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## The application of developmental learning theories to local history museums.

Sue Sturtevant Rayner  
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THE APPLICATION OF  
DEVELOPMENTAL LEARNING THEORIES  
TO LOCAL HISTORY MUSEUMS

A Dissertation Presented

By

Sue Sturtevant Rayner

Submitted to the Graduate School of the  
University of Massachusetts in partial fulfillment  
of the requirements for the degree of

DOCTOR OF EDUCATION

September 1987

Education

Sue Sturtevant Rayner



1987

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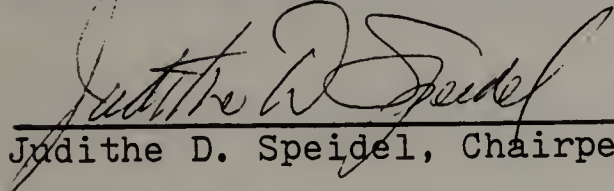
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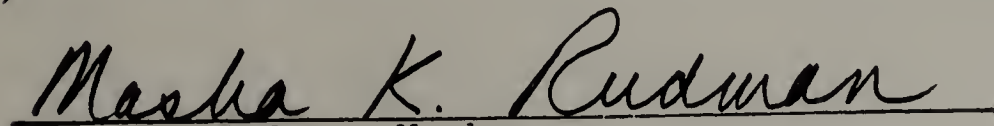
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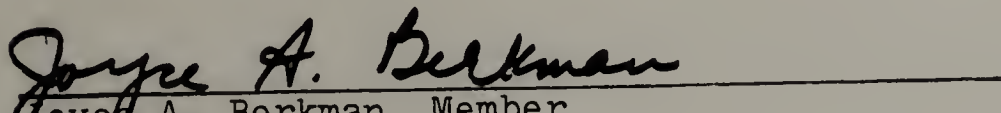
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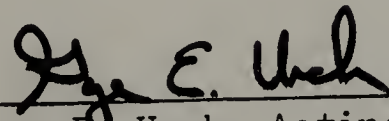
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## ABSTRACT

### The Application of Developmental Learning Theories to Local History Museums

September 1987

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Directed by Professor Judith D. Spidel

## Abstract

Interviews with museum personnel have shown that an educational framework is missing in many small historical museums. Very few museum staff appear to have a cohesive view of the ways children learn that could guide them in the initial planning of exhibits, tours, and school-related activities. Consequently, I have proposed a theoretical perspective for museum educators



that by helping them understand how children learn, enables them to teach history more effectively in a museum setting.

I have interviewed museum educators in three small local history museums to learn their background training, educational philosophies, and program designs. Using selected elements from developmental theories, I have also examined my own design of a local history museum for children at Moore Memorial State Park in Paxton, Massachusetts.

A synthesis of the theories of Dewey, Piaget, Bruner, Gilligan and Egan highlights the discovery method as one that works well in a museum setting. Translating other elements from the theories into exhibit design and curriculum programming helped me find when and how the theories were applicable and useful for museum educators.

This study rests on the premise that historical museums can teach history in a way different from the methods used in elementary classrooms. Given the fact

that museum educators teach children, they will be more effective if they first know how children learn and then use developmental learning theory to plan their programs.

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## CHAPTER I.

### INTRODUCTION

#### Preliminary Comments

This study explores the practical applications of developmental learning theories to local history museums. Although museums have become teaching institutions, they have not based their programs on what we know about learning and development in children. Are learning theories applicable to a museum setting? If so, how does the approach of using learning theory as a framework for curriculum design work for museum educators?

I have investigated five prominent learning theories and developed guidelines for programs that are child-centered and based on these theories. Teaching history is my focus here, although other areas of curriculum require the same perspective. Moore State Park in Paxton, Massachusetts was chosen as a case study showing examples of the application of the five learning theories. I have also used a sampling of three other small history museums that have diverse programming.



### Statement of the Problem

Museums have changed dramatically in the last ten years. Along with collecting and preserving artifacts, museum staff now are aware that interpretation and education are a part of their role today (Fertig). History museums, in particular, because they deal with fragile, irreplaceable objects, have long been wary of allowing children to handle their collections. But those museum educators who are willing to try fresh approaches and to see situations as "problems to solve" have had great success in working with children. These educators have found that interpretation involves imagination as well as research and knowledge in museology. But the problem they face is how to work out a lively response to the demands of contemporary educational methodology and the restraints of historical museum collections.

I discovered in preliminary talks with museum personnel that an educational framework is missing in many small historical museums. Activities are often planned and evaluated only after a single trial-run. The docent tours are planned around the collection, not the audience. Very few museum staff seem to have a cohesive view of the ways children learn that could guide them in the initial planning of exhibits, tours, and

school-related activities. Consequently, I am proposing a theoretical perspective for museum educators that by helping them understand how children learn, enables them to teach history more effectively in a museum setting.

At the present, museum educators are defining their relatively new roles in the field of museology; they are beginning to learn more about the educational aspects of their positions as contrasted to the earlier emphasis on acquiring knowledge about the content of museum collections (Gonis). However, many staff at local historical museums are volunteers or part-time state park personnel who lack training in interpretation, and most museum educators themselves are unaware of the applications of developmental learning theories to their field.

People involved in museum work have always had conflicting views on the roles museums should play. In 1968 when S. Dillon Ripley was Secretary of the Smithsonian Institution, he stated, "To me a museum as such . . . is a center for exposure rather than for education" (Larrabee 1). Yet, he wanted museums both to be natural places to visit and to serve as technical training grounds for advanced study. This point of view is similar to that of many curators of historical societies and historic homes. They want the collec-

tions to be noticed in their communities, but they do not see the relevance of their collections for educating the general public and young people (Strong House Report).

I have visited over a dozen local historical societies in Massachusetts, but in each case found difficulty in gaining access to the buildings. Because of heating costs during the New England winter, many of the small museums are closed for six months of the year. And because they usually operate with a small volunteer staff, they are only open two or three days a week with limited hours. This policy inhibits the possibility for research by students during most of the school year. Thus, the collections are unexamined and unappreciated by this large group of people potentially interested in history.

The Connecticut Valley Historical Museum, with five staff members, is an example of a medium-sized museum which has offered many outreach programs for school-age children. "History To Go" programs are forty-five minutes long, cost \$20 per group and are presented by docents who visit elementary classrooms. Pre- and post-visit materials are available for teachers to enhance the lesson. The subject matter ranges from country taverns to occupational choices in the



nineteenth century. Each presentation is accompanied by artifacts from the museum's collections.

But Museum Education Director Liz Newall says they are planning to shift from going out of the museum to bringing people in. Many new programs, workshops, and courses will be offered at the museum, including activities designed for family members of all ages. Newall confesses that she was not trained as an educator and doesn't know of many historical museum staff who were. According to her, "They have museum backgrounds, not teaching experience." She finds it difficult to interpret the museum's eighteenth- and nineteenth-century collections in an educationally sound way. Liz Newall is constantly searching for new ideas and would appreciate a pedagogical structure to draw upon.

Maud Coyle of the Museum Education Department at Old Sturbridge Village is another person who believes a cohesive framework is missing for many museum educators. As new staff are hired at Old Sturbridge, no training is given for a theoretical perspective of the way children learn. There are "bits and pieces thrown out," but each museum person brings one more personal attitude toward teaching and learning. Coyle would have liked some orientation staff training in connecting learning theory to her museum work. She explains that single articles written by OSV staff are assigned by

the Education Director to be read by new staff but "there is no clear orientation or focus." The Village, however, hires very competent, eager, enthusiastic staff who are independent learners and who throw themselves into their work. Many of the new staff come from careers in public and private schools.

Old Sturbridge Village is at the top of the list of celebrated examples of museum reconstruction and restoration. The Museum Education Department has developed outstanding publications, pre-visit packages, and on-site activities. Given this situation, it is surprising that the educational frame of reference is weak. However, rectifying that weakness is a priority among the staff.

As the examples of the Connecticut Valley Historical Museum and Old Sturbridge Village illustrate, there is a need for museum educators to be aware of learning and developmental theories pertaining to the school-age children they serve. To help meet this need, I have provided a synthesis of theories that are widely accepted, compatible, and flexible enough to be applied to museum curriculum and the teaching of history.

