

Education sciences, schooling, and abjection: recognizing difference and the making of inequality?

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Schooling in North America and northern Europe embodies salvation themes. The themes are (re)visions of Enlightenments' projects about the cosmopolitan citizen and scientific progress. The emancipatory principles, however, were never merely about freedom and inclusion. A comparative system of reason was inscribed as gestures of hope and fear. The hope was of the child who would be the future cosmopolitan citizen; the fears were of the dangers and dangerous people to that future. The double gestures continue in contemporary school reform and its sciences. American progressive education sciences at the turn of the 20th century and contemporary school reform research are examined to understand their different cultural theses about cosmopolitan modes of life and the child cast out as different and abjected. Today's cosmopolitanism, different from that in the past, generates principles about the lifelong learner and its cosmopolitan hope of inclusion. The inclusionary impulse is expressed in the phrase "all children can learn". The child who stands outside of the unity of "all children" is disadvantaged and urban. School subject research in music at the turn of the 20th century and today's mathematics education are exemplars of the inscriptions of hope and fears in the sciences of education. The method of study is a history of the present. It is a strategy of resistance and counter praxis by making visible what is assumed as natural and inevitable in schooling.

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Schooling in North America and northern Europe embodies salvation themes that bring forth particular Enlightenment and Reformation projects of emancipation and progress into the projects of pedagogy.¹ One can say that the child has become the future cosmopolitan citizen, whose reason and rationality produce liberty, freedom, and progress. The emancipatory principles, however, were never merely about freedom and inclusion. They were double gestures of hope and fear, producing processes of exclusion with those of inclusion.

The ironies and paradoxes of schooling can be briefly expressed as: First, the cosmopolitanism of the citizen embodied cultural theses about modes of living. The cultural theses directed attention to a life ordered through principles of reason and rationality (science). The principles were given as universal and applicable for all human kind. The universal principles were never such but were historically particular. The founders of the American and French Republics, for example, valued education to inscribe cosmopolitan principles, in order to produce the citizen whose participation was necessary for republican government.²

Second, the making of the free citizen was linked to systems of administration. Pedagogy was one such system. From the late 19th century, theories of the child and teaching transcribed Enlightenment hopes about human agency, reason, and the rationality into principles for organizing daily life.

Third, the cosmopolitan hopes embodied a comparative style of reason. The very structuring of this modern thought and practices about the mode of living, as an enlightened citizen, carried other cultural theses. The latter were the simultaneous fears about dangerous people and the dangers to the future. Curriculum and teaching, for example, differentiated the “civilized” cosmopolitan child who compares herself with those who do not embody the seemingly requisite characteristics. The latter were early 20th century “backward” children and today are expressed as “at-risk”, immigrants, and “socially disadvantaged”.

The double gestures of the cosmopolitan hope and fear travel throughout the long 19th century and into the present (Popkewitz, 2008).³ Wagner (1994) argues that modernity cannot simply be written in terms of increasing autonomy and democracy, but rather in terms of changing registers of social administration; that governing entails “the shifting emphases between individualized enablements and public/collective capabilities” (p. xiv). The shifting emphasis also brings to the fore the relation of inclusion and exclusion as embedded in the very “reason” of pedagogy.

In the article I explore the double gestures of hope and fear as a history of the present. That history traces the sciences directed to the school at the turn of the 20th century and today, focusing primarily on the US.⁴ A first section considers salvation themes of American progressive education in school pedagogy. Reform Protestantism, American enlightenment cosmopolitan notions and imaginaries of the nation's exceptionalism overlap in the theories of the child, family and school in the sciences of pedagogy. The cosmopolitanism of the child entails its opposite gesture of abjection and exclusion in the new sociologies of community and urban family life. The second section returns to the themes of salvation, urban education and community in contemporary reforms. The cosmopolitanism of the present directs attention to qualities of the child associated with lifelong learning that stands in relation to the fears of the child who lives in outside the cultural space of that cosmopolitanism; the child classified as “urban”, poor and disadvantages. The latter child is one who does not have the capabilities to be the average where “all children learn”. In both the past and present, the school subjects are used as exemplars to explore the principles through which the doubles gestures of hope and fear — inclusion and exclusion — are embodied in schooling. The notion of alchemy is used to consider the intellectual tools of school subjects through the analogy to 16th- and 17th-century alchemists who sought to transform one metal into other.⁵ Thinking of school subjects as alchemies enables historically the examination of the transportation and translation tools of pedagogy whose purposes and priorities are not merely copies of the disciplinary practices.

The double gestures of cosmopolitanism in early 20th century US pedagogy and sciences: progressive education

The development of mass public schooling in the late 19th and early 20th centuries was part of cross Atlantic nation building projects. The outcome of these projects formed what is now considered the modern welfare state. The state assumed the responsibility of caring for its populations. Social insurance schemes concerned with old age and sickness, poor relief, new state-formed ownership of streetcars, city planning, regulation of the risks of wage labour through unemployment policies, building of infrastructures for social reconstruction of countryside, and public housing, for example, were instituted for the administration of society in the name of the common good.

