# ARTICLES

*Abstract*

In the debate on the relative merits of traditional and revisionist educational historiography, little if any reference has been made to the idea of progress in a discipline and its relation to the metatheory of history. This paper endeavours to rectify this shortcoming with reference to the oft-quoted but, in the history of education, seldom explored views of T.S. Kuhn on progress, paradigms and theory choice. The writings of Monroe, Cubberley, Bailyn and Cremin serve as vehicles for a study of Kuhn's ideas and their implications for historical theory.

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## T.S. Kuhn's Idea of Progress and Its Implications for Theory Choice in the Historiography of Education

The idea of progress and the criteria by which it is to be judged have long been of interest to historians in their interpretation of the past.[1] Although the term "progress" has been used in many ways, it has generally been defined as irreversible change for the better, and is said to represent both qualitative and quantitative improvments in technology, wealth, knowledge, social institutions and morality.[2] Recent studies in the history of education have reintroduced the idea of progress in comparing the relative merits of traditional and revisionist schools of historical thought. In what way, for example, is L. Cremin's revisionist explanation of historical events an improvement upon that of E. Cubberley's traditional interpretation? Is the former a modification of the latter, or does it point to a more fundamental advance that clearly might be described as progressive? Given the range and depth of inquiry into these questions during the last twenty-three years, it is not easy to escape the conclusion that all has been said.[3] Yet historian of science T.S. Kuhn throws new light on the idea of progress with implications that may extend beyond his own field of interest to the theory of historical research.

The first of Kuhn's studies to extensively examine the idea of progress and its relation to the development of science is *The Structure of Scientific Revolutions*.[4] In this work, the idea of progress is inextricably tied to the concept of the paradigm which functions as a bridge between the content of science and the application of scientific theory.[5] Within this context, particular attention is given to those members of the scholarly community[6] who take the lead in establishing the structure of the paradigm.[7] As such, the paradigm, including the methodology by which it is to be explained, serves as a model or exemplar for further research and growth in the field. In the solution of scientific problems, it occupies a role that can be considered equivalent to a theory.[8] Kuhn's investigation, however, does not result in a precise definition of progress, but provides the groundwork for a reassessment of theory choice in the description and explanation of events.

To argue that Kuhn's ideas can be transferred to the history of education stretches the limits Kuhn himself would seem to impose upon his work. The caution has not discouraged the use of his interpretation as a heuristic tool in the social sciences and humanities where questions of theory

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and methodology are commonplace.[9] Nevertheless, Kuhn's analysis has failed to receive systematic attention in the history of education. This in no way implies that his efforts remain unknown to that field, although it would appear that apart from an occasional reference his contribution has been viewed as highly theoretical and of limited importance.[10] This paper addresses that shortcoming. In terms of Kuhn's thought, it endeavours to develop a better understanding of progress in a discipline and its implications for the paradigm and theory choice in historical research.[11] As such, its primary purpose is not to critique the finer points of Kuhn's philosophy or sociology of science but rather to consider the possibliities of his work for the history of education. The paper, then, will (i) examine the place of theory and paradigm in Kuhn's idea of progress; (ii) explore the extension of Kuhn's position to the study of traditional and revisionist educational historiography; and, (iii) assess the meaning of progress and its significance for historical theory.

*Progress, Paradigms and Theory*

Kuhn's interpretation of progress and its relation to the paradigm provides the basis for an unconventional yet fruitful understanding of theory development not only in the history of science, but possibly in the history of education. The significance of his argument turns on the realization that in the growth of science, it is only the phenomena - and not their explanations - that are more refined, and hence, progressive. He supports that analysis with reference to scientific change and especially the work of Copernicus whose introduction of a new paradigm to explain natural phenomena represented a revolution of scientific thought that contributed to the development of the discipline. It would be incorrect to assume that, for Kuhn, the progressiveness of science is represented in the cumulation of concepts and theories. In making the point, Kuhn does not deny outright the possibility of progess in theory development, but suggests that it must be viewed in a less than conventional way.

How, then, might progress be understood? Kuhn presents two possibilities. On the one hand, it might be examined in terms of the addition of knowledge within a given theory. For example, progress occurs during a period of what might be called normal science, that is when science proceeds according to consensus and established practice without dramatic change. At that time, a theory gains recognition as the accepted way of solving the community's research problems or puzzles. Under these conditions, theory is open to continual challenge and adjustment, the impact of which may heighten its effectiveness in explaining with increasing precision an ever-wider variety of scientific phenomena.[12] From the standpoint of the community - whether scientific or non-scientific - the result of such "creative work" is progress, for its members could view it in no other way.[13]

On the other hand, progress in a field of study becomes less clear when competing theories are examined in relation to one another. Contrary to the observations of some critics, Kuhn recognizes traditional criteria of evaluation "when scientists must choose between an established theory and an upstart competitor." More specifically:

> . . . a theory should be accurate: within its domain, that is, consequences deducible from a theory should be in demonstrated agreement with the results of existing experiments and observations. Second, a theory should be consistent, not only internally or with itself, but also with other currently accepted theories applicable to related aspects of nature. Third, it should have broad scope: in particular, a theory's consequences should extend far beyond the particular observations, laws or subtheories it was initially designed to explain. Fourth, it should be simple, bringing order to phenomena that in its absence would be individually isolated and as a set confused. Fifth . . . a theory should be fruitful of new research findings: it should, that is, disclose new phenomena or previously unnoted relationships among those already known.[14]

This, however, does not imply that subsequent to the application of these criteria, the community's preference for one theory over another somehow represents progress in any absolute sense, for the interpretation of criteria may rest on other than objective factors.[15] It does suggest that the process of theory choice, however rational it may be, must take into account the concept of paradigm as a representation of theory and its role in the research activities of the community.