## Purpose of the Study

The goal of the study is to determine when and how learning theories can be used by museum educators in designing programs for small local history museums.

Since an understanding of cognitive development is a necessary underpinning for teaching in museums, I have selected some of the major learning theories relevant to the teaching of history in the works of John Dewey, Jean Piaget, and Jerome Bruner, and to discuss the implications these theories have for teaching children in grades four through eight.

And because I also wish to call on more recent research to inform my theoretical framework in educational development, my discussion also includes the work of Carol Gilligan and Kieran Egan, both of whom bring different perspectives to the study of history and cultural heritage.

An analysis of these prominent learning theories has provided essential criteria for selecting the elements necessary for designing successful history museum programs. My intent is to critique the theories in terms of practice and to discuss important features that can contribute to the better learning of history. I have tried to relate learning theory to museum educa-



tion, and to combine various theorists for this special application.

The results will be important for practitioners as well as those involved in educational research. Few studies have attempted to develop criteria for museum design that have a foundation in developmental learning theory. The study will contribute to the planning and evaluating of historical museum programs. Included for final dissemination will be a sample curriculum guide for teachers and a handbook of learning theory applications for museum educators.

### Delimitations

Because the study will concentrate on local history museums of modest size, all the conclusions reached may not be applicable to other larger or smaller museums. It may not be possible to generalize from a specific site with its particular problems to the larger field of history museums in general.

Because much of the research has taken place in a Massachusetts rural state park, the study will also have limitations related to its setting; it is uncommon to find a local history museum in a park. The other sites to be examined are also in Massachusetts. The sampling of interviewees is small because it is limited to staff in these museums.

Had the sampling been expanded to include a questionnaire for all local history museums in the state, some sites where learning theories are currently being applied in planning museum programs might have been discovered.

Broadening the study to include history museums that go beyond the local perspective could possibly bring a wider historical view that may be missing from the current study. Comparing history museums in other countries would also have been helpful.

Despite all the limitations in size and scope, the study does focus on a topic of growing importance in educational research and museum development. The results have implications for improvements in museum education, at least, for small, rural historical institutions, and at best for museum educators in general.

## CHAPTER II.

### DESIGN OF THE STUDY

#### Background Information

I have analyzed five prominent learning theories, those of John Dewey, Jean Piaget, Jerome Bruner, Carol Gilligan, and Kieran Egan, to determine their possible application to local history museums. Several criteria were extracted from these theories for use in planning education programs and in application to the design and development of history museums for children.

To gather background information on existing programs, I interviewed three museum educators, and included their respective programs for analysis. Then I studied official guidelines for interpretation of state historic sites in order to gather further background on existing programs. (Interpretation is the term used to describe the educational component of programs offered by state parks and historic homes.) Finally, I analyzed my work as designer and developer of a child-centered history museum at Moore State Park in Paxton, Massachusetts. The type of research conducted at Moore employed some of the relevant criteria for teaching and learning that were developed from the theories referred to above.

The descriptive approach proposed for this study was a combination of conceptual and applicational research. Previous investigations of ways that museums interpret their collections and design programming for children have not included developmental learning perspectives, nor have they asked questions about the value of using educational theories for history teaching in museums (Bay, 1973; Harrison, 1980; Harvey, 1980; Tilden, 1977).

### Assumptions and Research Questions

The design of the study is based on several important assumptions that are rooted in my twenty years' experience in education, as well as research in current museum programming. One assumption is that my theory choices are not merely a matter of personal preference. Such decisions entail deliberation, argumentation, and judgement. The reasons I chose the five theorists included in this study are based on their established applicability to the teaching of history and cultural values.

Another assumption is that in implementing curriculum changes, a case study is desirable before wider inquiries are attempted. A preliminary report of this kind can produce questions of design and provide data



for policy makers and administrators. Even where a case study is not the answer to a particular problem, it can be valuable for its interpretive insights.

A third major assumption has to do with my belief that educators, no matter what their fields, should have substantial knowledge of learning theories which apply to their work and the children they teach. Since museum educators need to be trained in theory and pedagogy, my research is an effort to help rectify the situation and to contribute to the growth of information in the field.

A fourth assumption, implicit in the last, is that children will learn more effectively and more enjoyably in a museum setting which offers programs based on developmental learning theories. The basis of this assumption lies in the research I have studied and in the experience I have had working with children or observing them in museums and historic houses. When tours are designed to correspond appropriately to various levels of experience and understanding, children ask high-level questions, have longer attention spans, and continue to read or write about what they have seen after their visit is over.



This study, based on the above assumptions, explores the following:

1. What aspects of developmental theories are applicable to a history museum setting?
2. In what ways are these theories useful?
  - a. curriculum design
  - b. evaluation of educational programs
3. Case Studies
  - a. Moore Memorial State Park
  - b. Other sites

Personal interviews at history museums in New England have shown that learning theories are not currently being used as the basis for program design. Exhibits and docent tours are planned around the collection rather than adapted to the interests and abilities of school children. In order to help museum educators plan more effective programs, I have presented major learning theories that are suitable bases for teaching history in museums.

### Methodology and Procedures

Through critical analysis of five learning theories I have derived criteria that are valuable points of reference for history museum educators. My investigation of theoretical issues has also produced curriculum and guidelines for other museum educators.

One pattern of descriptive research involves the development of a format for a program which could be a syllabus, a curriculum guide, a handbook, a set of directives for operation or similar contributions. Thus my investigation can be considered a pattern of the descriptive research approach suggested by McGrath, Jelinek, and Wochner in Educational Research Methods as well as by Edward Wolpert in Understanding Research in Education.

Museum educators are facing the problem of how to work within the restraints of preserving artifacts yet adapting to contemporary modes of instruction. In order to see how they are addressing this problem, I have interviewed museum educators in three small local history museums to learn their background training, educational philosophies, and program designs.

Using selected criteria, such as Bruner's "Structure of the Discipline" or Egan's use of story genre, I also examined my own design and development of Moore State Park in Paxton, Massachusetts, as a local heritage center. Because it is a state park and situated in a rural area, it has the added benefits of 380 acres of land and a moderate-size budget. However, the park lacks public visibility and has no volunteer staff to depend upon as other museums do. Work at this site is

still ongoing; reconstruction and renovations are planned for the next ten years.

### Dissemination

As a result of my research, I have prepared a curriculum guide for teachers who wish to use the facilities at Moore State Park. Because there is only one staff person at the park, teachers should be able to use the restored schoolhouse and local history museum independently if the interpreter is busy.

And because museum educators have requested help in acquiring information about learning theories, I have produced a handbook that discusses five theories and the implications for educational programming.

## CHAPTER III.

### REVIEW OF THEORIES

#### Introduction to the Theories

Within the educational field of developmental theory, several authors have gained prominence for their research and ideas about the way children learn best. There exists extensive literature, both primary and secondary source material, concerning experiments and theories of the authors chosen for this study. An extensive review of the literature indicates that each theorist, whether writing specifically about history or not, can be used by educators for teaching history in a museum setting. The writings of John Dewey, Jean Piaget, Jerome Bruner, Carol Gilligan, and Kieran Egan have all proven to be worthwhile contributors to a basis for historical museum education.

The selective review which follows examines the work of these five theorists who have written about developmental cognitive and social learning theories. Each section discusses the author, the theories themselves, and their application to the teaching of history. The final part of this section summarizes the individual perspectives that are useful for museum



educators. This study incorporates aspects of all five theories in developing criteria for museum programs.

### John Dewey's Theories of Progressive Education

John Dewey's career was one of the longest and most substantial of philosopher-educators. His first work, published in 1882, concerned problems in metaphysics; his last major writings, in 1939, concentrated on a theory of knowledge. But according to Martin Dworkin's introduction to Dewey on Education, it is "his writings on education that have exerted the widest and deepest influences upon life in the United States and other countries" (2).

It is because of the widespread and general effects of Dewey's writings that I have chosen him as the first major learning theorist to include in this study. I have also found personal success as an elementary teacher in following some of Dewey's insights into the way children learn.