The new social planning was not only about the care of the individual. It embodied salvation narratives about who the individual is and should be. The previous world of divine providence and inherited social status were replaced with notions of human agency, progress and civic cultures directed to the present and not for an afterlife. Religious views about salvation were transmogrified into notions of reason, rationality and progress. Pedagogy was to effect modes of life where personal obligations, responsibilities and discipline were tied to notions of progress and self-realizations narrated as principles of a liberal participatory democracy. The history of the modern secondary school in France, Durkheim (1978) argued, can be read as part of the civilizing mission that was to assure the “enlightened society” and moral collective good through producing the educated child.

The school is understood as a practice for the governing of society by making the child its future citizen. The new sciences of the child provided particular and concrete strategies through which to envision and administer who the child was and should be, and also who was not ‘fit’ in this enlightened space of the future citizen.

Salvation narratives, nation-ness, and the virtuous child as citizen

The American Revolution assembled, connected and disconnected Puritan salvation narratives with the universal reason of the American Enlightenment ideas.⁶ The cultural thesis about republican modes of living in the US moved from a Christian millennial belief, that the proper object of study was God, to an Enlightenment cosmopolitanism that rejected, at one level, the universality of religious morality as the basis for a morality common to mankind (Schlereth, 1977:56). At a different level, the republic joined “the health of the soul and the regeneration of the Christian and the virtuous citizen, exultation of the divine and the celebration of design” (Ferguson, 1997:43) with the planning of human improvement and “happiness.” A paradoxical insertion of Puritan notions of “good works” in notions of the republican citizen was embodied in the writings of John Adams, one of the signers of the American Declaration of Independence. Adams placed the settlements in America in the context of enlightenment values that overlapped with Protestant imagery. The colonial settlements were “the opening of a grand scene and design in

Providence for the illumination of the ignorant, and the emancipation of the slavish part of mankind all over the earth” (cited in Wood, 1991:191). The redemptive salvation stories of the nation told of “boundless sources of energy through which individuals discovered who they were: personality flourished only through exploration and growth” (Wiebe, 1995:186).

The nation embodied particular qualities associated with ideals of the enlightenment that became known as American Exceptionalism. Early Puritan salvation themes travelled into narratives of the nation as the Chosen People whose enlightenment’s vision placed the nation and its citizens as a unique human experiment for moving civilization toward the highest ideals of human values and progress. The nation was described as *the New World or the New Jerusalem*. The religious theme was conveyed in the meaning of *manifest destiny* that gave justification to the territorial expansion of the nation to the Pacific Ocean, articulating formerly Christian themes in a secular vision.

The Reformation’s faith in Enlightenment reason was brought to schooling (McKnight, 2003:25). The education of the child was to guarantee the redemption of society that the nation embodied. The nation and its people were placed in Puritan salvation themes as “the city on the hill” and “errand in the wilderness” fulfilling the role of New Israel that creates the greater corporate mission. The errand into the wilderness required the education of children, which extended to those children beyond the Puritan community (p.11).

Pedagogy was the “converting ordinance,” drawing on earlier Puritan notions of education as an evangelizing and calculated design on the souls of their readers. Drawing on John Calvin’s notion of *curriculum vitae* or “a course of life”, education was the persistent preparation for a conversion experience that gave the individual moral behaviour. The method of reason was to build revelatory, spiritual fulfillment. Community was part of this course of life or one’s *curriculum vitae*. The individual’s freedom was indivisible from the shared cultural world that gave unity to all of human kind.

Science as methods to plan society and designing people

The reforming of society and schooling embodied faith in science; in fact the rationality of science became part of the epistemological structuring of the salvation themes about progress (see, for example, Nye, 1999). Science had a millennialist belief in rational knowledge as a positive force for action and the progress called forth as part of the Enlightenment heritage. The social sciences, like the physical sciences in ordering the mastery of the natural world, were to describe, explain and give direction for solving social problems.

The social sciences, however, were not merely about the rational understanding and planning of society. The theories, concepts, and methods of science embodied “salvation stories” that connected the individual to a larger collective sense of mission and progress. The pedagogies of American Progressive education, for example, embodied cultural theses about American society at large in the principles of individuality. That individual was a purposeful agent of change in a world filled with contingency. Dewey’s pragma-

tism inscribed the national narratives and images of the child as the future citizen as action-oriented and problem-oriented. The mode of living was linked to principles of citizenship in a democratic society and its progress (see Popkewitz, 2005).

Science had two overlapping trajectories in ordering the practices of schooling. One, science promised mastery of the conditions of social life through its calculations and principles of social administration. Studies of urban planning and city management, health conditions, labour conditions were done and new laws were produced for the social betterment of urban populations. Among the planning of society in the name of collective welfare was the introduction of a civic service independent of political patronage, child labour laws, public ownership of utilities and transportation systems, and school attendance laws in primary and later secondary schools.