For Kuhn, there are two basic meanings of paradigm. In one sense, it represents the disciplinary matrix or "the entire constellation of beliefs, values, techniques, and so on shared by the members of a given community."[16] This includes metaphors, symbolic generalizations, values and shared commitments.[17] Of these components, values are of particular interest in that they underlie the commitments of the community as a whole and, more specifically, affect the criteria by which its members decide on the acceptability of differing theories.[18]

The second meaning of paradigm is contained within the first and refers to "the concrete puzzle-solutions which, employed as models or examples, can replace explicit rules as a basis for the solution of the remaining puzzles of normal science."[19] This includes the "problem-solutions found in the periodical literature," showing scientists by example how their job is to be done. In physics, for instance, Kuhn refers to the inclined plane and the conical pendulum which function as exemplars that are learned by practice and, hence, provide a "tacit knowledge" for others seeking a solution to similar problems in the field. Such knowledge allows the community to apply a consistent interpretation upon the configuration of phenomena without resorting to particular rules.[20] It represents the "hard core" of the paradigm, those elements which are accepted by all members of the community and, therefore, "not subject to attack within the tradition."[21]

Kuhn advances the thesis that progress occurs during periods of normal science when members of the community solve research problems within the framework of a particular paradigm. Such progress is discernible within all fields "but the absence at most times of competing schools that question each other's aims and standards makes the progress of a normal-scientific community far easier to see."[22] Nevertheless, for the individual "who argues that philosophy, for example, has made no progress emphasizes that there are still Aristotelians, not that Aristotelianism has failed to progress."[23] implying, of course, that changes of theory do not necessarily lead the scholarly community ever closer to some absolute or final truth.

*Foundations of Historical Theory: A Case Study of Traditional and Revisionist Historiography*

The extension of Kuhn's position to the study of historical theory brings into focus conditions particular to the field of history which suggest a modifiction in the way in which the structure of paradigms is viewed. Research traditions in the history of education, for example, would not appear to be limited in time to any specific cultural-historical period with the result that competing paradigms within the community seldom succeed one another in a revolutionary way, as in the history of science. A number of competing traditions or schools of historical thought may coexist with one another with no one paradigm enjoying the unswerving allegiance of all members in the community.[24] Nevertheless, the possibility remains that, however remote, one or another paradigm may succeed in winning the approval of the majority in the historical community.

A number of elements would be central to paradigms in the history of education. It would not be unexpected for educational historians to hold certain understandings about the nature and purpose of schooling and education.[25] Such understandings, though not directly involved in the process of historical research itself, nonetheless, reflect the historian's values and beliefs about the function of these phenomena in society. They contribute to his perception of what constitutes educational activity, thereby affecting his interpretation of historical data. It might be said that the historian's social reality - the social group for which he speaks or gives his allegiance, the notion of what factors bring about social change, and perspectives on future social developments that provide him with orientation points for historical interpretation - set the conditions for the way in which historical data are selected and categorized.[26] It is difficult if not impossible for the historian to separate his theory of history, and, more specifically, the historical explanation of schooling or education from the influence of his value system. This does not lessen the historian's responsibility to study educational events in their historic setting, but points rather to the interdependence of his present and the data of the past with which he works.[27]

Perhaps of greater importance are the community's shared examples - the specific meaning of paradigm - which focus on the models employed by educational historians to define their research activity. To cite an instance from the history of science, principles underlying the notion of the incline plane have a wide range of application in the research of Galileo, Huyghens and Bernoulli. This knowledge is not acquired by verbal means alone, but becomes clear to members of the community when words and concrete examples are learned together.[28] In the history of education, it would seem that such "hard core" knowledge does not depend on precise formulae, but rather on an association of concepts which very much like a gestalt contribute to an overall framework for the explication of data. Such linkage represents for the historian more than a following of verbal rules alone. It functions as an exemplar or model which in place of rules provides what Kuhn identifies as a "tacit knowledge" of the relationship between historical data and the interpretive framework. In this way, paradigms establish the limits for determining "the legitimacy both of problems and proposed solutions" advocated by particular members of the community.[29]

Two theories or paradigms of special interest emerge from the recent debate on the relative merits of traditional and revisionist historiography. The latter, represented by the writings of B. Bailyn and L. Cremin gained a significant following in the second part of this century.[30] Their work was seen by many supporters and opponents alike as antithetical to the "traditional" orientation of P. Monroe and E. Cubberley, which for decades had dominated the thinking of the historical community.[31]

The identification of the Monroe-Cubberley and the Bailyn-Cremin perspectives in educational historiography does not deny the importance of other traditions such as the reconstructionists of the 1930's who contributed to the traditional-revisionist debate and who, moreover, might also be studied in relation to theory development. The possible claim that the exclusion of the reconstructionists disrupts historiographic continuity would not seem to be problematic, for the idea of progress is not limited to an analysis of traditions that follow immediately one upon the other. What would seem to be essential is the retention of sequence from an earlier to a later theory in order to isolate and identify those conditions which lead to progress, irrespective of their proximity in time.

(a) *The Monroe-Cubberley Paradigm*

The writings of Monroe and Cubberley, appearing at the turn of the century, signalled a new

chapter in the history of education as a field of study. Their ideas represented a confluence of thought that in the main had its roots in the latter half of the nineteenth century.[32] Central to their theory is a concept of social evolution. Monroe signifies its importance in *A Text-Book in the History of Education* when he claims that the application of this notion yields new insights into the work of educational theorists from primitive to modern times. It will assist the student in developing

> . . . a conception of the meaning, nature, process, and purpose of education that will lift him above the narrow prejudices, the restricted outlook, the failures and the petty trials of the average schoolroom, and afford him the fundamentals of an evolutionary faith as broad as human nature and as deep as the life of the race.[33]

There is in Monroe's work a close alignment of the interests and concerns of the school with society, and the belief that historical movements "characteristic of the past . . . are working themselves out" in the tendencies of the present.[34] As noted in a *Source Book of the History of Education for the Greek and Roman Period*, such history will provide "not only a more correct idea of the education of the classical period, but also a better apprehension of the meaning of education in its historical and contemporary aspects.[35] Inherent to the course of events is an idea of progress which underlies the emergence of institutional education.[36]

The linkage between progress and education is forcefully presented by Cubberly in his *Public Education in the United States*. In this work, Cubberley adopts the idea of public schooling as the critical form of institutional education, narrowing Monroe's general sweep of historical events to a study of developments in America. Such history represents a "battle" and "struggle" within a framework of evolution and progress.[37] Much of the work follows from Cubberley's *Changing Conceptions of Education* where he defines the school as more than an agency committed to the transmission of knowledge.