When John Dewey founded the Laboratory School at the University of Chicago with his wife Alice Chipman Dewey, it was part of the many reform movements already in progress. The year was 1894 when the mood of the country was moving toward social change. The Lab School became a place to try out and experiment with

the ideas of progressive education based on pragmatic philosophy and economic sociology. Education became an "instrument of action" rather than preserving the status quo (Dworkin 7). Dewey, however, strongly cautioned educators against basing a new theory on a negative reaction to an old theory. He called for a "comprehensive, constructive survey of actual needs, problems, and possibilities" (Experience and Education 6).

Working in his Laboratory School gave him the chance to unite theory and practice and allowed him to reformulate his ideas in a pragmatic, experiential way. Educators looked to the Lab School as a model of a progressive definition of the nature of education.

Later in 1904, Dewey moved on to Teachers College at Columbia University, where he had to contend with others' misinterpretation and exaggeration of his ideas. He constantly had to confront the problems of combining traditional methodology with new approaches to knowing "truth." Part of the trouble stemmed from a certain vagueness in his language; some of his followers could not understand such basic terms as "inquiry," "growth," and "experience" as he used them in his writings.

"Dewey's language, indeed, is a principal factor in the persistent problems of measuring the effects of his work against his intentions, and of distinguishing

the latter from the interpretations of his disciples" (Dworkin 13). Nevertheless, there is agreement that Dewey promoted an individual philosophy of ideas, experimenting and changing as one went along. His philosophic synthesis provided educators with an opportunity for personal direction perhaps more than systemic innovation.

In My Pedagogic Creed, Dewey states that education "must begin with psychological insight into the child's capacities, interests, and habits. It must be controlled at every point by reference to these same considerations. These powers, interests, and habits must be continually interpreted--we must know what they mean" (22). The original Pedagogic Creed appeared in The School Journal in January, 1897. I have referred to a version printed in Dewey on Education, published by Teachers College of Columbia and selected by Martin Dworkin.

In his creed, Dewey relates the study of history to the best way children learn, that is, through the social process. For example, he recognizes that every individual profits by the social and cultural fund of being human. He believes we participate in an unconscious education by sharing moral and intellectual resources accumulated by civilization. This education



is then organized by children as they undergo the demands of social situations.

Dewey's emphasis in the Creed on the social life of the child has applications for museum educators. Disagreeing with a fragmented, non-integrative approach to curriculum, he wants each child to have the opportunity to learn from life. If we see history as a record of human social life and progress, it can have great meaning for the child; but history dealt with only as a record of the distant past becomes "dead and inert" (26). Thus, Dewey's purpose in studying history is to give to students a background in all of human life and culture.

In addition to the social aspect, Dewey's creed stresses the strong psychological side to the educational process: "The child's own instincts and powers furnish the material and give the starting point for all education" (20). In this way, the history of human activity and growth (though not necessarily events) is repeated in each child. And it is the teacher's role to see the promise of future potential in terms of cultural heritage. It is important to point out that Dewey does not, as it may seem, advocate falling back on pre-conceived social behavior and repressing the individuality of the child; he wants to prepare children for an unknown future by training them to trust



their own psychological and developmental capabilities as they compare themselves with others.

In his pedagogic creed, Dewey prepares a statement of what education and its subject matter should be. He discusses the roles of schools, the subject matter of education, and the best methods of teaching. In article IV, "The Nature of Method," he stresses paying attention to the developmental order of children's "powers and interests" once more (28). Parts of all four statements included in this work have particular relevance for the teaching of history:

1. "I believe that the active side precedes the passive in the development of the child nature..." (28)
2. "I believe that the neglect of this principle is the cause of a large part of the waste of time and strength in school work. The child is thrown into a passive, receptive, or absorbing attitude. The conditions are such that he [sic] is not permitted to follow the law of his nature; the result is friction and waste." (28)

History too often is taught as a subject to be memorized without the opportunity for students to become actively involved. Simulation games, such as *Rafa Rafa* and *Spanish Galleon*, on the other hand, require individual and group decisions regarding possible causes of historical events.

3. "I believe that much of the time and attention now given to the preparation of lessons might be more wisely and profitably expended in training the child's power of imagery and in seeing to it that he was continually forming definite, vivid, and growing images of the various subjects with which he comes in contact in his experience." (28)

History is an ideal subject with which to train young children in the use of imagery. Combining true events of the past with historical fiction can give a powerful vision of the human condition. Using these techniques, Christopher Collier wrote My Brother Sam Is Dead so that children would be better able to see all the sides to the complex decisions people had to make during the War for Independence. Oral interviewing is another technique for developing "definite" and "vivid" images of family history. The words people use to describe family relationships and special traditions are often surprisingly colorful.

4. "I believe that interests are the signs and symptoms of growing power. I believe that they represent dawning capacities. Accordingly, the constant and careful observation of interests is of the utmost importance for education." (29)

Drawing upon children's interests to teach various aspects of history is eminently reasonable. Developmentally speaking, many fourth graders are attracted to collections of arrowheads and projectile points; this

is an opportune time to introduce the rudiments of archaeology and prepare students to value and preserve what is underfoot.

Dewey's summation in My Pedagogic Creed is that education is a continuing reconstruction of experience. History, of course, plays an important role in every child's formation. He concludes by saying, "I believe that the only way to make a child conscious of his social heritage is to enable him to perform those fundamental types of activity which make civilization what it is" (26). Since education is process and goal combined, learning and doing go hand in hand.

The last chapter of The School and Society (original copyright, 1900) is titled "The Aim of History in Elementary Education." Dewey is adamant that history solely as a record of the past should be left out of the elementary curriculum. But history considered as "an account of the forces and forms of social life" should be included for study because social life is always with us (151).

"History must be presented, not as an accumulation of results, or effects, a mere statement of what has happened, but as a forceful, acting thing" (151). He wants students to use information to construct dramatic pictures of human success and failure, all the while considering the question of how human beings live. He



stresses that this "consciousness of the social aim of history" will enable students to appreciate and understand what lies ahead (154).

Teaching history from Dewey's theoretical viewpoint involves encouraging children to actively pursue their interests, starting with family life and making connections with other families of the past. An example of taking part in human affairs comes from Richard Murphy, a former teacher in Kennebunkport, Maine. The children in his class read the Diary of Anne Frank, and then initiated the writing of a play version using some primary documents such as trial transcripts, diaries, and newspaper articles. Students interviewed survivors of concentration camps and then discussed the ways the war had impact on our world today. As the children acted out people's lives from the past, they reconstructed the experience for themselves (Murphy interview, spring, 1985).

### Jean Piaget's Theories of Intellectual Development

Jean Piaget's first work translated into English was The Language and Thought of the Child published in 1926. Forty years later he wrote with his long-time collaborator, Barbel Inhelder, The Psychology of the Child which was meant to be a summary of past investigations. His last works, written before his death in

1980, returned to the biological investigations and philosophical considerations of his youth. During the intervening years of his lengthy career Piaget published numerous articles and several dozen books ranging in topic from the child's conception of time, the development of memory and identity, the early growth of logic to the child's conception of space.

As a child psychologist, Piaget was most involved with genetic epistemology or the developmental study of the nature of knowledge: how it begins and how it develops. Together his topics for discussion and his abstract, very technical vocabulary often presented a challenge to translators and to his readers. He finally began to catch the interest of American psychologists in the mid-1960's and a few years later, educators became involved in his research. Piagetian theory has now become a base for the study of children's thinking. His semi-clinical interview method of investigation, particularly with science and mathematical manipulatives, has persisted as well as his meticulous model of longitudinal observations using his own three children.

Piaget has perhaps stimulated more thought for research in teaching history than any of the other theorists covered in this study. As Michael Zaccaria points out in an article in the May, 1978 issue of The

History Teacher, several schools of thought, especially in Europe, have evolved to take a stand on the development of historical thinking skills (Elton, 1970; Evans, 1975; Hallam, 1972; Jones, 1970; Lowe, 1976).

"Since the 1960's a number of British psychologists have been applying the Piagetian stage theory of cognitive development to the way children learn disciplines other than mathematics and science" (325).

Some of the areas of study involve general cognitive and curriculum theory, historical thinking, chronological thinking, and geographical thinking.