Second, science was a way to order and plan daily life itself. Theories of the family and child development gave attention to how to constitute experience, reflection and action. New psychological and social interactional theories provided “tools” through which to think about the self as a planned biography in search of inner progress and social betterment. Notions of personality “traits”, satisfaction, and achievement, for example, provided concepts that linked social purposes to personal assessments about the choices made in the daily routines of the family, schooling and work.

General beliefs about science as processes of rationalizing life were brought into psychological studies about child development, learning behaviours, and problem solving as principles to guide actions. Thorndike’s connectionism, G Stanley Hall’s child study, and Dewey’s pragmatism, although different in their psychologies of the child, overlapped in bringing into notions of childhood and learning certain principles about individuality linked to norms and values of collective belonging and progress (Popkewitz, 2005).

If I give one example at this point from early 20th century sociology that was related to pedagogical work in the US, Charles Horton Cooley (1909) evoked the cosmopolitanism of the nation and its exceptional characteristics when articulating principles ordering its social sciences. Cooley saw the United States as “nearer, perhaps, to the spirit of the coming order” (p.167) that is totally different from anything before it “because it places a greater emphasis on individuality and innovation” and does not inherit the class culture of Europe” (in Ross, 1972:245). In his second edition of *Principles of Sociology*, Edward Alsworth Ross (1920/1930), a progressive early founder of American sociology, posited the universalized qualities of American society in the task of schools and the making of the democratic enlightened citizen. Ross believed that the common school replaced the medieval church in providing for the cohesion, “concord and obedience” (p.524) necessary for modern societies. Education, he argued, is the social institution to produce a like-mindedness among diverse populations through stressing “the *present* and the *future* rather than the *past* (p.259, italics in original). That like-mindedness entailed an individuality who was a purposeful agent of change

through processes that entail problem-solving in a continually action oriented process that has no finality.

The social question: science, the urban family, child and community

Science as the study of social conditions and as a mentality in ordering daily life framed American Progressive education movements. At a broad level, American Progressivism (ca. 1880–1920) entailed different political and social movements linked internationally with what was called “The Social Question,” efforts of reforming Protestantism to apply scientific principles in response to the perceived moral disorder associated with processes of urbanization, industrialization and immigration (Rodgers, 1998). From city government reforms to the studies of the family, child and urban housing, US progressives sought to rescue those who suffered from or fell from grace in the debilitating conditions of the city and to change their modes of living. The *urbane* of the city would use the expertise of science to study the *urban* conditions that produced moral decay, and work with government for effective reform to eliminate evils and rid its citizens of moral transgressions. Science was to identify the causes of alcoholism, delinquency, and prostitution, among other practices, from which interventions could rectify and create cosmopolitan modes of living linked to the narratives of the nation.⁷ Surveys, ethnographies and interviews — tools of the new disciplines of sociology and psychology — mapped the conditions of the city and daily life of the immigrants from southern and eastern Europe, the poor, and former African black slaves who moved from the south (see, for example, Lasch-Quinn, 1993).

The new disciplines of sociology and psychology problematized and calculated thought, talk, feelings, and actions to shape moral agency. Ideas of childhood, child rearing and family were interwoven with the problems of moral order and disorder in developing public health, urban planning and schooling. The new domestic sciences, later called ‘home economics’, gave attention to improving health conditions through rationalizing the ways in which the urban homes of the poor and immigrant were organized. Health was not only about physical issues of disease. Medical discourses were metaphors for child rearing that focused on cleanliness, neatness, and nutritional practices seen as producing the moral well-being of the child. Mothers were to practice hygienic approaches in preparing foods and organizing daily diets. Child psychologies introduced notions of child development that were gendered and whose values embodied particular salvation narratives about the manner in which one is to engage in self-fulfilment through a moral life. The irony of the domestic sciences was that notions of child-rearing, cleanliness, hygiene and nutrition, intended to change the lives of the poor, entered into bourgeois living to change gendered relations of the family.

The sciences of the family and child were linked to an urbanization of the notion of community. The image of the family was the earliest and the most immediate place for the paradigm of self-abridgement of culture and linking of individuality to collective belonging and “home.” The family was an admi-

nistrative practice that brought love and sympathy into the industrial world.

The perceived breakdown of the family was placed in relation to the loss of community through the development of the abstract relations associated with modern societies. Different strands of Progressive Education took a nostalgic image of the rural community to think about the reform of the urban family. Community sociology developed that adapted German social theories about the double qualities of the enlightenment hope of the city as the centre of progress through its arts, sciences and culture, and the threats of moral disorganization. The hope and fears were given expression in the German sociologist Tönnies (1887/1957) theories brought into Progressive conversations about the city. Tönnies differentiated the pastoral *community* (*Gemeinschaft*) where neighbours prior to modernity came closest to nature with modern *society* (*Gesellschaft*), the laws, conventions, and rule of public opinion in society that lost sight of the moral or ethical grounding of the memorialized pastoral images of Christianity.