> It must equally prepare the future citizen for the to-morrow of our complex life. The school must grasp the significance of its social conditions and relations, and must come to realize that its real worth and its hope of adequate reward lies in its social efficiency.[38]

History of education must, therefore, concern itself with a contemporary vision of the "rise and progress . . . of the human race."

> In this work of advancing world civilization, the nations which have long been in the forefront of progress must expect to assume important roles. It is their peculiar mission . . . to help backward peoples to advance, and to assist them in lifting themselves to a higher plane of civilization.[39]

It is evident that within this context, institutional education plays an essential role in the process of social evolution. The working out of "civilizing" forces in the founding of such state school systems as Massachusetts, Maine and Carolina represents, as one observer remarks, not only a product of historical fact but "a consecrated national undertaking."[40]

The concept of evolution is well-suited to the exercise of comparative judgment in establishing periods of educational theory and practice. Primary and secondary source materials, including superintendents' reports, memoirs and government statistics, provide the basis for a "body of historical facts" which lead to the framing of generalizations.[41] The process, typified by the sequential description of events, represents the comparative or genetic method as a dominant form of historical explanation. Monroe's *Textbook*, for example, outlines an evolutionary course of events with the last four chapters providing a comparative analysis of "psychological," "scientific" and "sociological" tendencies in education.

Additional concepts of "struggle," "conflict" and, in Monroe's reference to societal change in Greece during the fifth century B.C., "social revolution" assist the genetic explanation of new educational ideas.[42] Cubberley adopts a number of these concepts in *The History of Education* where state control of schools is taken as the last and presumably highest stage of evolutionary educational development. Interestingly, his *Public Education in the United States* emphasizes events following the Classical Renaissance as specially significant to an understanding of this process.

(b) *The Bailyn-Cremin Paradigm*

The charges of parochialism, anachronism, evangelism and isolationism levelled against the work of traditional historians marked a different orientation to research in the history of education. Identified as revisionists, the "new" historians pointed to what they called inadequacies in the Monroe-Cubberley thesis and launched a variety of studies which led to restructuring of the field.[43] The studies embraced a range of perspectives that, according to one historian, encompassed everything from revisionist to radical revisionist positions.[44] Distinctive among them were Bailyn's *Education in the Forming of American Society* and Cremin's *The Wonderful World of Ellwood Patterson Cubberley* insofar as they established a new rationale for the interpretation of historical events. Bailyn and Cremin were among the first in the community to question the traditional viewpoint and in the years following to gain recognition as the initiators of a "new" historiograpy.[45] To this extent, they fathered an innovative theory of educational history and in general terms set the exemplars and techniques for its development.[46]

Underlying revisionist historiography was a set of values and beliefs that in distinctive ways departed from those held by historians of the traditional school. The history of education was no longer seen primarily as a history of formal pedagogy, "but as the entire process by which a culture transmits itself across the generations . . ."[47] In concurring with this view Cremin makes the following observation:

> Certainly, the question of how the public school came to be would remain central in any such account; but to avoid distortion it must be raised as part of a much broader inquiry into the nature and use of education at different times in our past. What agencies, formal and informal, have shaped American thought, character and sensibility over the years, and what have been the significant relationships between these agencies and the society that has sustained them?[48]

Cremin's general acceptance of Bailyn's position directs him to the study of intellectual and cultural history with emphasis on intentionality or purpose as critical to the process of education. He advocates an interactionist position which views education as "purposeful", inseparable from "biosocial emergence" and indicative of a process best described as "a continuum of contemporaneous and successive transactions" within culture.[49] His views, as a composite of many intellectual strains, are difficult to categorize.

Nevertheless in the Horace Mann Lecture of 1965, Cremin clarifies his position with a commitment to popular education. His belief in a "democratic educational program" rests in part on John Dewey's idea of growth as a "deliberate effort to achieve excellence in every domain of life."[50] This commitment to both formal and informal education recognizes, however, "that the common school continues to stand as a prime agency for undertaking this task."[51]

There also exists a belief in "progress and reform," not in a millenarian sense, but in terms of intelligently confronting those problems unique to the American educational experience.[52] Although Cremin remarks that "what happened during the first century of national life was not leading

inexorably to some foreordained present,''[53] it would seem that in adopting a view of educational culture or *paideia*, he does not entirely escape a connection between the effects of ''liberating literacy'' and the progressive achievements of American society.[54] This development for Cremin is not without an historical foundation which, in a general way, he locates in the history of western civilization and classical thought.[55]

Central to Cremin's historical theory is the notion of equilibrium or balance. Educational organizations exist in a constant state of interaction and as such may be ''complementary or contradictory, consonant or dissonant.''[56] The following description reflects this state of affairs:

> By the nineteenth century most local communities embraced multiple configurations of education and most configurations of education comprised institutions that were increasing nonlocal influences. Families in Indiana read books printed in New England hawked by colporteurs based in Cincinnati; churches and Sunday schools in Tennessee taught liturgies and disciplines developed in Europe . . .[57]

In this context, the process of education is looked upon as maintaining equilibrium, continuity and gradual social change. The interplay of educative forces comes close to a structural-functionalist interpretation of social interaction,[58] permitting, moreover, an explanation that recognizes the complexity of historical data and events. To accomplish this goal, the historian may adopt hypotheses and procedures from other fields, which it is hoped, will contribute to an explicit study of historical context and a less Whiggish interpretation of the past.[59]

*Progress in Historical Theory*

The argument from Kuhn suggests that the determination of progress in the development of historical research traditions does not always represent irreversible change for the better. There is in this view a shift away from a concern with an actual representation of progress to the adequacy of criteria by which progress is to be judged. Such criteria might be explored in two ways: first, in relation to concept and methodological development within a research tradition during its period of normal growth - an internal analysis; and, second, in terms of assessing theory development between competing research traditions - an external analysis.

