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Social Epistemology, the Reason of "Reason" and the Curriculum Studies

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Abstract: Not-with-standing the current topoi of the Knowledge Society, a particular "fact" of modernity is that power is exercised less through brute force and more through systems of reason that order and classify what is known and acted on. This article explored the system of reason that orders and classifies what is talked about, thought and act on in schooling. The study of the system of reason in schooling is framed as social epistemology to consider the historically ordered, relational and socially embeddedness of knowledge as the political. This entails exploring the "reason" of science and schooling as to change social conditions that changes people. Further the school subjects of mathematics and music education are explored as an alchemy, the use of translation tools that remake disciplinary knowledge into the school curriculum. The alchemy of the curriculum is paradoxical. It embodies cultural theses about kinds of people that inscribe differences and divisions in the name of inclusion and equity.

Key words: Curriculum Studies; the Political of Schooling; Knowledge/Power; School Reforms; the Alchemy of School Subjects.

Epistemología social, las razones de la "razón" y los Estudios del Currículum

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Resumen: tomando en cuenta la relevancia de la noción de la *Sociedad del Conocimiento*, un "hecho" particular de la modernidad es que el poder no se ejerce tanto a través de la fuerza bruta como a través de los sistemas de razón que ordenan y clasifican lo que sabemos y sobre lo que actuamos. Este artículo explora el sistema de razón que ordena y clasifica lo que se habla, se piensa y se practica en la enseñanza. El marco de estudio del sistema de razón en la educación se encuadra como epistemología social para considerar como política la constitución social, relacional e histórica del conocimiento. Esto implica contemplar la "razón" de la ciencia y de la educación desde la perspectiva del cambio de las condiciones sociales que cambian a la gente. Además, se examinarán las asignaturas escolares de matemáticas y educación musical como una alquimia con sus herramientas de "traducción" que reconstruyen el conocimiento disciplinario en el currículo escolar, y con sus mecanismos de clasificación que inscriben diferencias y divisiones en el nombre de la inclusión y la equidad.

Palabras clave: Estudios del currículum; la política de la educación; saberes y poderes; reformas escolares; la alquimia de las asignaturas escolares.

Epistemologia social, as razões para a "razão" e Estudos Curriculum

Resumo: tomando em conta a relevância da noção da *Sociedade do conhecimento*, um "fato ", particular da modernidade é que o poder não é exercido tanto por meio de força bruta mas através dos sistemas de razão que ordenam e classificar o que sabemos e sobre o que agimos. Este artigo explora porque o sistema que organiza e classifica o falar, pensar e práticar no ensino. O sistema em estudo em relação a educação cai como epistemologia social, a considerar uma política de constituição social, relacional e histórica do conhecimento. Trata-se de contemplar a "razão" da ciência e da educação a partir da perspectiva de mudanças nas condições sociais que mudam as pessoas . Além disso, as disciplinas escolares de matemática e música a educação como uma alquimia com sua ferramentas "tradução" reconstruir conhecimento disciplinar no currículo escolar , e os seus mecanismos de classificação que registram diferenças e divisões em nome da inclusão será analisada e equidade.

Palavras-chave: estudos de currículo; política de educação; conhecimento e poder; reformas escolares; alquimia das disciplinas escolares.

Introduction¹

Not-with-standing the current *topoi* of the Knowledge Society, a particular "fact" of modernity² is that power is exercised less through brute force and more through systems of reason that order and classify what is known and acted on. This "fact" is not new. From at least from the late 18th century, the social and political principle of government was the citizen; a particular kind of person whose modes of daily life was linked to collective belonging and the codes of civic virtue of

¹ This article is based on a paper titled *Epistemología social y "la razón" para la escolarización*, originally written for the book *Epistemología social y pensamiento crítico: Pensar la educación de otra manera* edited by Julieta Espinosa and André Robert (México, École Doctorale EPIC Université de Lyon and Juan Pablos Editor, 2014)

² I am using the notion of modern and modernity to signal particular epistemological principles that order what is seen, talked about, and acted on that intersect with schooling during the long 19th century in the West, and particularly Western Europe and North America. The discussion of modernity will be clearer as the argument proceeds, and is about the principles generated about particular historical sets of principles about who a person is and should be. It is not to talk about an epoch or to place the present in some hierarchy of difference from something prior to that which is "premodern".

the nation. The citizen is a particular kind of person that brought the enlightenments' cosmopolitanism into the political discourses of the modern republic. Government requires "the reasonable" individual who participates, is motivated, and believes in human agency to effect change. The relation of the political, the social and individual "agency" is bound to the practices of pedagogy. It is given expression in the school psychologies of children's learning, participation, problem solving, and motivation. And the principles generated "act" on conduct through its rules and standards about the kind of people that are and supposed to be, such as parents and teachers "seeing" and thinking of the child and the child thinking of one's self as a particular human kind who is "disadvantaged", "the lifelong learner", the adolescent, at-risk, and gifted.

This double quality of knowledge, or more accurately, the systems of reason that order what is seen and acted in schools is often overlooked in educational studies. Yet it seems almost part of the commonsense of schooling. Schools are places to make children into particular kinds of people that they would not be if they did not go to school! And central to this making of kinds of people is the ordering of how one should know (didactics and learning theories) and what they should know (the school curriculum).