The pastoral image of community was re-designed for urban life. Interactions and communication patterns were processes of mediation that linked individuality to collective belonging and a “home.” Dewey’s notions of “intelligent action”, problem solving and community *urbanized* the pastoral, rural face-to-face community into a mode of life in the industrial conditions. George Herbert Mead’s symbolic interaction, meditated actions, the relation of the generalized other and the personal “I” as well re-visioned the imagined *Gemeinschaft* as an urban idea of community “without doing violence to liberal democratic values” (Franklin, 1986:8).

The collective belonging and home embodied in the sciences of the family, child, and schooling instantiated particular principles to think about the stability and change of society. The sociologist Cooley’s notion of community, for example, articulated a romantic liberalism given shape by “a more general spirit of human nature” that was imagined in the exceptionalism of the nation (quoted in Ross, 1991:245). The patterns of small community interactions were to eliminate the alienating qualities of modernity. Community was linked with the concept of primary group to develop ways of organizing daily life with the conditions of modern society (Popkewitz, 2004). Cooley (1909) saw the family as a *primary group* where a child learns of civilization through face-to-face communications. The communication systems of the family would, for Cooley, establish Christian principles through which proper socialization by the family and the neighbourhood would enable the child to lose the greed, lust and pride, and thus enable the child to be “fit” for the moral life and self-sacrifice for the good of the group.

The alchemy of school music education and the engendered fears of the urban family and child

To consider school subjects I pose them as analogous to the medieval alchemy; i.e. processes of transportation and translation that re-vision mathematics and music, for example, into particular images, words, ideas, and experiences related to pedagogy (Popkewitz, 2004; 2008). The pedagogical

translations are never merely a replica of the academic disciplines. They entail “tools” of recognition and enactment through the sociological and psychological systems of ordering and classifying the child, such as those discussed above.⁸ The analogy of school subjects to alchemies is to recognize that school subjects entail a different social and cultural space than their disciplinary namesakes, such as history and music. The principles that order and classify school instruction and content organization are derived from psychologies directed to educational questions and not to the understanding disciplinary practices. Further, the theories and practices of pedagogy embodied the double gestures discussed above in the Social Question. The style of reason in planning for learning and child development inscribed a comparative method that *recognized and differentiated the poor, immigrant and racialized groups from the social “body”*.

If I use music education, it is an exemplar of the relation of pedagogy and science in the making of the “urban” child.⁹ Music curriculum from 1830 to 1930 was part of changing cultural theses about the principles of reason concerning citizenship, nation, the qualities of social and family life, and fears of moral decay and degeneration if the child is not ‘civilized’. The Boston School Committee, for example, supported vocal instruction classes as a practice in which the harmony of song was the model for the child’s own self-regulation in society. The physical activities of children singing were to remedy the risks which epidemic disease posed to civil society and to provide the latest regimens for the stimulation of circulation to prevent poor health. Teaching the proper songs about health and moral well-being would also remove the emotionalism of tavern and revival meetings and serve to regulate the moral conditions of urban life with a ‘higher’ calling related to the nation.

The joining of music appreciation with vocal instruction in the curriculum by the turn of the 20th century was related to particular cultural theses about moral life. The central thesis in pedagogy concerned ‘the unhappy’, those who were not or not capable of being cosmopolitan. Music appreciation was to mould the population into cosmopolitan democratic citizens, and eliminate juvenile delinquency, among other evils of society, through providing for productive use of leisure and self-cultivation. The self-cultivation of the child transmogrified German traditions of self-cultivation or *Bildung* into a prescribed comportment that was to avoid the degenerate characteristics associated with racial and immigrant populations. Singing, for example, was an activity to express the home life of industriousness and patriotism that were set against racial stereotypes of Blacks and immigrants. A medical expert in the 1920s, employed by the Philadelphia High School for Girls, described jazz (by this time a rubric that included ragtime) as causing disease in young girls and society as a whole.

An educational psychology shaped the selection and organization of music by the first decades of the 20th century. Physiological psychology about the proper amount of stimulation for the brain and body was coupled with notions of musical aesthetics, religious beliefs, and civic virtue. Minstrelsy, a satiric version of Black music and spirituals that attracted large audiences throughout the 18th and early 19th centuries, formed an instructive contrast

with the complexity of music and musical traditions of European “civilization”.

The staging of musical response in the classroom classified listening habits with age-appropriate behaviour. A scale of value was constructed that compared immature or primitive human development with those of a fully endowed capacity that corresponded to race and nationality. The progression of musical knowledge outlined in teacher manuals calculated music as a form of psychometrics associated with psychoacoustics. The physical aspect of music (acoustics) was combined with the notion of a musical and interior apparatus for the perception of acoustics. The “attentive listener” was one who embodied the cosmopolitan mode of the civilized life. That child was contrasted with the distracted listener in the group. Carl Seashore, a psychology professor, claimed that a full 10% of the children tested for musical talents were unfit for musical appreciation. In teaching manuals, the child who did not learn to listen to the music in a particular way was regarded as “distracted”, a determinate category bound to moral and social distinctions about the child as a drifter, a name caller, a gang joiner, a juvenile offender, a joke maker, or a potential religious fanatic, having acute emotional stress and an intense interest in sex.