For an example of internal analysis, let us turn to the concept of education in both the traditional and revisionist paradigms. In the historiography of Monroe and Cubberley, the concept of education as public schooling is among the key components dominating the structure of the paradigm. This, however, does not prevent Monroe from recognizing education as a process of cultural transmission, especially when examining the history of classical Greece.[60] As Monroe moves beyond this period, education becomes more closely allied with ideals of progress and the development of institutionalized teaching and learning. These components of the paradigm are presented through a narrative description and explanation of events that include such concepts as ''humanism,'' ''realism'' and ''naturalism,'' ideas which extend beyond their historical milieu to exert an influence on existing social and individual responsibilities of the school.[61] After all, ''education is primarily a preparation for citizenship'' and the school plays a major role in its realization.[62]

Cubberley is not unaware of the different meanings attached to education in the course of history. Like Monroe, he identifies major movements and thinkers from the past that have contributed to what he considers the ideals of western education. His understanding of the concept, however, seems to be more oriented towards national state education as described in the American tradition. His special interest in the professionalization of education, administrative developments and curriculum reorganization reflect this concern. He employs a variety of explanatory techniques, including the genetic method and the use of statistics and graphs, to reinforce the concept of public

school education and its contribution to "national progress."[63]

The concept of education has a different history in the revisionist model where Bailyn identifies a variety of formal and informal educative agencies acting in a process of cultural renewal. The term undergoes slight but significant modification by Cremin when, in filling-out the implications of the Bailyn thesis, he introduces the notion of educational intention, for in the study of cultural agencies it is their purposive function that requires particular attention.[64] For Cremin, the history of education exemplifies the emergence of a popular *paideia* and its impact in establishing an equilibrium between "the creation of a unified American society" and a "rending of that society by civil conflict."[65] Household, church and school are among the educative agencies contributing to harmony and rational synthesis.[66] Descriptive studies of individuals whose lives are "characteristic" of American education reinforce this interactionist orientation to education.[67]

It might be argued that the concept of education has undergone change in the development of both research traditions. In the Monroe-Cubberley model, it has become more closely associated with state schooling and citizenship. Such a perspective permits the analysis of a wide range of data pertaining to classroom experiences, professional teacher activities and state legislation. In Cremin's work, Bailyn's concept of education is redefined to account for the intentional activities of both formal and informal learning, a limitation which might be looked upon as a refinement of theory. These changes in concept development, however, have not in a critical way altered the internal structure of either the social evolutionary approach of Cubberley or the interactionist orientation of Cremin. They indicate additions or modifications that have an effect on the theory's empirical content.[68] This becomes evident in the ability of the theory to account for new historical data by sharpening and deepening the conceptual net. Does such change not contribute to the "collective achievement" of the historical community?[69] Would followers see these efforts as other than progressive?

The claim that one historical theory is superior to another invokes an external analysis and introduces to the idea of progress the question of theory choice. For the historian to argue that Bailyn improves upon Monroe's interpretation of events is to insert to the deliberations a set of criteria or a basis for preference - including among others accuracy, consistency, scope, simplicity and fruitfulness - which, as noted earlier, is external to the particularities of either position. As space does not permit an analysis of all of these criteria, attention will be given to simplicity and fruitfulness, not because they are more important than the others, but because as near opposites they evoke a range of issues bearing upon the comparability of historical theories and, hence, the possibility of progress.

A theory is said to be simple when it brings order to phenomena "that in its absence would be individually isolated and, as a set, confused."[70] As such it refers to the unique association between historical theory and the data it contains. Central to this relation is the assumption among some theorists that a theory which more simply explains the course of events is an improvement upon one which does not. The criterion of simplicity, however, is not so simple. For example, it might be declared that Cubberley organizes historical data according to a "vertical" paradigm providing a narrow, but detailed focus on the history of schooling; whereas in Cremin data are presented on the basis of a "horizontal" exemplar in which education is broader than schooling.[71] What then are considered data for the Cremin paradigm, such as historical sources pertaining to familial relationships and education in the household, may not be so for Cubberley who, instead, may stress the importance of classroom and other "professional" experiences. What then represents a sense of simplicity in the one paradigm may not be so in the other, since differences exist not only

in the weight assigned to historical data but in the acceptance of frameworks by which those data are explained.

Fruitfulness refers to a theory's capability of disclosing new phenomena or "previously unnoticed relationships among those already known."[72] Take, for example, the emergence of national identity as a theme in both Cubberley and Cremin. Extolling the virtues of Anglo-Saxon and west European immigrants, Cubberley points to "education and social institutions" as means of producing among the ethnic communities the "homogeneity necessary for citizenship and national feeling."[73] Although one may question Cubberley's analysis of the American "melting pot," his idea of social evolution and publically supported state education contributed to an interpretive framework that was to serve as a referent for subsequent research. In comparison, Cremin's interpretation of education as more than public schooling introduced historians to the importance of informal educational agencies. Data pertaining to the immigration of Chinese and Germans, for example, are studied in relation to the educative influence of household and ethnic church. The "process of Americanization and its tension created by the inescapable fact of a discordant education" did not prevent the family from conducting its educative function.[74] Similarly, the Irish though "less impeded by language differences, were often segregated and indeed segregated themselves as Roman Catholics." Nevertheless, mothers "who had worked as domestics before marriage . . . were frequently able to teach the characteristic American dress, mannerisms, and attitudes they had learned in the homes of their employers."[75] Cremin's theory, based on the intentional transmission of culture and its interactionist orientation to social equilibrium and progressive change, allows for the discovery of hitherto unexplored historical data and educational relationships.