The framing of study of the system of reason in schooling can be framed as that of social epistemology. I use the phrase social epistemology to consider the historically ordered, relational and socially embeddedness of knowledge as the political (Popkewitz, 1991; 2008; Popkewitz & Fendler, 1999). The political is in the partition of the sensible and sensibilities (Rancière, 2007); the historically generated rules and standards of reason that police and maintain the boundaries about what is seen, talked about, and acted on. Further, this policing and protection of its insularities embody a comparative style of thought that excludes and abjections in its impulse to include. In this sense of the political, this volume challenges the conventions of analytical and Hegelian traditions that separate nominalism from materialism and liberal strands of utilitarianism that protrudes into educational thought about "useful" and "practical" knowledge.

The paper proceeds in the following manner. The first section explores the question of social epistemology. It plays on the words of 'the reason of "reason" to explore how the principles that order and classify what is seen and acted on in schooling are historically produced and effects of power. This notion of power is related to what Foucault has called productive power that effects what is said, thought about, and done. The second section explores the "reason" of science and schooling as to change social conditions that changes people. The third section considers the notion of history embodied in the question of social epistemology. The four section focuses on the comparative qualities of reason in pedagogy and the education sciences. The school subjects of mathematics and music education are explored as an alchemy, the use of translation tools that remake disciplinary knowledge into the school curriculum and the making kinds of people that inscribe differences and divisions. The final and concluding section (re)visits social epistemology and the social and political in critical studies of education.

The paper is located and what follows and what can be called "curriculum studies". The field of Curriculum Studies found in the US is often located or related to education departments concerned with issues of curriculum, instruction, and teaching that are otherwise dominated with pedagogical psychologies and concerns with didactics and teacher education. In the 1970s, one of the earlier markers of the field were studies of "the hidden curriculum" which focused on the social and political values and "knowledge" produced in the processes of the selection and organization of teaching. Today, that focus has shifted away from the social structural concerns of power and to what might be called a cultural sociology of knowledge that draws on a range of disciplinary literatures that are sometimes called "post-foundation" and which seeks to make questions of knowledge as a non-representational, historical and relation focus of studies.

Social Epistemology and the Reason of "Reason"

If "reason" is approached historically to the relation of what is known and how that knowledge is to be known, its central questions can be posed as that of a social epistemology. *Epistemology* is to consider the rules and standards that order and classify what is seen and acted on; the distinctions and categorization that organize the ways of responding to the world and the conceptions of "self" inscribed as the agent and actor of change. Concurrently, *social* epistemology considers different historical patterns and principles that are assembled in different time and spaces to make possible the "objects" of reflection and action. The interest in social epistemology, then, is to explore how "we" know and what is known as not naturally there to describe the world or as representative of social interests. Rather, it is to make visible the principles that are historically generated about who "we" are and should be; recognizing that "ideas" and knowledge are material and have the effect to intern and enclose what is (im)possible.

This notion of "reason" goes against the grain. Analytic traditions of philosophy tend to view epistemology as questions about the underlying and transcendent logic of knowledge. The concern is with the theory of knowledge that focuses on the inherent nature and procedures of justification and belief. Reason is considered as a natural property of the mind (psychology), the method by which humans can interrogate their "nature", or as the universal logic through which the truthfulness of statements are determined.

In some ways, to ask about "reason" and knowledge as historical is difficult. It is the knowledge that we inherit that connects us to others. The knowledge that we have of our self and the world is like the fish swimming in water. It is the medium that surrounds us and serves as a security blanket. Its ordering and classifying of things make possible the "reason" of daily life and its manageability, stability, and naturalness; like the fish swimming in the water. When we cross the street, we want to trust in the knowledge that the red light means cars will stop; or that it is a safe bet to think of the kinds of people sitting in the classroom as "children" who, if the right teaching methods are applied, will grow and develop into "reasonable people".

To disturb the grounds of that order of things is to disturb what seem as the very essences given in life itself. Yet the irony in that the very principles that given security of things can be dangerous and thus always in need of scrutiny. Just think of what is happening to the water supply! The seemingly causality of the order of things sometimes need to be disturbed so as to seek options and alternatives outside of the very rules and standards that bind its contemporaneousness. To explore the limit of the commonsense and its naturalness becomes a strategy of change.

Yet this concern with "reason" and change might seem as perhaps not new. The sociologies of Durkheim and Mannheim during the past century gave emphasis to knowledge as tied to collective goals of society, an emphasis (re)visioned in the cultural Marxism of Antonio Gramsci and later by Althusser, and expressed by Raymond Williams and the German social philosopher Jürgen Habermas. The foci of these different literatures are related to some inscription of human interest that is ironically outside of history; and in accepting the givenness of its subjects as a transcendental object that becomes the origin of change (see Popkewitz, 2013).

In contrast, the concern with social epistemology is with a productive power; that is, the rules and standards of reason as historically generated principles about what is seen, talked about, acted on, and hoped for. In contrast, the concern with social epistemology is historicizing the subjects and "objects of reflection and action. It is with what Foucault has called "productive power"; that is, the rules and standards of reason as historically generated principles about what is seen, talked about, acted on, and hoped for. It inverts the starting point of investigation about the child, the learner, the gifted, the disadvantaged with examining how these objects become possible

for ordering what seen, acted on and hoped for – the principles are productive in the sense of generating cultural theses about modes of life.