Whether or not all of Piaget's theories prove to be correct, they have provided a stimulus for research and a catalyst for changing the way we look at children.

A main feature of Jean Piaget's theory of intellectual development emphasizes a normal sequence which we all go through, although at varying speeds and at deeper developmental levels for some people. Piaget's interest in biology, zoology, and philosophy combine to form a focus on what is common to us all. Trained as a zoologist, he tries to place human behavior in the context of other living things. A key question of his is how do we adapt to our environments. Intelligence, he believes, plays the major role in this adaptation.



"In an act of intelligence...the end is established from the outset and pursued after a search for the appropriate means" (Psychology 9). The function of a child's act is adaptation. When a child receives and registers information, there is an accommodation of each element to the others. At the same time the input is being changed by the mediating process, the mediating processes are being changed by the input. For example, the sizes of objects we look at appear to vary with the distance to the object. We continually modify our view of the world.

In one of his last works, Adaption and Intelligence, published in 1980 (French edition, 1973), Piaget goes back to the biological question of relations between environment and hereditary variation and to corresponding problems in the development of knowledge. He concludes once again that living organisms are self-regulating systems trying to achieve a stability or harmony with the environment. This state of equilibrium, once reached, is not a state of rest. There is continual activity toward extension or development beyond the equilibrium. "This extension is achieved by means of reorganization involving new combinations, but where the elements recombined are derived from the preceding system which is now, as it were, overtaken" (118).

Another point to consider is the strong emphasis on activity found in Piaget's thinking. He believes we take action in trying to make our environment fit into already existing structures. This part of the adaption process, incorporation, is called assimilation. "In other words, every newly established connection is integrated into an existing schematism" (Psychology 5).

Both processes work jointly, but in reverse: assimilation tries to preserve the structure, while accommodation fits the behavior to the environment thereby working for growth and change.

Piaget sees the child as a constructionist, or one who attempts to build personal theories of the world. Learners are involved in storing, organizing, and manipulating knowledge for themselves. As human beings we build in our minds a working model of the world around us. The structure remains throughout the lifetime, although it is enriched and expanded. We draw upon this model whenever we think out a course of action.

In one experiment on memory (Psychology 81), Piaget arranged some cubes and tested children under three different conditions: 1) the child merely looked at the cubes, 2) the child watched an adult arrange the cubes, and 3) the child actively copied the arrangement. The best results derived from actively copying



the arrangement. Action, then perception, succeeded better than perception, then action. The startling final revelation was that watching the adult arrange the cubes was no better than mere perception of the given arrangement. Does this imply that teachers "showing" a child a task is not particularly helpful? Above all, his research indicates it is better to have both the inquiry and the discovery made by the learner. It seems that active involvement is the way most children learn best.

In the conclusion of The Psychology of the Child, Piaget discusses other factors involved in cognitive development, such as motivation. "It may seem that affective, dynamic factors provide the key to all mental development and that in the last analysis it is the need to grow, to assert oneself, to love, and to be admired that constitutes the motive force of intelligence, as well as of behavior in its totality and in its increasing complexity" (158). Behavior patterns, or actions, are unified into a whole structure based on both factors of development. "The two aspects, affective and cognitive, are at the same time inseparable and irreducible" (158). Every intelligent act is accompanied by feelings and these feelings provide the spark for growth. We could say that intelligence gives the structure for actions, while feelings provide the

dynamics. Of paramount importance to educators are the stages of development as set forth by Piaget. The Psychology of the Child lays out for us the major periods in a child's life which go from birth to fifteen years. "Basically the mental development of the child appears as a succession of three great periods. Each of these extends the preceding period, reconstructs it on a new level, and later surpasses it to an even greater degree" (152). Studying these structures of thought helps us to explain major behavior patterns. An outline of the periods follows:

#### I. Sensorimotor Level (birth to 18 months)

Reflexes develop into organized behavior patterns or schemas which can be used intentionally. The child becomes capable of inventing new means of doing things and can solve certain problems on a practical level. The child slowly becomes less egocentric and begins to distinguish the independent existence of other things. Some movements can be reversed from A to B to get back to A again.

#### II. Concrete Operations of Thought (18 mos. to 11 yrs.)

This long stage is divided into two sub-periods. The first, or pre-operational, lasts until around age 7 and is the time to prepare for concrete operational thinking. Instead of performing purely physical acts, the child is developing the ability for acts of thought based on physical behavior. Language is developing and expanding, although true conceptualization may not be taking place. Egocentrism continues as the pre-operational child has difficulty taking another person's point of view. Children also fail to "decenter" (can think of objects in only one way, rather than multiple ways). Thinking is closely tied to visual per-

ceptions, so children do not conserve or think logically.

Concrete operations are actions carried out in the mind based on such things as combining, ordering, and separating objects. These cognitive actions are closely organized into a system. After age 7, logical thinking does occur, especially if concrete objects are available. Children are able to think out possible consequences of action ahead of time. Decentering becomes possible and reversibility of operations is recognized. Thinking is still primarily tied to concrete objects, things that can be perceived and manipulated. It is, however, hard to imagine or think abstractly about future possibilities in any organized way.

### III. Formal Thought and the Combinatorial System (12 years to adult)

The most advanced stage of cognitive development begins at adolescence when operations are performed on ideas as things. Relationships between symbols can be understood. The child can construct theories and reach logical conclusions based on abstract thinking. Comparisons, contrasts, deductions, and inferences can be made.

In discussing the educational implications of Piaget's theory, I am not including the child's sensorimotor level which comes at the very earliest ages. By the time a child is in grade school, however, and being taught about history, concrete and formal operations of thought are in evidence. These stages should be of interest to museum educators for the insight they give into the developmental abilities of most children. Some researchers have found discrepancies in the sequences of specific behaviors within and across the various stages, so it would be wise not to use Piaget's



theory to narrowly prescribe the kind of instruction that children need (Kuhn 1979). However, his excellent framework and emphasis on learning as a constructive process give us a model for a history curriculum based on problem solving and inquiry.

The concrete operational learner has the ability to coordinate two different viewpoints simultaneously which is so important in gaining historical perspective. "The transition from concrete to formal operations, occurring primarily in the middle-school period, launches mental developments which free students to interact mentally with much greater flexibility toward an increasingly broadening and complex world" (Rosenweig 38). It is the formal operational learner who is no longer tied to concrete reality and is able to deal with higher levels of abstraction, including the past. It is at this age that most students seem to develop a deeper, wider ranging view of history, while younger students seem best suited to study the concrete past, such as local history, where events, places, or persons are related to the present. The concrete aspects of ongoing historical events, as reported on television, can also make an impression on young students.

For some time now, secondary educators have been troubled by a decline in student interest and academic success in the study of history. "Scholars who have



applied developmental theory to the problems of teaching history have proposed the possibility that basic incompatibilities exist between adolescent intellectual development and the nature of the discipline of history" (Rosenweig 55). This concern arose from research conducted in England designed to apply Piaget's theories of abstract thinking and hypothetico-deductive reasoning to the teaching of history.

Several studies by Roy N. Hallam indicate that students do not attain the formal operational stage until age sixteen or later. His experiments, however, relied heavily on a series of textbook historical narratives, each accompanied by prepared questions. Students had difficulty with comprehension of excess information given in an artificial structure. The texts themselves did not generate hypotheses, probably because students saw them as final documents, not meant to be points of departure. Hallam mentioned that the pupils in his research had usually been taught in a formal way (10).

His conception of history, however, represents only one of a number of ways to teach the discipline. "This sort of misconception, shared by many people, involves a perception of history as a narrative consisting of a certain number of selected facts about the past which students need to learn" (Rosenweig 57).

Depending upon the level of cognitive development of their students, teachers could present a view of history as inquiry into the past using concrete primary sources such as photographs, maps, and diagrams instead of a closed, structured system of predetermined facts. I believe students who learn to think and see as historians do would learn to be more analytical, reflective, critical, and independent than those who are asked to synthesize information given in conventional texts.

Piaget, himself, did not discuss specific curriculum ideas, but he offered a "structural foundation for tomorrow's education" in his book To Understand Is to Invent. He believes neither in empiricism nor innateness, but rather "affirms a continuous surpassing of successive stages. This obviously leads to placing all educational stress on the spontaneous aspects of the child's activity" (11).