To this point, I have explored US pedagogy and the sciences of education as historically embodying cultural theses about modes of living. The modes of living entail principles generated from the intersections of American exceptionalism, Protestant reform movements, overlapped with the theories and methods of the sciences of education, to constructing the cosmopolitanism of “reason” and “reasonable people”. The universality and particularity in the cosmopolitanism in pedagogy, I argued further, were comparative instantiations that recognized populations in need of rescue and redemption. That recognition was symbolized in The Social Question that paradoxically established differences and social exclusions. Focusing on the alchemy of school subjects in the construction of the child directed attention to the models of translating disciplinary knowledge into the school as giving expression to the double gestures of governing in schooling and its sciences. In the next section I focus on the turn of the 21st century to consider a different assembly in governing as principles of double gestures.

The double gestures of the unfinished cosmopolitan citizen and the double gestures of school reforms: the beginning of the 21st century

This section (re)traces the past in present school reform and sciences, double gestures of hope and fear and the process of inclusion/exclusion. The organization of the section will proceed first with contemporary salvation narratives about the virtuous child-as-citizen. It then proceeds to examine the reform sciences as the Social Question is reassembled in the *topoi* that “all children can learn”, with the unspoken principles of *all* children as the cosmopolitanism of the “lifelong learner”. The inscription of *all* establishes a unity of the whole and inclusive society that abjects the qualities and characteristics connected with the urban child-who-is-left-behind, the name of US legislation for disadvantaged populations. The final section considers the alchemy of

school subjects and the sciences of pedagogy as engendered hopes and fears of the urban family and child.

Salvation narratives about the virtuous child as citizen

The hopes of the making of the virtuous citizen in the civilizing mission of the school today speaks about the child as the citizen of the global Learning Society. The global society, however, is positioned in relation to narratives of the nation that performs as the nostalgia for governing the future. The professional reform report *What Matters Most: Teaching for America's Future* (*National Commission on Teaching & America's future*, 1996), for example, speaks of the normative values of past aspirations in effecting changes in the present.

We must reclaim the soul of America. And to do so, we need an education system that helps people forge shared values, to understand and respect other perspectives, to learn and work at high levels of competence, to take risks and persevere against the odds, to work comfortably with people from diverse backgrounds, and *to continue to learn throughout life.* (p. 12, my italics).

The reforms and Social Question emerged in a particular configuration of the American exceptionalism that gives the nation and its citizens a particular uniqueness and transcendent value. The “reclaiming the soul of America”, however, is not the same as that of the turn of the 20th century. The reform of teacher preparation brings to bear a collective cultural thesis about a new cosmopolitanism that expresses both hope and fears in its rhetoric of “reclaiming the soul of America.” The rhetorical “reclaiming the soul” of the nation is not about the past. It is a cultural thesis about modes of living, ordered through conduct that “forges values”, “respects others”, “takes risks”, works with “diverse people”, and an individuality that “continues to learn throughout life”.

The virtuous child conceptually embodied in the report is the child who acts as *the unfinished cosmopolitan*, a lifelong learner who responds actively to the global changes occurring, engages in the social construction and reconstruction of the Learning Society and as a global citizen. If we look across the reform literature and the discourse in which this report is written, the lifelong learner is a discourse about the individual who is continually pursuing knowledge and innovation in a never ending chase for the future (see, for example, Petersson, Olsson, & Popkewitz, 2007). The subjectivity of the lifelong learner is spoken of as an entrepreneurial individual. Choice becomes a goal of life. Problem solving and working collaboratively in communities are the avenues for continually seeking personal fulfilment.

The classroom community becomes a “participation structure” concerned with creating fluid identities associated with lifelong learning. The cosmopolitanism is one that entails the continual capacity to innovate and cope with change in the never ending processes of making choices and problem solving. The child acts autonomously (seemingly) and responsibly (hopefully) in continuous decision making and problem solving.

The strategies link the characteristics of the child to social and political norms that shape boundaries in which freedom and liberty are enacted. The individuality of the lifelong learner is placed in social patterns fashioned as collaboration with others in “communities of learners” and communities of discourse. Earlier 20th-century classrooms were places of socialization where the child internalized pre-established collective and universal norms of identity; today they are a redesigned space of living. The location of responsibility is no longer traversed through the range of social practices directed toward a single public sphere — the social. Responsibility is located today in communities, diverse, autonomous and plural communities, perpetually constituted through one’s own practice in “communities” of learning.