While I use the US as an exemplar in this discussion, the question of social epistemology as a problem "reason" connects to particular European Enlightenments' cosmopolitanism and assemblages in the modern "western" school. But as current historical literatures have continually given attention to modernities rather than its singular, it is important to recognize different rationalities in governing both inside and outside of the west. Tröhler's comparative historical studies of the formation of the modern European and American schools at the intersection of religious salvation themes and republican notions of the citizen brings to light different conceptions of schooling in Calvinist, Lutheran, and Catholic countries (Tröhler, 2011; Tröhler, Popkewitz, and Labaree, 2012). The work of Wu (2013) and Zhao (in press) explore how particular notions of science and "modernizing" the school entails an intersection of Confucius and Taoist ways of being with particular elements of western liberal reforms (see Popkewitz, 2005).

These analyses make it possible to consider "reason" and the rationalities of schooling as not merely formed with a singular continuum of rules and values routed in enlightenment notions of rationality and representation but as embodying different historical cultural patterns that govern the subjects and subjectivities. In what follows, I focus on notions of progress, agency, and consciousness as particular epistemological principles in the reason of "reason" that have implications for the study of schooling.

Modern "Reason": Progress, Agency, and Governing the Present

There is a particular set of epistemological principles about the self and "others" that are given visibility in the European and American enlightenments and connected with the citizen in the formation of the modern republic as cultural theses. Among them are notions of agency, the insertion of a regular and irreversible time, and the notion of human consciousness in accessing and planning for social change. I start with these principles as they relate to the "reason" of schooling as a particular historical way of organizing the self and world in pedagogy.

I can start this exploration with one of the more famous sculptures of the turn of the 20th century, Rodin's "The Thinker", first cast in 1901 (Figure 1). The image is of "reason" as a force of change, humans as its agent, and, lying with the gaze of The Thinker, the idea of progress as the ultimate purpose. The "eye" is privileged. That privilege is not only in the acts of contemplation but with observations of the empirical world in determining truth and falsehood. The idea of the human as thinker entailed a particular notion of history that was given visibility in the European enlightenments. The physical and biological worlds were separated from human "nature. Whereas earlier, both were part of the same origin and development, now each was given its own history that the mind could comprehend and develop knowledge to master and to plan for change. This view of humans as having their own history is a recent historical invention, tied with notions of human agency, progress and the emergence of political theories of the modern republic. This separation made possible what is today considered as modern historicism and also through different historical trajectories, the possibility of thinking of the "mind" as having a past, present, and future (Steedman, 1995).

Le Penseur at the California Palace of the Legion of Honor. Yair-haklai http://commons.wikimedia.org/wiki/File:Auguste_Rodin-The_Thinker-Legion_of_Honor-Lincoln_Park-San_Francisco.jpg

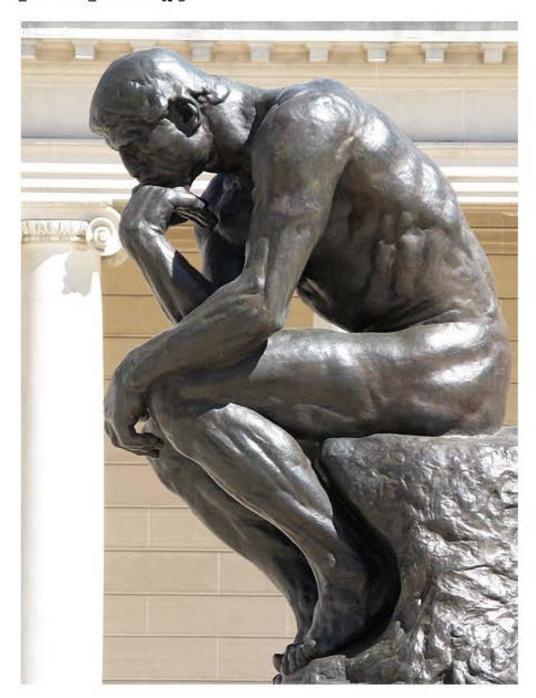


Figure 1.

If we read further into the image of Rodin's "Thinker", it is looking ahead. The future becomes important as it embodies the hope of the enlightenment cosmopolitanism that is encapsulated in the idea of progress. Progress becomes a salvation theme that places the human at the center of reflection. The past and present are placed in a sequential and irreversible time that can be ordered to effect change. Rodin's Thinker symbolizes this centering of change as a problem of humanity and the idea of human agency in planning of change. The seeing of the past and present as a problem of change entailed the invention of new ways of thinking of humanity as having a historical consciousness in which the past, as the object and subject of reflection, was linked to the present but also to the future. That future took on the idea of progress that placed humanity within a history and "reason" as its technology of change (see, e.g., Nisbet, 1980). Using the language of political theory, human agency involved the ordering of thought and action that moved the objective order of institutions into the realm of subjectivity that was administered in the name of the nation and freedom (Pocock, 2003).