In addition, to cultivate the experimental spirit, teachers must allow children to carry out procedures freely with the added opportunity of reconstructing by rediscovery. Piaget wants the minds of instructors to become less and less compartmentalized with the result of broadening present curricula. Thus, history should be taught in an interdisciplinary fashion since it is a field that can truly incorporate such studies as an-

thropology, politics, economics, archaeology, and sociology. As Piaget puts it, there should be nothing to keep "history instructors from exposing the more general tendencies revealed by the evolution of civilization, rather than confining themselves to the succession of battles and dynasties" (33). His views correspond to an integrated approach toward history which would have the students asking how and why rather than what and when.

#### Jerome Bruner's Educational Theories of Instruction

Jerome Bruner, the third theorist to be considered in this review, is an appropriate choice because he is the link between the pedagogical models of Dewey and the epistemological theories of Piaget. As an educational psychologist, he approaches the ways children learn with the strong belief that "a theory of development must be linked both to a theory of knowledge and to a theory of instruction, or be doomed to triviality (Toward a Theory 21). In essence, learning involves translating outside experiences into new forms, organizing that information, and then going on to new modes of organization.



Bruner has spent his career trying to determine how we know what we know and in devising curricula that are a direct result of his experiments. He taught psychology at Harvard for twenty-seven years, then at Oxford University from 1972-1981. He is now at the New School for Social Research. His recent autobiography, In Search of Mind, stresses the pleasures of his various intellectual collaborations which have contributed to both research psychology and educational reform.

In his studies Bruner has found there is "an absence of theory of instruction as a guide to pedagogy" (Toward a Theory 31). He has always tried to fill that gap. In 1959 he headed a ten-day meeting in Woods Hole called by the National Academy of Sciences to examine the fundamental processes of teaching science to young people. Included in the group of thirty-five scientists, scholars, and educators were two historians who brought a different perspective to the issues of teaching and curriculum development. The origin of his book The Process of Education comes from the reports and discussions of that conference.

Many of the themes of that book relate to a general view of the teacher, learner, and subject matter which can be applied to the discipline of history. Putting professional minds to work in developing curricula seems to be one way of promoting depth in the



curricula so that students may learn to think in the manner of scientists, mathematicians, and historians.

By 1960 scholarly, experimental curriculum units had been developed nationwide in math and science, but Bruner noted that the areas of social studies, language, and humanities were in need of attention. I agree with Bruner that the decision as to what should be taught in American history to elementary school children is one that can best be reached with the help of those with a high degree of vision, competence, and experience in the field (Process 19). When museum historians begin to think in pedagogical terms, high level, exciting ideas can result. The best teachers, regardless of setting, should have a deep knowledge of the subject as well as the best materials and latest information about children.

The Process of Education introduces Bruner's ideas on the role of structure in learning and how it may become central. The real problem is how to construct curricula that reflect the underlying, basic principles of the field of inquiry. Bruner believes that these foundations may be taught, without being watered down, in some form to students of any age. The basic, general ideas are later broadened and deepened in the continual process of a child's education. Subject matter is presented in a "spiral curriculum that turns

back on itself at higher levels" (13). Going back over fundamentals at a later stage makes the subject more comprehensible each time. Details are added to a pattern already in place, and thus, are not forgotten. But, of course, tailoring the underlying principles of a field of study to the capabilities of children is never easy. And teachers must also carefully preserve some of the existing steps of discovery for the children to make themselves. This effort toward balance, however time-consuming, leads to better group discussions where children articulate what they know about relationships and connections.

Above all, the structure of a discipline needs to be represented in terms of the child's way of viewing things. And here, Bruner agrees with Piaget's three stages of intellectual development. But beyond the natural course of cognitive operations should lie challenging problems that encourage the learner to jump ahead to the next stages. Children can learn very quickly when given terms that they understand; the terms need to be intellectually honest and studied through materials which can be handled. Primary source material and tangible artifacts, for example, can lead to an understanding of historical trends better than a lecture on time-lines.

"Man: A Course of Study" designed by Bruner as an elementary social studies curriculum, is structured around three questions posed directly to the children:

What is human about human beings?

How did they get that way?

How can they be made more so?

The title of the unit has been changed in many schools to "HACOS" or "Humans: A Course of Study." The plan was to explore five subjects associated with the evolution of man, the distinctiveness of the species, and the potential for further evolution. After much controversy over the content matter, issues of violence and death, and the large amount of time spent in class discussion, "MACOS" has proved the point that good curriculum teaches students to participate in the process of establishing knowledge. The five topics of language, tool making, social organization, child rearing, and representation of world view serve to point out similarities among cultures and the need for general principles in understanding people and society.

Bruner steers away from Dewey's emphasis that we should begin teaching social studies from the small, localized and familiar world and gradually work outward to the larger, more complex world. Presenting the familiar scenes of our home, the street, the neighborhood, the town is a "thoroughly commendable ideal;



its only fault is its failure to recognize how difficult it is for human beings to see generality in what has become familiar" (Toward a Theory 93). With "MACOS" Bruner sets out to find similarities in the unfamiliar by comparing cultures to find what is alike in the midst of what appears exotic. He thinks there are more direct, dramatic, emotional connections to be made by children in this kind of study of social life. It takes some distance to analyze, synthesize, and evaluate what it is to be human.

In his address as President of the American Psychological Association made in 1965, Bruner discusses his exploration of two aspects of cognitive processes that go hand in hand: cognitive development and pedagogy. He reports that all cultures are concerned with transmitting certain values to its young. Five clear requisites for such transmission include:

1. What is to be known must be put into a form capable of being mastered by the young learner.
2. In order to do away with needless learning, there must be economy and general rules.
3. The society must decide on a course of action from what has been learned.
4. Interest must be maintained among the young in the learning experience.
5. All necessary skills and beliefs must remain intact for each generation.

(Growth of the Mind 1009-1010)



Bruner took his role as a psychologist very seriously when he devised "MACOS" precisely as a curriculum to transmit knowledge and skills to young students in order to stimulate thought in a school setting and to enrich and "amplify" the powers of the mind. The first commercial edition of "MACOS", which was available in 1970, includes evaluation strategies based on intensive research and evaluation that was carried on from 1966 through 1969 in two hundred classrooms in all parts of the U.S. (Man: A Course preface).

One last point should be discussed concerning Bruner's view of the study of history. As our society changes rapidly, he believes we are bound to move away from a dependence upon instruction in history and move toward the growth and behavior sciences. Our capabilities for storing and retrieving information will increase to where we will be inundated with historical records. But, more important, Bruner thinks we need to study the "possible rather than the achieved--a necessary step if we are to adapt to change" (Toward a Theory 36). Sometime in the future he is sure that specific historical events will have to become less important for study, and a more general approach toward studying variations in the human condition will take over. "This is not to say that we should give up study of the past, but rather that we should pursue such

study with a different end view--the end of developing style" (36).

Style, as described by Bruner, depends on a sense of contrast and concreteness only available from the study of the particularities of history (37). A person's sense of style is often based on an analysis of previous modes of expression shown by others in the past. Yet Bruner would like us also to expand our thinking to include what we can do, rather than be tied to what has already been done. In this way, instruction in history gives us ideas for the future, or the possible, by showing us what is undone.

### Carol Gilligan's Psychological Theories of Women's Development

The ground-breaking book, In a Different Voice, written by Carol Gilligan in 1982, introduces a strong argument that women have been misunderstood and undervalued by developmental psychologists. Most so-called "universal" theories of moral development are tied to the male perspective alone. Freud, Erickson, Piaget, and Kohlberg are given as examples of theoreticians who have built notable theories based strictly on male subjects or male points of view which were accepted as workable for both males and females (6-21).

When women behave differently from the theories, then it is they who are seen as deficient. Gilligan would have the perceptions of boys and girls, men and women seen as different but equally legitimate. If this is to be the case, then the methodology of developmental psychology needs to be rewritten to allow for the discrepancies between the way boys view the world and the differing perspective of girls. Her chief concern is with the "exclusion of women from the critical theory-building studies of psychological research" (1).

