrown the previous one. Some experts argue that the new model for computer and technological development requires alliances of small, innovative companies, sometimes with government support and sometimes without.

For example, the success of the individual fighter pilot is tied to an indefinite coordination with others—on the ground and in the air—a degree of coordination that has disastrous consequences when it breaks down. Thus, when efforts to coordinate air and land forces failed during the Gulf War, errors in target recognition produced some of the heaviest casualties on the Allied side. Indeed, most Allied casualties in that war.
were from friendly fire. U.S. (and NATO) flying tactics are built around the individual pilot's decision-making ability in combat. During the Gulf War, for example, the Allies' tactic was to knock out the Iraqi command posts in their first sorties. The Iraqi air force, in contrast, flew on orders from a central command, and, once that was destroyed, the air force was rendered nonfunctional. This is one of the reasons that the Iraqi air force flew its planes to Iran for safekeeping.

It is important to point to the fact that the issues of local knowledge-generating principles of inclusion/exclusion are not inherent to constructivism but are a more general theoretical problem of which constructivism is an exemplar in this historical conjuncture.

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