Although similar arguments could be extended to criteria of scope, accuracy and consistency, it is evident from these illustrations that criteria differ in their application. Stated otherwise, though simplicity and fruitfulness may be applied to both traditional and revisionist paradigms, they do not invoke rigid rules of theory choice, but rather the values upon which that choice is made - and depending upon the historian, such values may vary in their importance. Therefore, one historian may value and emphasize the criterion of simplicity, whereas another may stress the significance of fruitfulness. This would suggest that a choice among competing paradigms reflects more than "technical" disagreements about the nature and purpose of concepts and explanations. It would indicate that the historian's values, which underlie the selection and categorization of data within a paradigm, are critical in determining preference among criteria that may be employed to assess the relative merits between competing paradigms, pointing once again to the significance of the historian's social reality in theory choice.[76]

These considerations suggest a problem fundamental to any comparison of different paradigms. Identified as incommensurability, it is characterized in Kuhn's claim "that communication between proponents of different theories is inevitably partial, that what each takes to be facts depends in part on the theory he espouses."[77]

More specifically:

> Proponents of different theories (or different paradigms, in the broader sense of the term) speak different languages - languages expressing different cognitive commitments, suitable for different worlds. Their abilities to grasp each other's viewpoints are therefore inevitably limited by the imperfections of the processes of translation and of reference determination.[78]

If this is the case, then the core of the Monroe-Cubberley theory, centering on state education,

social evolution and public schooling is incommensurable with the Bailyn-Cremin theory focusing on non-institutional education and the interactionist development of national education. This does not imply that Bailyn is unaware of public school education or that Monroe lacks an understanding of education as cultural transmission, for as the evidence indicates, both historians are cognizant of each other's meanings; rather it suggests that within a given theory, even similar terms express "different cognitive commitments, suitable for different worlds."[79]

It might be claimed that progress would occur if one theory could be incorporated into the other, thereby improving upon the description and explanation of events. Such a feat, however, would necessitate a change in the "cognitive commitments" and "points of reference" which define the boundaries of each paradigm.[80] If this were possible, then the theories as they are known would no longer exist, for the acceptance of a new super-theory - one that combines both the traditional and revisionist interpretations - would alter not only the established concepts and explanations, but as argued, the criteria by which they are to be judged. As an alternative, would it be unreasonable for the historian to employ both theories? This could only be accomplished, however, if the historian were prepared to indicate that at any given time, one as opposed to another theory was being presented. Would it not be impossible to hold simultaneously both traditional and revisionist conceptions of education and in the explanation of events introduce appropriate historical data?

Other questions arise. Is it possible for one historical theory to permanently dislodge another because it improves upon the explanation of educational events? Is the influence of culture on education, though evident in traditional historical theory, more thoroughly explained in the revisionist model of Bailyn and Cremin? Furthermore, does Cremin's analysis more successfully account for the family as an educative influence? Finally, can it not be argued that the inability of the Monroe-Cubberley theory to solve the puzzles prompted by a consideration of Bailyn's informal education has led to "crisis" and "revolution" in historical explanation and, hence the emergence of a new theory?

Surely, a positive response to these questions is an affirmation of progress - at least for those historians who have left behind traditional historiography and its pattern of research. Perhaps. Yet an observation from the history of science may be instructive:

> . . . though the bulk of scientific knowledge clearly increases with time, what are we to say about ignorance? The problems solved during the last thirty years did not exist as open questions a century ago. In any age, the scientific knowledge already at hand virtually exhausts what there is to know, leaving visible puzzles only at the horizon of existing knowledge. Is it not possible . . . that contemporary scientists know less of what there is to know about their world than the scientists of the eighteenth century knew about theirs?[81]

The argument might be extended to historical research where preference for a new theory indicates a different interpretation of the field and its problems - but, apart from an increase in empirical knowledge, can such reorganization be termed progressive? After all, what external standards allow a judgment of that kind?

These observations on historical theory suggest further inquiry into the concept of the paradigm and its use in the study of history. It could be argued, for example, that the analysis of social evolution, public schooling and national identity are insufficient for an understanding of the Monroe-Cubberley theory as other influences, such as Thorndike's scientism, should be considered. Similarly, the identification of an interactionist orientation and its application to education as cultural renewal may be inadequate to a comprehension of the Bailyn-Cremin position. Beyond these concerns, there is a need to more fully explore the nature and impact of values held by the

historical community which affect not only the selection and presentation of concepts, but the application of criteria in the assessment of change both within and between competing historical traditions.

In order to clarify the meaning and implications of the paradigm, it would be helpful to examine other historiographic traditions, represented, for example, by the work of "social" theorists. Such analysis, if conducted with reference to the Monroe-Cubberley theory, might yield different insights into the criteria by which the community justifies historical interpreation, progress and theory development. The concept of schooling and its place within the structure of the paradigm would be of particular interest in a comparison of these traditions.

*Conclusion*

In the pursuit of theoretical questions, there is always the possibility, as one critic so aptly observes, of designing more clothes for the emperor's wardrobe. However prophetic, the remark does not detract from the importance of theory development in the history of education, for the historian's interpretation of events is at bottom inseparable from the more speculative problems of inquiry. In our study, the significance of theory emerges in two different though not mutually exclusive ways. On the one hand, it functions as a map which sets the rules governing the identification and interpretation of paradigms. As such it contributes to an understanding of progress by establishing a framework for the description and explanation of historiographic traditions. On the other hand, and perhaps of greater significance, it operates as an instrument of policy by stimulating questions about the nature of progress in historiography, with criteria of theory choice becoming the focus of investigation.[83] This latter function highlights the value of reflection and commentary on theory as a central but neglected concern since it addresses the basis of preference for one view of history over another. In these tasks, attention to Kuhn's idea of progress lessens a theory deficit in the history of education and, in the process, advances new frontiers for historical research.