Because this paper looks at developmental learning theories, it is crucial to include theories of female experiences which may lend a fresh outlook to the way girls develop choices. Gilligan's studies make the assumption "that the way people talk about their lives is of significance, that the language they use and the connections they make reveal the world that they see and in which they act (2). Although much of Gilligan's research focuses on students and their morality, I believe it is possible to draw certain conclusions for museum educators to use in the study and teaching of history to young children.

Just as historians had left women out of the larger historical picture for many years, so, too, researchers have fallen into an observational bias.



Gilligan, however, takes note of the "interaction of experience and thought, in different voices and the dialogues to which they gave rise, in the way we listen to ourselves and to others, in the stories we tell about our lives" (2). These stories are what history is about. Each generation has adopted a point of view which is cherished, protected, and generally accepted by our culture until it is challenged by the accumulation of contrary evidence.

Educators, as well, have agreed on historical episodes to teach, choosing what seemed to be important to convey to the next generation. But women's roles in the past precluded them from widely acknowledged responsibility for major economic and political events and they thereby were not included in most history curricula. Nancy Cott's book, The Bonds of Womanhood, describes the "woman's sphere" in New England from 1780-1835 and notes how nineteenth-century feminists saw womanhood "with the double meaning that womanhood bound women together even as it bound them down" (1). Any group as a group left out of history will view itself as non-important.

Fortunately, social historians of the last fifteen years have taken a closer look at women's roles and accomplishments with the result that history is taking more into account the lives of non-public figures. For



the past five years, the National Women's History Project in Santa Rosa, California, has sponsored National Women's History Week during March. This past year's theme was "Women: Builders of Communities and Dreams." Educators and historians now value and want to know more about everyday people, including women and girls, who although they had less power to change major events, were, in fact, making history by leaving behind their material culture in the form of account books, recipes, diaries, letters, poems, and household items.

Similarly, In a Different Voice takes a closer look at the specific viewpoints of young women, holds these viewpoints up for study, and promotes the value of a different way of looking at the world. One example in the book describes the research of Matina Horner who found in 1972 that girls were anxious about competitive achievement. She asked her subjects to complete a story that began "after first term finals, Anne finds herself at the top of her medical school class" (15). Upon reading the completion of the story, Horner concluded that most young women, because they rejected the situation, had a fear of success.

Gilligan, on the other hand, points out that such conflicts may be viewed differently. Perhaps the young women, rather than being frightened about social re-

jection and loss of femininity were merely sensitive to succeeding at the expense of another's failure. In this case, the completed stories could be seen as showing a heightened perception of both sides of the competitive coin. What Horner reports as wrong with women can be taken as something strong: knowing the emotional costs, most women will look for alternative directions or choices.

Gilligan's work is predicated on the belief that men in this culture tend to see the world in terms of isolated individualization, whereas women tend to see the world in terms of connectedness and relationships. These views are formed at an early age when boys must seek separation from their primary caretaker, their mother, in order to maintain a male identity. Girls do not need to separate at that early age in order to form a coherent sense of self. The questions being raised "speak about the differential access of the genders to certain kinds of understanding, not the superiority of one gender over the other" (Van Gelder 38).

In Gilligan's research study which is based on Lawrence Kohlberg's interviewing procedures, two eleven-year-olds were presented a conflict to resolve: a man must decide whether or not to steal a drug he cannot afford in order to save his wife who is ill. The male respondent was clear and logical in justifying

the theft of the drug because "a human life is worth more than money..." (Different Voice 26). The girl's response was to fix on the relationships of the man, the druggist, the wife, and society. She saw the problem as one of communication, rather than a problem in moral logic. Then, following Kohlberg's probing procedures, the interviewer, through the repetition of questions, seemed to convey to the girl that her answers were not understood or accepted; her confidence waned and she flatly stated that the man should not steal the drug "because it's not right" (29).

What is the connection between that research and the self-effacement of girls from puberty onward? The eleven-year-old continues to hold out for her viewpoint whereas the fifteen-year-old girl will hesitate and yield. Gilligan suspects that the root is the change in school curricula at that level from subjects based on facts to those based on interpretation and hypotheses. Because male values are considered the norm in our culture, girls begin to see their own experiences and ideas disappear from the usual representation of human experience (Van Gelder 38). Very often girls sense that their values of non-competitiveness and inter-relatedness are not important in the "real world" and they watch for cues and ideas about what are considered realistic views.



Educators at all levels need to keep in mind that logic, analysis, and other so-called "masculine" traits are not the only characteristics to admire. Cooperativeness, ease of group interaction, and sensitivity to others have their place in the classroom curricula. Individual differences in cognitive style must be taken into account if girls are to be acknowledged and encouraged in their learning. In the same way, social history, as well as "the history of heroes" is a part of our culture and needs to be listened to. Girls may find it easier to learn about ancestors' relationships instead of battle dates, or the connections of a chain of events instead of isolated incidents. Teaching methodologies as well as topics of study can also be rearranged. Small group work, less competition, and more partner collaboration are ways that may help girls feel more comfortable in the classroom or museum.

We have a pressing need for the offerings of a history course to include tools to help all students develop intellectually on their own terms. Even if it turns out that gender-linked traits are not true, the theory is worth looking at because so many people believe strongly in it. Gilligan's work is not only helping to give educators a new conceptual framework, but it provides a jumping-off point for many other areas such as sociology and ethnographic research. She



does not wish to further separate the sexes into stereotypes, but rather to validate cultural differences and to respond thoughtfully to them as well as to promote combinations of learning modes. Her contributions go beyond an appreciation for female sensibility; they have implications for the future of the society as a whole.

### Kieran Egan's Educational Theory of Development

Kieran Egan is on the faculty of education at Simon Fraser University in Vancouver, British Columbia. His published books include The Tudor Peace, Structural Communication, Ethics and Educational Policy as well as Educational Development. His main interests lie in uncovering the role of theory in the practice of education. Developmental theories, he believes, are usually set out as ends in themselves. It takes additional, skilled research to form valuable educational implications and he concludes this seldom happens even with the most well-known theorists.

He uses Piaget as an example of a theorist found in textbooks whose focus is not truly educational, yet whose work is simplified and studied for implications that may not be new to most teachers. As he explains, "This is not to depreciate Piaget's work: part of a

proper appreciation of his work's value involves not abusing it by trying to extend it in ways that are facile and inappropriate" (Educational Development 4).

Egan would rather see educators write their own theories which would yield direct principles for teaching.

Therefore, in Egan's original theory of the process of educational development introduced in 1979, he attempts to compose from and "focus back onto, those phenomena of most interest to educators" (5). His main thrust stems from what he considers will be of direct use in teaching children and includes what he refers to as the "complexity of educational concerns" (5). For these reasons, I have chosen Egan as the final theorist who presents aspects of developmental learning stages from a teacher's point of view. He provides a provocative, lively theory which extends and complements the works already discussed.

Support for Egan's theory rests on its coherence with other developmental theories, including Piaget's and Bruner's. He also bases his claims on common experience and observation and invites critics to judge according to their own experiences with children and the educational process.

In a footnote on page 30 of Educational Development, Egan points out that he is putting forth an

"ideal" development and confesses that sometimes the move from stage to stage is something "to think with --an intellectual tool made from distinctions that conform with the phenomena it is about" (6). Thus, his theory should be judged on how well the distinctive stages conform with the practitioner's knowledge, observation, and experience with reality.

Egan has not set forth empirical research evidence in this area, but invites others to use his educational development theory to do such research. The conclusion to his book asks the reader to consider the status of his theory in its present form and to understand that it does not focus on the mechanics of the learning process, but rather, on the kinds of knowledge and those aspects of learning that are of most importance to education. He offers the ideas which must precede data collection and future research.

Egan's theory is constructed around four stages which progress from the age of five to adulthood. These stages are called the Mythic, Romantic, Philosophic, and Ironical. He explains, "that at each stage we make sense of the world and experience in significantly different ways and that these differences require that knowledge be organized differently to be most accessible and educationally effective at each stage" (7). Organizing principles are derived from the



characteristics of each stage and Egan gives examples of ways to design curriculum material, especially in the areas of social studies and history.