Regulated time becomes important in ordering the principles of the reason given through the enlightenment into the present. Time is not merely something that tells of the physical world and is regulated with a clock. It becomes part of a cultural thesis about human development, individual life and the possibilities in thinking of human agency. Time as an element of agency is to talk of human intention and purpose that connects to political theories about liberty, freedom and "the pursuit of happiness" in the "reason" of the modern republic. Replacing the preordained and determinism of the theological world, human agency is a social project to order the past and present in order to secure the future. That future entails planning and interventions.

The formation of the school in the long 19th century is one such intervention. The theories of learning and the models of curriculum are to make a particular kind of person. "The child" is the kind of person who moves in dimensions of time as moral transitions on the path to adulthood. The stages of growth and development are given to differences among civilizations as the narratives of human history. And interior of the child is placed in dimensions of time in theories of learning about children's stages of moral development, cognitive abilities, and skills in organizing modes of living, such as in problem solving as process in which biography is organized in the present to as to plan for the future as "the pursuit of happiness".

Modern "reason", then, entails particular principles in shaping and fashioning experience and its "practical knowledge". These principles connect individuality to collective belonging expressed in the constructs of "society" and the citizen³. Agency, paradoxically, is a historical phenomenon, inscribed in the joining of individuality with the social and collective belonging. Important to the invention of agency is the notion of consciousness.

The Invention of Consciousness as Technology of Agency and Processes of Governing

To evoke consciousness in the practice of reason that governs agency. It embodies particular analytical modes of reason in finding one's place in the world. While distinctions existed among German, French, British and American narratives about the enlightenment, the differences embodied particular sets of rules and standards of reason that focused on orderly processes in which human consciousness could access, plan and provide the means to assure the security, stability and fulfillment of human hopes in the future.

To talk about this sense of consciousness is to speak of collective memory and remembering. The cultural assumptions of shared memory, embodying notions about what is most

³ The conception of the citizen, while often tied to the Ancient Greek word, has little to do with its earlier (Greek) use but one that relates to a different notion of the individual and society, some of which is discussed here.

worth remembering and what is not, were given high value in the European Enlightenment and became a common feature of daily life by the Industrial Revolution.

This notion of historical consciousness and collective memory is not to say that people were not aware of things in the world before and that the past was not given meaning to the present. As Danziger (2008) reminds us, all human societies remember, but they remember in very different ways. Memory in Greece and the Middle Ages, Danziger (2008) argues, had a pragmatic quality related to the immediate and personal experiences. For the Greek Stoics, reason is the acts of memory that liberated one's own being. Knowing oneself meant knowing the past that is drawn from the wisdom given by the gods (Foucault, 2005, p. 468)⁴. The mind preoccupied with the future was considered as consumed by forgetting, filled with hubris, and incapable of action. In the medieval cosmology memory was embodied in a closed universe. Time was eternal, given and ordered by God. To be aware and "conscious" was to make the rules and standards of the given world visible and amenable for reflection. Nothing was "new" or unfamiliar. Medieval texts, for example, were devoted to the memory practices of monastic culture and emphasized that biblical narratives must be remembered as the reliving in the body and soul of sacred narratives and parables. Augustine's autobiography embodied a Neo-Platonic memory that had a didactic function. The reminiscences were told of Augustine's progression from sinner to devout believer whose presentation would be helpful to others in finding a path to God that remained ultimately mysterious (Danziger, 2008, p. 104).

But by at least the 19th century, the idea of human consciousness/memory placed the past as no longer the source of wisdom but rather something to overcome through human agency. The psychological concept of "action" was given to direct attention to how the present is organized to make the future possible. Memory was now conceived collectively as the social practice or understanding the present in order to overcome the inherited traditions so that progress would be possible. The arbiter of this 'truth' of social practice was science itself.

Science and "Reason" in Making People: The Double Space of Science

Science, at least from the 19th century, occupied a double place in the making of the modern state and its citizen. First, science has embodied a salvation narrative of modernity. It is the promise of the mastery of the conditions of social life through its calculations and principles of social administration. When brought into the social realm, science embodied a millennialist belief in rational knowledge as a positive force for action and the progress that was called forth as part of the heritage of the Enlightenment. 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 to enable social improvement and individual happiness.

Second, science has provided the theories and knowledge to order and plan daily life itself. Progressive Education, as one element of the broader changes embodied in Progressive political changes, gave focus to the sciences in the formation and reform of schooling. 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. General beliefs about science as processes of rationalizing life were brought into psychological studies about child development, learning behaviors, and problem solving as principles to guide actions. The

⁴ Robert Fludd (Robertus de Fluctibus) *Utriusque cosmi maioris scilicet et minoris* [...] *historia*, tomus II (1619), tractatus I, sectio I, liber X, *De triplici animae in corpore vision*.

psychologies of Edward L. Thorndike's Connectionism, G. Stanley Hall's child studies, 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, 2008). The problem solving child of Dewey or the adolescent of Hall were brought into the planning of teaching as modes of living drawn from a generalized philosophy of science that overlapped with psychologies of the child (Rudolph, 2005).