Notes

1. A standard work is J.B. Bury, *The Idea of Progress: An Inquiry into Its Growth and Origin* (New York: Macmillan Co., 1932) and especially the "Introduction" by C. Beard, pp. ix-xl. Also see. C. van Doren, *The Idea of Progress* (New York: Frederick A. Praeger, 1967); and M.I. Finley "'Progress' in Historiography," *Daedalus* 106 (Summer 1977): 125-142.

2. S. Pollard, *The Idea of Progress: History and Society* (Middlesex, England: Penguin Books Ltd., 1968), pp. 9-13.

3. On these questions there is a vast and informative literature which among others includes: A. Anderson, "Bases of Proposals Concerning the History of Education," *History of Education Journal* VII (1956): 37-98; M. Chiapetta, "Recommendations of the Committee," *History of Education Journal* VII (1956): 99-132; and L. Cremin, "The Recent Development of History of Education as a Field of Study in the United States," *History of Education Journal* VII (1955): 1-35.

More recent studies include W. Brickman, "Revisionism and the Study of the History of Education," *History of Education Quarterly* 4 (1964): 209-223; G.J. Clifford, "Education: Its History and Historiography," *Review of Research in Education* 4 (1976), pp. 210-267; S. Cohen, "The History of the History of American Education 1876-1976," *Harvard Educational Review* 46 (1976): 298-330; L. Cremin, *Traditions of American Education* (New York: Basic Books, Inc., 1977), especially pp. 129-164; and D. Warren, ed., *History of Education and Public Policy* (Berkeley: McCutcheon Publishing Co., 1978).

4. Kuhn has completed a number of studies on the history of science the most important of which for this paper are *The Essential Tension: Selected Studies in Scientific Tradition and Change* (Chicago: the University of Chicago Press, 1977), a collection of new as well as previously published essays; "Notes on Lakatos," *Boston Studies in the Philosophy of Science Vol. VIII*, eds. R.C. Buck and R.S. Cohen (Dordrecht, Holland: D. Reidel Publishers, 1971), pp. 137-146; "Reflections on my Critics," *Criticism and the Growth of Knowledge*, eds. I. Lakatos and A. Musgrave (Cambridge: Cambridge University Press, 1970), pp. 231-278; "Science: The History of Science," *International Encyclopedia of the Social Sciences Vol. 14* (New York: Crowell Collier and Macmillan Inc., 1968), pp. 74-83; and *The Structure of Scientific Revolutions*, 2nd ed., enl., International Encyclopedia of Unified Science (Chicago: The University of Chicago Press, 1970).

5. Kuhn, "Logic of Discovery or Psychology of Research" in *The Essential Tension*, p. 284.

6. In Kuhn, *The Structure of Scientific Revolution*, p. 177, the community refers to those individuals "uniquely responsible for the pursuit of a set of shared goals, including the training of their successors."

7. In this paper attention is primarily restricted to a study of those factors "internal" to the field itself, leaving the no less influential economic, social and other "external" factors to a subsequent inquiry. See Kuhn, *The Essential Tension*, p. XV for a comment on this distinction.

8. The relationship among such terms as "theory," "paradigm," "methodology," and "metatheory" has been defined in various ways. In this paper, the term "theory" follows N.R. Hansen, *Patterns of Discovery* (Cambridge: Cambridge University Press, 1965), p. 90 where he remarks that it constitutes a "conceptual Gestalt" in that it puts "phenomena into systems." It is in concert with Kuhn's interpretation of the word and is frequently used in conjunction, and occasionally interchangeably, with the term "paradigm." See Kuhn, "Logic of Discovery or Psychology of Research," p. 267 and his "Objectivity, Value Judgment and Theory Choice" in *The Essential Tension*, p. 321. Also see W. Stegmuller, *The Structure and Dynamics of Theories* (New York: Springer-Verlag, 1976), p. 217.

L. Laudan, *Progress and Its Problems: Toward a Theory of Scientific Growth* (Berkeley: University of California Press, 1977), p. 80 notes that the study of research traditions addresses questions of metatheory and methodology, for "one's views about appropriate *methods* of inquiry are generally compatible with one's views about the *objects* of inquiry" (italics in original). "Metatheory" in this context is defined as the theory about theory. Also see P. Feyerabend, *Against Method* (London: Humanities Press, 1975) who examines many of Kuhn's concerns from a perspective which views science as an "anarchistic enterprise." Citing the work of Galileo, he argues against the rationalistic basis of methodological structures.

9. In addition to those already noted, attention might be drawn to a collection of essays relating Kuhn to various disciplines in G. Gutting ed., *Paradigm and Revolution: Appraisals and Applications of Thomas Kuhn's Philosophy of Science* (Notre Dame: University of Notre Dame Press, 1980); L. Harvey, "The Use and Abuse of Kuhnian Paradigms in the Sociology of Knowledge," *Sociology* 16 (February 1982): 85-101; M. Pirie, *Trial and Error and the Idea of Progress* (La Salle, Illinois: Open Court Publishing Co., 1978); and G. Wise, *American Historical Explanations: A Strategy for Grounded Inquiry* (Minneapolis: University of Minnesota, 1980).

10. For an insightful analysis of different approaches to the history of education, see D.B. Tyack, "Ways of Seeing: An Essay on the History of Compulsory Schooling," in *History, Education, and Public Policy*, pp. 56-89.

11. See W. Feinberg, "On a New Direction for Educatonal History," *History of Education Quarterly* 21 (1981), especially pp. 238-239 for commentary on the need for studies in the metatheory of educational historiography.

A different but related sense of paradigm is not directed to the paradigmatic implications of the historian's school or tradition of historiography but rather to the "pedagogical" paradigm represented in the work of educators which becomes the subject of historical investigation. Reference might be made, for example, to the

way in which the pedagogical principles employed by Aquinas as paradigmatic in nature shaped the emergence and growth of curriculum following the Renaissance of the Twelfth Century. For this procedure, see Henry W. Hodysh, "The Kuhnian Paradigm and Its Implication for the Historiography of Curriculum Change," *Paedagogica Historica* XVII (1977): 75-87.