He espouses the story genre and literary terms as a structural form for his theory because typically children are interested in stories and are very involved in making sense of them, and through them the world. One difference between story and history, however, is that stories give explanations that go beyond historical facts and records. The role of stories is to help express complex emotions of the individual.

Egan's first stage of development, the Mythic Stage, concerns children of the approximate ages of five to ten. He calls this stage mythic "because young children's thinking shares important features with the kind of thinking evident in the stories of myth-using people" (11). Young children have a need for precise, fixed meanings and do not deal well with ambiguity; a main feature of myth is the ability to provide intellectual security by giving accounts of why things are the way they are.

Another feature of mythic thinking is that mythic stories bypass the concepts of historical time, logical relationships, and causality, focusing on sacred beginnings and explanations of how things have come to be.



Children, lacking experience and knowledge of change over long periods of time, appreciate this perspective.

In mythic thinking, the world is not seen as objective and autonomous. Imagination colors the child's world, and there is an overlapping of inner and outer reality. Most striking is the fact that myth stories are constructed with binary contrasts. Two situations oppose each other, such as good/bad, life/death, courage/cowardice. Young children, too, tend to make sense of the world in terms of contrasts before they mediate the differences by adding greater degrees of understanding.

Teaching and learning at the Mythic Stage involves thinking about the subject by way of the categories used by the young child. It is important to realize that each stage is necessary and children should develop the characteristics of each stage as fully as possible. In this way, initial focus on the self as the center of the universe is not an error, but a valid stage of development. As educators we must see that "access to the world must be provided in the terms of emotion and morality, or knowledge will be simply meaningless" (15). Myths, then, should be used heavily since they have the power to engage the immature kinds of thinking dominant at this stage.

History can be presented, according to Egan, in a way that connects the child's mental life with the real world. The crucial aspect is identifying what children know best, their family and community, again "in terms of emotion and morality, not content" (27). Therefore, history units should begin with a consideration of such basic themes as binary opposition, mythic story form, and personification of conflicting forces. A mythic perspective will insure that at this stage a child will have direct access to the most powerful themes of human life and history.

Egan's second stage of development, the Romantic Stage, discusses children aged approximately eight to fifteen years. This is the stage I am most concerned with, since it relates to the teaching of history in grades four to eight. The characteristics of these ages show a move from basic concepts derived from knowledge of self and family to a larger assimilation of surroundings. Children begin to see the world as fundamentally different and separate from themselves.

Students at this point of development form associations which embody those qualities that go beyond the challenges of daily life. These associations help them establish a sense of intellectual security and a sense of identity with the world. One aspect of a romantic view of the world is a fascination with extremes

as students strive to understand the outer limits of human behavior and accomplishment.

The definition of this stage has its origin in the "tension that comes from the desire to transcend a threatening reality while seeking to secure one's identity within it" (32). Two important characteristics required of information at the Romantic Stage are that it tell about what is real and possible and that it is different from the mundane and conventional.

In an article written for Phi Delta Kappa in 1982, Egan suggests that if everyday experiences yield basic concepts children use to make sense of the world, then let us use those concepts to teach history. However, he takes exception to the usual social studies curriculum which, in the name of relevance, seems to inhibit the encouragement of the imagination by too strict an adherence to the everyday and familiar. Most commonly, "relevance is interpreted in terms of content, not underlying concept" (440). He believes children need to find connections between the concepts they already have (such as good and bad, power and weakness, ambition, oppression, and courage) and content that is distant from their daily experiences.

During the Romantic Stage, students require sharper beginnings and endings to units of study. The story form is still viable, especially stories that express



qualities the students admire. "History is best understood at this stage as a kind of mosaic of bright elements--anecdotes, facts, dramatic events--which are composed into a small story, which in turn is a segment of a larger story" (Educational Development 45).

Students still have trouble seeing history as a continuous process of which they are part. Their intellectual growth depends on exploring reality with wonder and awe before they go on making interconnections of a general nature.

It is students in the third, or Philosophic Stage, from ages fifteen to twenty, who concentrate on strengthening connections between the bits and pieces of knowledge they have acquired. "History, for example, is increasingly seen as less a set of stories, a set of styles of living, and more as a continuum of styles, a single complex story" (50).

As students begin to see that things are related, they realize that they, too, are a part of the whole picture. In fact, they begin to sense that their lives are determined by their place in the world and they are not as free and able to go beyond limits as they may have thought. This educational transition requires a crucial sense of cognitive stability based on the new roles students must play in social and historical processes.



The major defining characteristic of the Philosophical Stage is a search, then, for the general laws of the way the world functions. By understanding how natural, complex processes work, students may come to know their proper roles within the processes. Students often begin to organize large schemes of generalities; they are concerned with what happens of necessity and wish to establish a mental map of the main features of the world. This urge toward the general helps students develop abstract intellectual tools necessary for imposing order, simplifying, building hierarchies, and reducing chaotic knowledge to manageable proportions.

The story form is still important at this stage; imposing a beginning and an end helps conceptualize philosophical schemes. For example, "in order to conceive of history as a single process, the student has to apply a kind of plot to it" (61). Imposing an end helps give meaning to the various elements in the process. The literature of ideas has an appeal at this stage as students search inwardly toward self-knowledge.

Egan believes it is the interaction between general scheme and particular knowledge that encourages the student's advancement through this stage. He claims that a sheer quantity of knowledge is educationally important at this point, and, in addition, knowledge that

is anomalous or dissonant to the general schemes which have been generated by the student. Teachers need to be sensitive about when to introduce such challenges, however. Teaching at this stage requires a clear sense of the dialectical process of interaction between the general and the particular so that students can become more self-directed and evolve into the next educational stage (58).

Eventually students who continue to learn reach the fourth stage, the Ironic, which Egan describes as occurring from ages twenty through adulthood. The transition comes when students realize that their general schemes cannot accommodate all the particulars; reality is too rich and complex to fit neatly into an abstract general scheme.

Egan explains:

A successful transition to the ironic stage is achieved by preserving the commitment to truth, but recognizing that it is particulars that can be established as true, not the general schemes. Accepting this involves giving up their philosophical security and re-establishing, yet again, a new intellectual security. Perhaps even more than others, this transition requires intellectual courage.  
(83)

This stage is called ironic because its main characteristic is a clear appreciation of what the mind contributes to knowledge; success along these lines dissolves the various confusions of the previous

stages. Adults are free to select any scheme, or story form, to give full meaning and order to what is at hand. An ironic stance that encourages self-knowledge and a balanced viewpoint can help us understand the complexities of life.

The teacher at this adult stage is a cooperative partner who provides the learner with greater knowledge, skill, or experience. Achievement at this stage is a self-knowledge gained by a sort of insight where we forget ourselves and pursue a truth unobstructed by our own biases and blinders. "Such truth," says Egan, "is the proper aim of educated people" (89).

Kieran Egan's theory of educational development adds to the theories mentioned in this paper, and puts forth a comprehensive perspective that is methodologically sensible for educators. The changes in history curriculum he would have us make are fundamentally sound. Taking exception to Dewey's "expanding horizons" curriculum which goes in concentric circles of complexity, Egan turns the emphasis around and leads children to direct access to worlds of fantasy before returning home. He also argues with Piagetian educators who suggest that young children are unable to grasp some of the concepts basic to historical understanding. Instead of waiting to introduce history at a later age, Egan thinks young children can and should



learn history. By applying basic concepts to new content, children begin the process of conceptual elaboration. In a way similar to Bruner's "spiral curriculum," historical concepts can be learned over time through exposure to facts and details. In his Phi Delta Kappan article, he writes: "The early learning of basic history is important for later understanding. What is learned early is not simply a prerequisite for later understanding; it is a constituent of it" (441).

Each of the theorists discussed in this study contributes a perspective that is helpful to museum educators. Dewey's progressive views are still prevalent today, although they are sometimes assimilated so well that we take them for granted. Piaget's work forms the basis for many different research projects in this country and in Europe. Bruner has gone on to do studies in other areas such as linguistics, while his early curriculum designs are being used in numerous fifth- and sixth-grade classes. Gilligan is respected for calling attention to fundamental differences in learning modes between girls and boys. And Egan's educational focus on history gives additional, substantive suggestions with a rationale based on poetics, anthropology, philosophy of history, and child development. Building from each of these theories gives us guidelines for planning programs for young children in



collaborative teaching settings between schools and historical museums.