The "reason" of the scientific self that schooling was to emulate entailed a particular capability to "see" and organize schema forged as "thought collective" through technologies that educated the senses, calibrated judgment, and performed to select what is "seen", thought about, and acted on as the objects of scientific inquiry' (Daston & Lunbeck, 2011, p.1). The invention of "observation" as a scientific practice was part of this new sense of reason and experience that made the idea of nature as separate from the senses and which could be presented to the senses as epistemic categories (Daston, 2011). One technology of the scientific self was the notebook as a memory device in the epistemic construction of scientific objects. Whereas the keeping of a notebook was previously about recording sundry and random notes about life itself that had no ties to science, the notebook became a device of memory, as a way of separating the object from the subject and making that object amenable to reflection and classification. Between 1600 and 1800, the notebook became a repository of the observations of external events and phenomena that could be ordered in a logical and sequential way that that connected with new instruments like the telescope and microscope, new techniques for coordinating and collating the information ranging from the questionnaire to the synoptic map. The role of observation and the notebook created a collective sense of science and memory through standardizing its objects. By the mid 19th century, reflection on objects separated the observer from the object so that the observer is someone "who 'no longer reasons; he registers" (Daston & Lunbeck, 2011, p.4).

This making of the scientific self was homologous to social and cultural trajectories in which consciousness (and memory) of the self and world were given its possibilities. The "reason" of introspection and observation transformed what became the writing of diaries and autobiographies. Locke's sensationalism and Rousseau's memoir gave reference to this new knowledge of the self as the perceptual activity for examining the external world (Danziger, 2008, p. 101). The Genevan Jean Jacques Rousseau's autobiography (Confessions, 1782) required a particular knowledge of the past and self (Danziger, 2008, p. 103) that relates to what constituted the "reasoned experiences" that appears in science in the late 18th century. Memory was for self-presentation. It was possible to see the self as a source of analyzable data that has double elements. The past is brought into personal diaries and autobiography to shape not only the narrative of individuality but to create a space in which individuality is embodied in the public presentations of the nation and collective belonging. Social memory, the manner of linking individuality and collective belonging, was viewed as independent of individual experience and as a source to overcome prejudice and unreliability by providing trust in the recorded observations as the preservation of knowledge. It becomes possible to have a new kind of person, one that attaches the individual to the images and narratives of the individual as citizen, the child as learner, and belonging to abstract entities as the nation, whether Swedish, French, British, Spanish or Portuguese.

Embodied in the "reason" of the modern school then were these particular narratives of science formed historically in the political projects of the nation as particular epistemological principles. Schooling was designed to act on the spirit and the body of children and the young (O, 2003). French and Portuguese pedagogy at the turn of the twentieth century was to observe and "register" the inner physical and moral life in order to map the spirituality of the educated subject ("the human soul"). Portuguese pedagogy draw on French pedagogue, Gabriel who in 1885 asserted that pedagogy is an applied psychology; the source of all the sciences "that are related to the moral

faculties of man; pedagogy contains all the parts of the soul and must use always psychology" (cited in Ó, 2003, p. 106).

The new sciences of psychology that Compayré illustrated were to the design of the child. The soul was not only of a providential order but placed into a language of the mind and the rationality of science in American Progressive Education and the New Educational Fellowship to promote the modern school at the turn of the 20th century. The sciences of pedagogy embody the cosmopolitan language of the enlightenment to cultivate, develop, and enable the reason necessary for human agency and progress. G. Stanley Hall, a founder of American child studies at the turn of the 20th century, argued that psychology was to replaced moral philosophy and theology as the method of producing a moral social and principles for ordering the life of the citizen.

Then the U.S. social and education sciences that emerged after World War Two, (Solovney and Cravens, 2012) and studies of political culture and children's socialization gave expression to the design of the child but through a different set of connections. Its "soul" was connected to cultural narratives of an American character that emerged to talk about what was distinct about the nation and its people. Sociological and psychological studies of creativity, and emotions, for example, were to empirically instantiate the characteristics of this kind of person who embodies the American character. Studies about family and personality delineated a hierarchy of liberal/authoritarian political attitudes connected with family interactions and children's development. Educational studies in the new curriculum of social studies, science and mathematics gave emphasis to children's discovery and inquiry that embodied modes of communicating, interacting, and communicating that had less to do with learning the content of the curriculum and more about cultural theses about how one should live and collectively belong) (McEneaney, 2003).

Further and important was that the events of the war challenged the long-standing notion of people as "naturally" rational. People were now seen as naturally irrational and the problem of science was to manage that irrationality (Heyck, 2012). The new unit of analysis to effect liberal values was to choice and not the human agent - the person who chooses. Social and psychological theories (re)visioned agency through categories of decision-making, communications, and systems were to empirically substantiate the kind of person posited in the theory of choice.

If I summarize this focus on the "reason" of science at this point, it is to recognize how its ordering systems "act" to set up ways of measuring and calculating kinds of people as if they existed, and then to standardize its particular qualities in a manner that could be projected into the making of people. This "reasoning", however, requiring understanding the making of the scientific self through a particular system of reason related to what was earlier discussed as historical consciousness and memory.

Historicizing "Reason"

I have been talking about historicizing "reason" in a particular way when thinking about social epistemology. The historicizing that I speak of is to excavate the multiple historical practices that come together to give intelligibility to what is 'seen' and acted on as the objects of schooling. Rather than ask about the child or teacher as a given subject of history, my concern is to ask about the conditions that make possible what is "seen" and acted on as the object and subject of schooling (see, Popkewitz, Franklin and Pereyra, 2001, Popkewitz, 2011, 2013).