Problem solving is aligned with political registers of republican liberalism in the reforms and reform sciences. “Community”, for example, is the site where the problem-solver learns thinking skills by participating in the classroom — “a discourse community” (National Council of Teachers of Mathematics, 1989:7) — and in “a *community of knowers* who share in the construction of beliefs or knowledge” and whose knowledge “is created through discursive processes and negotiation of meaning carried out in accordance with the norms of the group” (Nelson *et al.*, 2001:6). Research is to order the new democracy of the classroom as constructing knowledge through participation and collaboration. We find a “classroom in which differences are valued, in which students learn to care about and respect one another, and in which commitments to a just and democratic society are embodied and learned” (Ball, 2001:13).

Whatever the merits of problem solving and community, they are not merely descriptive of some natural reasoning of the child that the research merely recoups. The narratives of the unfinished cosmopolitan through their notions of problem solving and community connect the scope and aspirations of public powers with the personal and subjective capacities of individuals. The *classroom community* is a social space of moral relations in which individuals form obligations and allegiances in multiple communities. Sutherland and Balacheff (1999), for example, state the emphasis on problem-solving activities and the construction of meaning in mathematics education is the modern social answer to the need to enable children to become citizens — that is, members of a society who have access to both a shared culture and who are empowered with intellectual and emotional tools to face problems within the workplace and everyday life (p.2).

The child who acts to plan for the future is pursuing a particular mode of living. The project of life is to design one’s biography as a continuous movement from one social sphere to another, as if life were a planning workshop that had a value in and of itself. Action is a continual flow of problem solving to design not only what will be done but also the future of what that person will be. Agency is directed to problem solving that chases desire in the infinite choices of pursuit of continuous innovation.

The empowerment of freedom is talked about as if there are no encl-

tures. Yet freedom of choice expresses a fatalism of the processes of globalization. The unfinished cosmopolitanism is made as if it is the inevitable march of globalism that teachers respond to in curriculum changes. Teachers, school administrators and government officials in a European Union study expressed that fatalism (Lindblad & Popkewitz, 2004). The new child is the one who makes choices to be happier and successful in a globalization that has not author or need to be explained. The ubiquitous future of globalism makes it not possible for the individual, to quote a French high-school textbook, "to escape the flux of change" (in Soysal, Bertiloot, & Mannitz, 2005:24-25). Globalism is naturalized to intern and enclose the spaces of the participation.

Reform sciences and the re-visioning of the social question

If the unfinished cosmopolitan is the hope of the future, there is another type of hope that is accompanied with fears in school reforms. The hope of an inclusive society entails strategies to eliminate social and economic marginalization caused by the failure of particular populations of children in schools. That hope of an inclusive society is captured in the phrase of national reform legislation entitled "No Child Left Behind" that gives recognition to the need to improve the school quality and outcomes for particular ethnic, racial and economically poor groups. The watchword of the national programmes and research that underlies the reforms is that "all children can learn", signifying an egalitarian institution and commitment of society and the polity.

The recognition given to excluded populations entails double gestures and the re-visioning of the Social Question. The continual reiteration of "all" in policy and research about school reforms signals rhetorically the commitment to an equal and inclusiveness of society. The Principles and Standards for School Mathematics, for example, states that "*All students, regardless of their personal characteristics, background, or physical challenges, must have opportunities to study — and support to learn — mathematics*" (National Council for Teachers of Mathematics, 2000:12, italics added). The American Council on Education (1999) teacher education reform report re-asserts this hope in its appeal for an education "available to *all* students, not just the affluent and the lucky ..." (p.5, italics added).

The inscription of the phrase "all children" is not only an ethical commitment. It gives expression to an assembly of distinctions that classify and order a unity from which difference is established. That difference is the child left behind who does not embody the qualities of the unfinished cosmopolitanism of the lifelong learner whose mode of living entails esteem, self-responsibility in making choices, problem solving and continually innovation.

The sameness and difference are inscribed in the psychological theories and categories of pedagogy that calculate and order teaching and learning. The unity of "all children" erases difference but simultaneously installs divisions. If I return to the lifelong learner and The Learning Society, it seems there are no differences as all children will problem-solve and work collaboratively in a continual process of choice and innovation. Yet standing with the

“all” children are distinctions and differentiations that name the qualities and characteristics of those who do not qualify as among the *all* children.

Difference is erased and re-inscribed through the research that is to include all children. Studies of the urban child left behind instantiate a digest of personal facts that fashions territories of membership and non-members. The sets of distinctions and classifications of the child *left behind* overlap with those given to the “the urban child” in American education. If I use an ethnographic study of an alternative teacher education programme for urban and rural schools (Popkewitz, 1998), the urban child is a determinate category of human kind and a cultural thesis of difference. Urban is not a geographical place but a cultural space and a thesis about who does not ‘fit’ into the qualities inscribed as the unfinished cosmopolitan child. In other nations, that child might be called disadvantaged, at-risk, or the “needy” child.