12. Kuhn, "Logic of Discovery or Psychology of Research,"p. 289.

13. Kuhn, *The Structure of Scientific Revolutions*, p. 165.

14. Kuhn, "Objectivity, Value Judgment and Theory Choice," pp. 321-322.

15. Ibid., p. 325.

16. Kuhn *The Structure of Scientific Revolutions*, p. 175. Also see M. Masterman, ":The Nature of a Paradigm" in *Criticism and Growth of Knowledge*, pp. 59-89 for an analysis of Kuhn's use of the term paradigm.

17. Ibid., pp. 182-185.

18. See Kuhn, "Preface," *The Essential Tension*, p. xxii and "Objectivity, Value Judgment and Theory Choice," p.331. Also see J.R. Ravetz, *Scientific Knowledge and Its Social Problems* (Oxford: Clarendon Press, 1971), p. 40 who notes the importance of values "which serve to guide and to justify the practice of a particular group."

19. Kuhn, *The Structure of Scientific Revolutions*, p. 175.

20. Ibid., pp. 191-194.

21. Kuhn, "Notes on Lakatos," p. 138 where he also remarks on the similarity if not identify of meaning among the terms "traditions," "paradigms,": and "scientific research programs."

A rival though in some ways similar interpretation is advanced by I. Lakatos, *The methodology of scientific research programmes*, Philosophical Papers Vol. 1. eds., J. Worrall and G. Currie (Cambridge: Cambridge University Press, 1978), pp. 110-111 who identifies the concept of paradigm with that of a research programme "with a conventionally accepted (and thus by provisional decision 'irrefutable') '*hard core*' and with a '*positive heuristic*' which defines problems, outlines the construction of a belt of auxiliary hypotheses, foresees anomalies and turns them victoriously into examples, all according to a preconceived plan" (italics in original).

22. Kuhn, *The Structure of Scientific Revolutions*, p. 163. The question of whether paradigms succeed one another in a revolutionary way has been the subject of much debate. See, for example, Lakatos, *The methodology of scientific research programmes*, p. 69; and K.R., Popper, "Normal Science and Its Dangers" in *Criticism and the Growth of Knowledge*, p. 55 in a critical response to what he identifies *inter alia* as Kuhn's "historical relativism."

23. Kuhn, *The Structure of Scientific Revolutions*, p. 163.

24. This suggests that history may be looked upon as a discipline in what Kuhn refers to as a "pre-paradigmatic" stage of development. *Ibid.* p. IX.

25. The terms "educational historian" and "historian of education" are used interchangeably in this paper.

26. W.J. Mommsen, "Social Conditioning and Social Relevance," *History and Theory* Beheift 17, XVII (1978): 23, and compare with Kuhn's remarks on "tacit knowledge and intuition" in *The Structure of Scientific Revolutions*, p. 191.

27. E.H. Carr, *What is History?* (Harmondsworth, England: Macmillan, 1961), p. 23.

28. Kuhn, *The Structure of Scientific Revolutions*, pp. 190-191.

29. Kuhn, *The Structure of Scientific Revolutions*, p. 109.

30. See N.L. Friedman, "New Orders and Old: Historians, Educationists, and the Dynamics of Academic Imperialism," *The American Behavioral Scientist*, Reprint IX (October 1965): 24-29 for a sociological analysis of the Monroe-Cubberley and Bailyn-Cremin debate and the emergence of revisionist historiography. Also see a brief but insightful paper by H.G. Lewis, "Bailyn and Cremin on Cubberley and History of Education," *Educational Theory* 17 (1967): 56-59.

31. This paper does not attempt to explore the full range of research activity contributing to these traditions but, in keeping with Kuhn's analysis in *The Structure of Scientific Revolutions*, will identify what appear to be the central features of the paradigms as evident in the work of a few prominent figures. To this end, the analysis emphasizes theory development during periods of normal, puzzle-solving research, leaving to a subsequent paper the question of unexplainable phenomena in theory and their impact on possible crisis and revolution in the discipline.

32. See R.E. Thursfield, "Ellwood Patterson Cubberley," *Harvard Educational Review* IX (January 1939): 43-62 and more recently L.A. Cremin, *The Wonderful World of Ellwood Patterson Cubberley* (New York: Teachers College, 1965), pp. 12-17.

33. P. Monroe, *A Text-Book in the History of Education* (New York: Macmillan Co., 1905), p. ix.

34. Ibid., p. 751.

35. (New York: Macmillan Co., 1906), p. vi.

36. Monroe, *A Text-Book in the History of Education*, p.758. Compare with J. Higham, *History: The Development of Historical Studies in the United States* (Englewood Cliffs, New Jersey: Prentice Hall Inc., 1965), pp. 111-112 who relates the notion of progress to the "new history" of J.H. Robinson in mainstream historiography.

37. (Cambridge: Houghton Mifflin Co., 1947; revised and enlarged, orignally published 1919), p. vi.

38. E.P. Cubberley, *Changing Conceptions of Education* (Boston: Houghton Mifflin Co., 1909), p. 54.

39. E.P. Cubberley, *The History of Education* (Boston: Houghton Mifflin Co., 1920), pp. 837-838.

40. E.C. Moore, "Review of E.P. Cubberley's *Public Education in the United States*," *Educational Review* (September 1920): 162.

41. Monroe, *A Text-Book in the History of Education*, p. viii.

42. Ibid., p. 34.

43. For a discussion of the transitional process from an "old" to a "new" paradigm see Kuhn, *The Structure of Scientific Revolutions*, p. 139.