To think about the "reason" in the making of the human kinds in schooling *decenters* the subject (see Foucault, 1971/1977; Popkewitz, 1997; Popkewitz and Brennan, 1998)⁵. It is to ask how the objects and subjects of schooling are made into kinds of people – the genius, the included/excluded child, youth – and to ask how these objects of thought and action become possible to see and act on. Historicizing is to take the icons of schooling as monuments, monuments that stand as visible and natural to what is given as true and cutting into them to explore their rules of formation and enunciations. And to understand how these monuments become possible to see is to think about the 'grid' to explore different historical trajectories that travelled and came together to generate principles about what is seen, thought and acted on in schooling.

If I take Anglo-American schools, there is a continual insertion of the subject that is to be considered sacred and the subject who is to be recognized as different and outside of the spaces of normality. The former kind of person is embedded in the construct of genius and gifted. The school curriculum and research seeks to understand how the school can provide more effective instruction of the gifted and artistic child; looking for ways in which to improve the challenges and opportunities that that kind of child to flourish within the school setting. But O, Martin and Lima (2013) argue, the notion of the creative and artistic person is an invention of the 19th century. Martin explores, for example, diverse discursive practices in the emergence of the notion of genius and inventiveness that makes possible the subject of the artist and artistic education. Different discursive practices emerge in the long nineteenth century to classify, differentiate, and divide human subjects. The distinctions of "genius" and inventiveness become distinctions to think about and act on particular kinds of people at the intersection of art, schooling, and the social and educational sciences in Portugal. The kind of people is given as genius that differentiates, distinguishes and divides; ironically as a way of recognizing difference in efforts to create equal systems of schooling.

This notion of historicizing entails think about a grid of practices that come together without any single origin. Foucault (1971/1977, p.145) discussions of genealogy, for example, talks about the overlapping of subtle and singular events that come together to give intelligibility to the events of the world. The idea of grid is analogous to thinking about "recipes", in that a number of ingredients are mixed together and the outcome is something that is different from its individual parts or its sum. The cake is more than what is added to it for baking. As part of the social history of statistics, the modern notion of populational reasoning did not result from the evolution of statistics but from the overlapping of trajectories in physics, statistics, and the changing patterns of governing and state arithmetic. The grid is also useful as a way of thinking as it has a sense of porousness and thus non-evitability to what is now taken as natural and fixed.

This historicizing can be compared with the tradition of historicism of American historical studies of the school. In the latter, the narratives of the school recognizing the genius in planning the school curriculum become the history of schooling. It is acted on as the subject and origin of history; its development and evolution traced to know what has happened in the past and how the present relates to that development. Most generally historicism tells the stories of the teacher who moves from the earlier craft knowledge to a professionalism defined through the sciences of pedagogy; and reforms are trace to talk about the realization or denial of the common school into a more democratic institution.

⁵ This notion of decentering the subject has been subject to a range of discussion. Often its critiques are ordered through the principles of historicism that take for granted the actor as the source of humanism. This reduction qua critique misses the substantive arguments being engaged (see Veyne 1971/1998 for a discussion of history and the limits of this reductionism as critique).

The irony of this humanism is that the authorial subject is produced: the child who is given certain qualities whose changes can be measured through achievement scores and the teacher who is identified with certain qualities that enable effectiveness. In each instance, the object of reflection and action is taken as a stable entity, origin of inquiry that places the human subjects as actors who exist outside of history itself.

The decentering of the subject, however, should not be seen as doing away with enlightenment commitments to reason and rationality or with the possibilities of agency and change. Just the opposite! It is to recognize, first, that what has come to be taken as natural and "logical" as the reason and loci of social change is itself a particular historical logic, rationality, and effect of power. Second, the inscription of the actor as the ahistorical subject conserves the very framework of its contemporaneity to substitute activity and motion in studies of change.

To conclude, making the human kinds as the subjects of historicism as the subject matter of history is a critical theory of schooling. It is critical in the refusal to take the subject as transcendental and thus outside of history. History is the search to locate the emergence of the subject as a system of which governs what is possible to say, think, and do. The problematizing of what is taken as natural and outside of "time" is to make fragile the causality of the present and the possibilities of alternatives that are outside of the existing inscriptions of the past that govern the future. Its strategy to think about change is different from those embodied in historicism. Agency is in depriving the self of the reassuring stability of life and to challenge the assumption that liberty and freedom are dependent on the calculation and administration of the human subject. Where paradoxically historicism organizes the past to speak about the future, historicizing is a critical project to make fragile the seeming causality of the present.

Exclusion/Abjection in the Impulse to Include:

School Subjects and Their Alchemies

If this was all there was to "reason" then the problem of schooling would be to find the best way to implement the rules and standards of reason into the curriculum. In fact, this is how things are generally thought of: what are the most efficient ways to implement the goals and purposes of the curriculum? The problem of pedagogy becomes its backward design – decide on educational goals and then work backward to identify the most effective models for affecting those purposes. While this is the 'commonsense' of educational planning and its research, it loses site of the social epistemology of schooling and the political of "reason" itself.