The cultural thesis of difference in the US is to be understood by comparing its cities as spaces with great wealth and a cosmopolitan urbaneness that coexists with the spaces of poverty and racial segregation. Children who live in the highrise apartments and the renovated brownstones of American cities appear as “urbane” and cosmopolitan — not as “urban”. Children living in suburbs and rural areas join with the children designed as “inner city”, as “seen” and talked about as different from the urbane; having “low expectations”, low self-esteem, family dysfunctions, and poverty. The significance of “urban”, then, is in its cultural thesis about the child rather than as a geographical distinction.

The dangers and dangerous populations are overlapping social, cultural and psychological distinctions that form a determinate category of a kind of child and family. The federal websites to identify reforms, about “what works” to improve children’s achievement, sought in the No Child Left Behind legislation and research about equity in teaching the “urban” child¹⁰ speak about the dangers to the future through psychological categories of low self-esteem and poor self-concepts. The psychological qualities are assembled with social/moral categories to express fears about, for example, dysfunctional families, single parent households, poverty, and juvenile delinquency. The urban child left behind is recognized as living “in poverty, students who are not native speakers of English, students with disabilities, females, and many nonwhite students [who] have traditionally been far more likely than their counterparts in other demographic groups to be victims of low expectations” (National Council of Teachers of Mathematics, 2000: 13). The problem of the failing child is reduced to a psychological commonplace — low expectations.

The hope of rescue in policy and research overlaps with the fear of moral disorganization that resurfaces to (re)vision the Social Question directed to the child and family. The child left behind is also the family left behind which is recognized as being in need of special help and different. Research, for example, focuses on the families of children who fail in school as the ‘fragile family’ and the ‘vulnerable families’ (Hildago, Siu, Bright, & Epstein, 1995: 500). The parents, differentiated and normalized as having a lower level of education

and socioeconomic status, are immigrants (depending on length of time living in the country), live in poor areas of residence, and are ethnically defined (living or not living in ethnic enclaves), among others (Hildago, Siu, Bright, Swap & Epstein, 1995:501). The social and economic classifications of the child and family are linked to structural relations within the gender relations and communications patterns that relate to gender, such as whether the mother is a single or teen parent (Hildago, Siu, Bright, Swap, & Epstein, 1995:501, David and Lucille Packard Foundation, 2002).

The various categories of the child and family are a determinate classification of deviance that has succinct chronological, cultural, physiological and psychological characteristics. The aggregate of the 'fragile' and 'vulnerable' family acquires the abstraction of the sciences or impersonal management to reason about the group and personal capabilities and capacities of people.

Ironies of democratization, autonomy and participation in the alchemic spaces of pedagogy

One site, in which the unfinished cosmopolitanism and The Social Question appear as part of the same phenomenon of reform sciences, is in the school subject of mathematics education. In a statement resonating across American school reforms, the National Council of Teachers of Mathematics (2000) model for curriculum standards argues that the student needs to be prepared for the future where change is "a ubiquitous feature of contemporary life, so learning with understanding is essential to enable students to use what they learn to solve the new kinds of problems they will inevitably face in the future" (pp.20-21). The mathematics education standards literature, for example, places problem solving and communities of learners in a particular cultural thesis about living in a "ubiquitous" uncertain future for which learning mathematics prepares the child.

This ubiquitous future can be thought of historically as one that was present with the formation of the modern nation, with notions of democracy, and with "thought" about human agency and progress associated with the American enlightenments' cosmopolitanism. It was clearly present in Dewey's pragmatism, for example, through the concepts of intelligent action, problem solving and community. The cultural thesis was of an individuality whose reflection and action were continually directed to the future that would bring into being a more progressive and humane world.

Yet the alchemic processes speak about the social construction of knowledge, uncertainty and the ubiquitous future of the Learning Societies are ironic. Those societies are, in fact, not uncertain or ubiquitous after all. The truth-telling practices of the translation models in the *"The Principles and Standards of School Mathematics"* (National Council of Teachers of Mathematics, 2000), for example, bases its selection of content as drawn from the "conventional knowledge" of the field. Underlying the notion of "conventional" is treating mathematics as formal, logical, and analytic structures classified as "bodies of knowledge" — systems of concepts, proofs, generalizations, and procedures — that children learn. The linguistic quality of "bodies," "content,"

“content coverage,” and “conceptual knowledge” treats disciplines as inert, unchanging, and unambiguous “things” (concepts or proofs). The problem solving of the child functions to “test” knowledge that in mathematics education, for example, has an ontological status separate from questions of epistemology (see, for example, Brousseau, 1997). Problem solving, as distinct from the academic disciplines, is for accessing and confirming the reality of the external world and to arbitrate truth and falsehood in one’s personal life.

The double-sided practice of the alchemy is found in science education textbooks, when examined from the turn of the 20th century to 1995 (McEneaney, 2003a; 2003b). The organization of teaching has moved dramatically toward greater participation to provide increased personal relevance and emotional accessibility. That participation links the child’s “expertise” in solving problems to the iconic stature of professional knowledge experts in an ordered and manageable physical world. Children’s participation and problem solving are organized to learn the majesty of the procedures, styles of argument, and symbolic systems that assert the truthfulness of the expertise of science. The conclusions of academic expertise are located outside the bounds of children’s questioning and problem solving.