44. See R.F. Butts, "Public Education and Political Community," in *History, Education and Public Policy*,pp. 90-108.

45. B. Bailyn, *Education in the Forming of American Society* (New York: Alfred A. Knopf Inc., 1960) served as a key work for subsequent revisionist historiography. For a discussion of the influence of the "new" historiography see, for example, M. Borrowman, "The Educational Roots of Polity" *Teachers College Record*, 1 (September 1971): 120; D. Howe, "The History of Education as Cultural History," *History of Education Quarterly* 2 (Summer 1982): 213; and W. Smith "Comments," in *The Discipline of Education* eds. J. Walton and J. Kuethe (Madison: The University of Wisconsin Press, 1963), p. 139.

46. See Cremin, *The Wonderful World of Ellwood Patterson Cubberley*, p. 73, note 74 wherein Cremin indicates that his work up to and during the fifties "represented a refinement of Cremin rather than a fundamental revision." Compare with *The Transformation of the School* (New York: Random House, 1961).

Also see K. Lynn, "The Making of a Discipline," *New York Times Book Review* (January 1981), p. 23 where he reviews Cremin's recent study *American Education: The National Experience 1783-1876* (New York: Harper and Row, 1980), noting that Cremin's reorientation from traditional to revisionist history and his acceptance of Bailyn's position is akin to a "conversion experience," for Cremin, "was no longer his own man, he was another man's disciple." Lynn's observation is not unlike that of Kuhn, *The Structure of Scientific Revolutions*, p. 159 where he suggests that the acceptance of a new paradigm is similar to conversion.

47. Bailyn, *Education in the Forming of American Society*, p. 14. Also see J.C. Eisele, "Defining Education: A Problem for Educational History," *Educational Theory* 1 (Winter 1980): 25-33 for an analysis of the term "education" and its implications for educational history.

48. Cremin, *The Wonderful World of Ellwood Patterson Cubberley*, p. 48. Compare with a similar view of W. Smith, "The New Historian of American Education,:" *Harvard Educational Review* 31 (1961): 136.

49. L. Cremin, *Traditions of American Education* (New York: Basic Books, Inc., 1977), p. 162.

50. L. Cremin, *The Genius of American Education* (Pittsburgh: University of Pittsburgh Press, 1965), pp. 33-34.

51. Ibid., p. 75.

52. Ibid., pp. 119-122.

53. Cremin, *The National Experience*, p. X.

54. Ibid., p. 494. For an analysis of Cremin's themes of popularization and social progress, see "Book Reviews: A Review Symposium of *The Genius of American Education.*" *History of Education Quarterly* 1 (Spring 1967): 102-133.

55. By implication, Cremin links these ideals to the Anglo-American tradition and their relation to Plato, Erasmus and others. For reference see *American Education: The Colonial Experience 1607-1783* (New York: Harper and Row, 1970), pp. 59-60, 380-383 and *The National Experience*, pp. 404-405. Also see Brickman, "Revisionism and the Study of the History of Education": 214 and A. Powell, "Review of Cremin's *American Education: The Colonial Experience*," *Harvard Educational Review* 2 (May 1971): 255 for comments on the apparent ambivalent attitude of American educational historians to transatlantic influences of education.

56. L. Cremin, *Public Education* (New York: Basic Books, 1976), p. 31.

57. Ibid., pp. 34-35.

58. For a detailed examination of this position see R. Merton, *Social Theory and Social Structure* (Illinois: The Free Press, 1949). Also note Borrowman, "The Educational Roots of Polity": 119 who indirectly queries the correctness of Cremin's interactionist position with its emphasis on rationalizing and harmonizing the social and educational forces in American society. Compare with M. Katz, "Review of L. Cremin, *The National Experience*," *The American Historical Review* 1 (February 1981): 206 who remarks on the lack of social theory in Cremin's work.

59. See W. Smith, "The New Historian of American Education," *Harvard Educational Review* 31 (1961): 139 who indicates that the Whiggism of educational historians in the early part of this century was not unlike that of colleagues in other branches of the field.

60. P. Monroe, *Source Book of the History of Education* (New York: The Macmillan Co., 1906), p. vi.

61. Monroe, *A Text-Book in the History of Education*, p. 575.

62. Ibid., p. 714.

63. See, for example, Cubberley, *Public Education in the United States*, p. 333.

64. Cremin, *The Wonderful World of Ellwood Patterson Cubberley*, p. 75, ftnte. 81.

65. Cremin, *The National Experience*, p. ix.

66. Cremin, *The Colonial Experience*, Ch. 16, *passim.*

67. Cremin, *The National Experience*, p. 451.

68. Stegmuller, *The Structure and Dynamics of Theories*, pp. 220-226.

69. Kuhn, *The Structure of Scientific Revolutions*, p. 162.

70. Kuhn, "Objectivity, Value Judgment, and Theory Choice," pp. 321-322.

71. Cremin, *Education in the Forming of American Society*, p. 60.

72. Kuhn, "Objectivity, Value Judgment, and Theory Choice," p. 322.

73. Cubberley, *Public Education in the United States*, p. 489.

74. Cremin, *The National Experience*, p. 376.

75. Ibid., p. 377.

76. Mommsen, "Social Conditioning and Social Relevance," p. 191.

77. Kuhn, "Objectivity, Value Judgment, and Theory Choice," p. 338.

78. Kuhn, *The Essential Tension*, pp. xxii-xiii.

79. Ibid.

80. For arguments which challenge this "rationality gap" between theories (or the so-called "irrationality" inherent in Kuhn's position) and suggest some new alternatives, see I.Scheffler, *Science and Subjectivity* (Indianapolis: Bobbs-Merrill, 1967), p. 22 ff. and Stegmuller, *The Structure and Dynamics of Theories*, pp. 219-221.

81. Kuhn, "Logic of Discovery or Psychology of Research," pp. 289-290.

82. P. Feyerabend, "More Clothes From the Emperor's Bargain Basement" (Review of Lauden, *Progress in Its Problems*) *British Journal of the Philosophy of Science* 32 (1981): 57-71.

83. A. Kaplan, *The Conduct of Inquiry* (San Francisco: Chandler Publishing Co., 1964), p. 306.