Pedagogy and its sciences embody a particular analytic of reason that comparatively orders and differentiates its history and "self" from others (Popkewitz, 2008). This mode of comparing was expressed in The French Enlightenment's *philosophés* that narrated the idea of civilization as a story of the evolution of a universal humanity through the application of reason. The universality given to cosmopolitan theses is a duality that mutually constructed its others. Humanity was placed in a continuum of value and hierarchy to order and divide people, races, and their civilizations. The comparative qualities were embedded in the use of *civilize* and *civilizations* in the English, French, German, and American Enlightenments. The words placed the regulated time of progress in a continuum of values that differentiated people. "To civilize" was to endow what is common to all human beings, or what should be.

The Enlightenment view of legal codes was less to mirror the distinctive customs and practices of a people than to create a cultural community by codifying and generalizing the most rational of those customs and suppressing the more obscure and barbaric ones. (Scott, 1998, p. 90)

The idea of the civilized also referred to one's manners in bodily relations—how one sits, drinks, greets, shares one's bed, and handles questions of nudity and sexuality. "Civilized" encompassed a politeness, refinement, and new manners and decencies between people (Passavant, 2000). Civilization was a reformist idea in the 19th century European nation-state meant to be liberated from the existing barbaric or irrational conditions through the civilizing project of the state embodied in its written constitution according to natural laws and in accordance with reason, which education was to produce. The cosmopolitanism of the enlightenments embodied a particular mode of life associated with the goals of moral cultivation and civilization in a temporality that directed the individual to the future and progress. Kant's (1784/1970) "Idea for a Universal History With a Cosmopolitan Purpose" placed these distinctions in a temporality that directed the individual to the future and progress. Kant argued that

We are cultivated to a high degree by art and science. We are civilized to the point of excess in all kinds of social courtesies and proprieties. But we are still a long way from the point where we could consider ourselves morally mature. (p. 49)

The cultivation of the self that memorializes the enlightenments' cosmopolitanism enunciates the optimism of progress *and* the fears of degeneration and dangers to the future. As Chamberlin and Gilman (1985) suggest, "hope was looked after by progress and seemed as the tenor of the times, but fear was contagious" (p. xiii). The Renaissance equation of degeneracy and diversity led observers increasingly to refine and elaborate symbols of corruption; the Enlightenment projected degeneracy on the lower categories of the taxonomies of humankind rather than, as previously held, on doctrinal opponents in sectarian disputes (Boon, 1985, p. 25).

The comparative relation of hope and fear was embodied in modern sociology and psychology as discussed early with the American Progressive sciences and their (re) visioning in the post World War Two years. The objects of research were defined by functions-in-time in concepts such as socialization, learning, and development. There was optimism that the proper research, policy and practices would make particular kinds of people that would embody liberal ideals. This making of people in the social sciences connected to soul, to produce desire to act and think in particular ways. It was expressed in the social psychologies of communications and psychologies of motivation and self-realization. That soul, however, was not merely about the kind of person who will usher in the future. The optimism embodied a comparative system of reason that enunciated and divided the child who holds the emancipatory future from those feared as threatening the promise of progress.

There is little talk today about the civilized and non-civilized. "We" are more civilized than that. The distinctions between the civilized and uncivilized are embodied in developmental norms and notions of learning/learners that differentiate those who master concepts, who have no misconceptions about the given concepts of curriculum; and who are differentiated through the psychologies that order children's success and failure in school as related to their lack of "motivation", self-esteem, efficacy, or "family fragility". The failures are made into moral and psychological qualities that lead children and populations to be at "at-risk" and disadvantaged from the unspoken norms.

The comparative style was to recognize difference for inclusion but differentiated and embodied in the "reason" of the school subject whose content instantiated particular cultural theses about modes of living. The idea of school subjects was, in one sense, an invention of the nineteenth century. The early decades of the seventeenth-century school curriculum were linked to the names of the books read. For example, high school students were to read two books of Caesar and three of Virgil for the study of Latin. By the first decades of the twentieth century, school subjects formed around particular disciplinary knowledge with the new science of psychology providing its pedagogical principles.

The changes in the principles organizing school subjects is analogous to the alchemy of sixteenth- and seventeenth-century alchemists and occult practitioners who sought to turn base metals into pure gold. As earlier medieval alchemists who sought to transpose one substance (metals) into gold, the formation of the subjects of music education and mathematics education in schools that will be discussed below involved processes of transportation and translation that revision disciplinary knowledge into particular images, words, ideas, and experiences related to learning, children's motivation, and problem solving (Popkewitz, 2004; 2008). The "tools" of recognition and enactment of the school curriculum derived from psychologies were directed to educational questions and not to the understanding of disciplinary practices.

The pedagogical translations that become the curriculum are never merely a replica of the academic disciplines. They embody principles about who child is, should be and who does not fit into the normalized cultural space. The formation of school subjects involved processes of selection and ordering in relation to the psychologies of didactics that were never merely learning disciplinary fields of knowledge.