The attention given to the consensual, “base” knowledge elides the relation of *cultural practices* of disciplinary fields and their knowledge production. The curriculum of school subjects establishes the majesty of scientific knowledge as a way of testing what is real and given. The translation and transportation practices of psychology to select and order disciplinary “knowledge” to govern the child through criteria that have little relation to the pedagogies for learning disciplinary cultures and knowledge production.

Concluding: designing the child and the politics of change

I began this article through talking about the political in schooling. The political was in the system of reason that orders, differentiates and divides through its rules and standards of conduct. That governing generates principles in the making of society/people. This making of people embodies historical ironies and paradoxes of schooling through its double gestures of causing the cosmopolitanism of the citizen to be carried in discussion about emancipation and empowerment. Central is the joining of two registers of modernity that are often placed in opposition to each other; those of social administration and freedom. Pedagogy, I argued consists of *converting ordinances* that overlap the education sciences with pedagogies to produce technologies of design. *Embodied in the cosmopolitanism of schooling is the paradox of the democratic hope of empowerment and agency that simultaneously generate fears and abjection of others.* The hope for a free “reasoned” individual embodies a comparative system of reason in curriculum and teaching, to differentiate “the civilized” from “others,” the child who does live in the spaces of “all children”, different and left behind. The cosmopolitanism of the present is inscribed in the qualities associated with lifelong learning with “others” as the urban child who does not yet have the capability to be of the average where “all children can learn”. In both the past and present, the

school subjects are used as exemplars to explore the principles through which the double gestures of hope and fear — inclusion and exclusion — are embodied in schooling. The notion of alchemy considered the intellectual tools of school subjects through the analogy to 16th- and 17th-century alchemists, who sought to transform one metal into another.

The historicizing of reason and rationality as political is not to deny the significance of reason itself. It is to consider the historicizing of reason and rationality as political through making visible the conditions that shape and fashion its principles about who we are and should be. Rabinow (2003) suggests, for example, that all conceptual knowledge is political, ethical and aesthetic. Knowledge

is conceptual because without concepts one would not know what to think about or where to look in the world. It is political because reflection is made possible by the social conditions that enable this practice (although it may be singular, it is not individual). It is ethical because the question of why and how to think are questions of what is good in life. Finally, all action is stylized, hence it is aesthetic, insofar as it is shaped and presented to others (Rabinow, 2003:3).

To focus on this notion of the politics in schooling is to place the reason of science, art, music, or literature in school subjects as knowledge that embodies “an immense world of institutions, authority relations, “connotations, stories, analogies, memories, and fantasies” (Hacking, 2002:9). It takes as the subject of research the “matter of shaking this false self-evidence, of demonstrating its precariousness, of making visible not its arbitrariness, but its complex interconnection with a multiplicity of historical processes, many of them of recent data” (Foucault, 1991:75). Secondly, the critical examination of the practices through which the sensible (and sensibilities) are partitioned in schooling is a form of resistance and a counter-praxis (Lather, 2007). Agency is the critical thought about “what is accepted as authority through a critique of the conditions of what is known, what must be done, what may be hoped” (Foucault, 1984:38).

Notes

1. I use the plural as there were multiple “enlightenments’ in, for example, Germany, France, Britain, the Slavic areas of Eastern Europe, as well as in North America. My focus will be on what is called historically the American Enlightenment, a term that refers to the particular geographical site of the US but which was part of a broader circulation of ideas and practices. See Ferguson, 1997.
2. I use the notion of modern hesitantly in this text for literary convenience. My concern is not to engage in periodization. It is to explore the slow and uneven changes in the categories, epistemologies, and distinctions that make possible the school as it overlaps with other historical patterns that are often placed together as modernity.
3. I am using the 19th century to focus on different historical patterns and trajectories that move in uneven time from the 18th to the early 20th centuries, which come together to construct what is thought of as the modern school. In this sense, there is no single origin to what is today called schooling.
4. The following discussion is based on multiple studies that entail ethnographic,

textual and conceptual analyses, as well as historical. A more elaborate discussion is in Popkewitz, 1998 and 2008.

5. The alchemists were important to the formation of modern chemistry and commerce (McCalman, 2003; Moran, 2005; Wilford, 2006). In this context, the school alchemy has a different social trajectory as its function to generate principles of reflection and behaviour.
6. The notions of enlightenment that were brought into modern schooling, which crossed the northern Atlantic, had different distinctions and characteristics if one compares, for example, American, British, French, and German discourses about progress, emancipation and agency.
7. For a discussion of the secularization of religion into civic society, see Bellah (1968).
8. About translations, see, for example, Czarniawska & Sevón (2005:8-9).
9. The following is drawn from Gustafsson (in press).
10. The following discussion is drawn from Popkewitz (1998).

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