This is evident in music education. It forms as a school subject in the 19th century in relation to the urban conditions and fears of the "urban" child as a dangerous population to the hopes of the republic⁶. US. Music curriculum from 1830 to 1930 was concerned citizenship, nation, 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 wellbeing 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. Music appreciation, added later to the school curriculum, was to (re) mold the population into cosmopolitan democratic citizens, and to eliminate juvenile delinquency, among other evils of society, through providing for the productive use of leisure and self-cultivation. 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. The science of psychology formed as a comparative mode of ordering and classifying; placing things in hierarchies, ordering as systems in which its parts were to function in harmony and where its disharmony was something to be corrected; and in forms of taxonomical and analytic thinking that separated and made possible the establishing of difference from the norms of sameness. 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". A scale of value was constructed that compared immature or primitive human development with those that have a fully endowed capacity that corresponded to race and nationality. The staging of musical response in the classroom classified listening habits. The "attentive listener" was one who embodied the cosmopolitan mode of the civilized life. The distracted listener was defined as in the group as unfit for musical appreciation. These children were manuals, the child who did not learn to listen to the music in a particular way was regarded as

⁶ The following discussion is drawn from Popkewitz (1998).

"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.

Historicizing the "reason" of mathematics provides another approach to thinking the issue of comparative styles of reasoning and schooling. Diaz (in press), for example, considers mathematics education as comparativeness in the curriculum through beginning with a seemingly simple yet profound observation: modern mathematics in schools is founded through a particular logic of equivalences expressed in the equal (=) sign. The identities given to the quantities on either side of the equation are established as equivalences in order to apply the mathematical logic. Each side of the equation with different qualities and/or characteristics is seen as related to each other. The equal sign locates differences in a logic of representation. Difference is cast so that one can "see" and think about their differences in ways that paradoxically erases the differences. This occurs with the establishing of equivalences as rules of a consensus that there is a harmony in identities. It is this logic of equivalence that is present not only in the curriculum but as in "the reason" inscribed in the international assessments associated with OECD's PISA when comparing different nations.

When this logic is placed within the curriculum, the notions of identity, equivalence, and differences are no longer merely that of a pure mathematics. Diaz (in press) argues that once placed in the curriculum, the logic of the equal (=) sign is no longer solely that of mathematics. The logic of identity and representation is connected historically to epistemologies about differences and division in modes of living. This mathematics logic is disconnected from its disciplinary spaces and placed in the culture space of schooling and the psychologies of learning and its principles of representation and differences that form the characteristics of the norms of achievement. The cultural logic that emerges inscribes principles that differentiate and divide in a hierarchy of values that seem as not social but tied to learning and the attributes of the child, community, and family. The seemingly universal and stable logic of mathematics in the use of the equal (=) sign is disconnected from its disciplinary spaces and assembled and connected to instantiates political theories of equivalence, difference and identities that, Diaz, changes over time.

The alchemy of the historical trajectory of math and music provides a way to think about how the "reason" of curriculum, pedagogy, and the psychologies of learning and childhood embody divisions and differentiations as double gestures. The hopes for an inclusionary society through the reforms of education inscribe, at the same time, fears of the dangers and dangerous populations that threaten the envisioned future. The comparative values through which recognition is expressed are of the need to rectify social wrongs that define the child as different and thus as not possible of ever being 'of the average'.

Reason, (Re) Visioning the Social, and the Political

The focus on the social epistemology has been directed to the systems of reason that orders and classifies what is said, thought about, and acted on. It considers the "reason" of schooling generating cultural theses about modes of life. To consider the inscriptions was to historicize through the decentering of the subject. That historicizing is to consider the assembly, connections, and disconnections through which the present is given intelligibility. This historicizing, however, focuses on the objects "seen" in schooling as events to study, asking how is this thought possible and what are the conditions of that possibility.

My movement is to explore the question of social epistemology historically through considering "reason" as an event, the focus of study, and the political of schooling. At one layer, to think of what is seen and talked about as events to place the icons of the present as monuments and

ask how it becomes possible to think about the self and world with such markers of identity. At a different layer, the make the objects of truth and false as events to understand their emergence poses a strategy that relates to questions of inclusion and exclusion. For in the representations and identities given to the monuments that stand in daily life is a comparative set of principles that has simultaneously doubles of an inside and outside, the joining of opposites. The governing of modern societies is paradoxically to enable individuals to act in the name of freedom and liberty in liberal societies. Science was to effect change and thus engage but tame the uncertainty of the future. But the irony of science was its double gestures of hope and fear, of exclusion and abjection in the impulse to include.

My writing about social epistemology has its own cultural boundaries as both a way to think about the study of schooling, and as an alternative to critical studies that have tended to be driven by structural Marxism that has a cultural, sometimes Gramsci quality. That Marxism sees knowledge as an epiphenomenon to structures that are defined through oppositional identities of who rules and are ruled, who dominates and its repression. Resistance is to those structures. The thinking about social epistemology offers a way to think about critical traditions that focuses on the epistemological constructions and the ontological objects as related to Foucault's "governmentality", and Deleuze's attention to power as a practice set in social relations. Deleuze argues, for example, that power cannot be explained within institutions as they are not sources, essences, and mechanism "since they presuppose its relations and are content to 'fix' them, as part of a function that is not productive but reproductive. There is no State, only state control, and the same holds for all other cases" (Deleuze & Guattari, 1991/1994, p. 75). The problem of research, then, is to consider the "strategies that transmit or distribute particular features through which forms of knowledge are possible and becoming the integrating factors or agents of stratification that make up institutions: not just the state but also the family, religion, production, the marketplace, Art itself, Morality, and so on" (p.75).

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