All five authors present a theory of learning and, thereby, of teaching young children. In some cases, they have made specific mention of history; in other cases, I have applied their theories to this field. Later in this study, I will discuss important elements from each of the theories in light of the primary case study involving Moore Memorial State Park.

## CHAPTER IV.

### USE OF THEORIES IN MUSEUMS

#### Learning Theory Criteria

History museums offer an experience for children that can be approached differently from classroom teaching. Recently I was asked, "What can museums do that schools can't?" The easy answer is they can provide formal and informal learning environments where the focus is on both the objects in the collection and the audience. The answer becomes more complex when museum educators try to implement their good ideas in old buildings, with small budgets, volunteer staff, time constraints, and no resources for staff training.

Even though there are formidable barriers to teaching, good museum programs for children can be planned around the way this particular audience learns. There are key principles that can be used in devising effective tours as long as we avoid a watered-down, simplified view of how children learn. There are also three approaches toward teaching history in museums that use these key principles, namely: local history, living history, and archaeological research.

A distillation of important elements in the five theories discussed earlier gives us criteria to use in designing museum programs. Because museum interpretation should be primarily concerned with cognitive development, especially with the exploratory mode of teaching, it has become crucial for museum educators to have an educational framework to draw upon. (A handbook with key phrases from each of the theories is included in appendix A.)

To begin with, John Dewey's influence on American education has been most evident in hands-on activity centers. "Learning by doing" comes first, or as he put it "the active side precedes the passive..." (Pedagogic Creed 28). Thus, interaction is the opposite of passivity. If museum activities are promoted from within an historical context, not separated from the content of the exhibit, then children have the opportunity to make connections that are meaningful. For instance, a child cannot learn about the culture of an 1820's mill village by simply wearing a costume or handing tools to a blacksmith.

Grinder and McCoy in Good Guide make the point that:

For learning to really hold or last, the interpreter must bridge the gap between concepts and relationships associated with

the collections and the personal experiences and capacity for learning of visitors. The interpreter should keep in mind that wholly disconnected or unrelated experiences in the museum may cause pleasurable feelings, but such experiences are also often meaningless. (38)

Dewey also stressed that in a true developmental sequence children should actively pursue their interests, starting with family life and making connections outward. Thus, a local history museum that helps children explore their family genealogy and ties that information to the larger town history would insure effective learning according to Dewey's beliefs.

A final criterion to keep in mind when planning museum programs from the viewpoint of Dewey's theory is that "history must be presented, not as an accumulation of results, or effects, a mere statement of what has happened, but as a forceful, acting thing" (Pedagogic Creed 151). It is the social heritage that each child inherits which should be included for study.

The second theorist reviewed, Jean Piaget, has received a great deal of attention among museum personnel, especially for his belief that perception is shaped and limited by experience. According to Piaget, knowledge is acquired continuously as we accommodate personal encounters to our prior expectations and beliefs; that is, all knowledge derives from human actions upon the world.



Piaget was discussed by a panel, "Museum Audiences: The Educator's Perspective," presented at the 1981 American Association of Museums' Annual Meeting. Later a collaborative article, edited by Nina Jensen, and published in Museum News suggested that young children have difficulty understanding how and why an object is placed in a museum.

Learning involves conflict between a person's conception of reality and new encounters with the real. This conflict or dissonance leads to what Piaget calls 'accommodation.' Children (and adults also) are constantly restructuring their ideas about the world as new information is received. This dynamic process between the learner and his or her experiences is basic to what happens in museums.  
(26)

Since the child is a constructionist attempting to build personal theories of the world, it is appropriate for museums to allow learners to organize and manipulate new knowledge for themselves. If both the inquiry and the discovery can be made by the learner, then the knowledge will be greater.

Piaget's stages of development give us clues for working with children at each level, although no one should be surprised if a child seems to operate between two stages.

Museum educators should keep in mind that those students who are involved in concrete operations might find the following activities useful: comparing or

contrasting, role playing, making simple predictions, and analyzing elements. Students who are between concrete operations and formal thought might form hypotheses, speculate, see temporal/spatial relationships, and reason with probability and proportion. Those who are mature students with formal thought and combinatorial abilities might be involved in evaluating according to criteria, comparing systems of thought, reasoning conditionally and logically, coordinating another's perspective with one's own, and understanding implications.

Good pedagogy must involve presenting the student with experimental situations: trying things to see what happens, posing questions and finding the answers, reconciling the findings if they are different from what was found before, and having the chance to compare the findings with those of other children.

In a similar vein, one element to be taken from a study of Jerome Bruner's theories is the idea of a "spiral curriculum that turns back on itself at higher levels" (Process of Education 13). Repeated visits to a museum, including pre-and post-activities will help insure that basic, general concepts will be deepened.

The structure of the discipline of history can be presented by museum educators from a slightly different point of view from that of the history teacher at

school. Museum personnel are often trained first as historians, then as interpreters. They are able to show what it is like to do research as professionals drawing upon various other disciplines.

Bruner also believes that discovery is the main process involved in learning and that the steps of discovery must be made by the children themselves. Based on what Bruner has said, I would suggest that museum educators structure their tours to allow students to chance upon the previously unknown. Following his advice, museum staff would plan the route, specific places and objects would be pointed out, time would be given for personal examination and reflection, and thus, certain learning objectives would be met.

Carol Gilligan, on the other hand, asks educators to take note of the different ways girls approach problems from boys. Our criterion here should be to make certain that all groups have a say, including the children who are involved in studying history. Girls need to defend their positions on historical issues as persistently as boys do.

Her theory that girls see the world in terms of connectedness and relationships while boys see things more as isolated individualization should also have an effect on our teaching methodologies. Partner collab-



orations have their place as well as taking sides in a debate.

To carry this concern even further, educators in history museums must look to all groups for information about our cultural past. Our "collective memory" includes non-public figures as well as famous citizens, the disenfranchised as well as the establishment. New work in social history and material culture validates this perspective.

Unfortunately, even today at institutions of higher learning, there are gaps in the coverage of American history. Scholars have pointed to the "lack of a twentieth-century historian, a new-left historian, and a women's historian in the senior ranks of the (Harvard history) department as particular examples of these gaps" (Barron Globe A24). History should become a reflection for us all where we can see shadows of ourselves and representations of our values.

Other important criteria to consider in museum programming are based on Kieran Egan's four stages of developmental learning -- the Mythic, Romantic, Philosophic, and Ironic. I am concerned with the first two which encompass ages five to ten, and eight to fifteen.

During the Mythic Stage, according to Egan, young children think in much the same way that myth-using people do. They need the intellectual security pro-



vided by accounts of why things are the way they are. In mythic thinking, there is an overlap between inner and outer reality. Because of this natural type of thinking on the part of the child, Egan espouses the story genre to teach history. Myths have the power to engage children's thinking at this stage. Thus, we can teach history in museums by connecting mental life with the real world through the use of emotional, profound themes. Rather than present a study of North American Indians from the point of view of shelter, clothes, and customs, educators could consider these themes seen in terms of the struggle between survival and destruction.

The main characteristic of the Romantic Stage has children beginning to see the world as different and separate from themselves. Information must tell what is real and possible as well as deal with the outer limits or extremes of detail. History is best understood through anecdotes, facts, or dramatic events which are composed into a story (Educational Development 45).

Museum educators can take advantage of these learning characteristics and involve students in conducting personal interviews, then combine them to form a larger picture of the intellectual and social history of a certain time period. Publishing individual inter-

views together as a group would turn the segments into a "larger story."

One common element of the five theories is the view of children as active participants, constructing their own individual concepts of reality. Because experience is crucial to knowledge, museum educators must not only allow, but encourage children to undergo shared experiences in order to discover a common understanding. A visit to Moore State Park, for example, can include many such experiences: following trails, a tour of extant buildings, examination of archaeological sites, fishing, picnicing, a study of stonewalls, flora and fauna, cemeteries, conducting research in the museum library, spending time in the 1820 schoolhouse, or working with museum exhibits. All are active opportunities which engage the audience.

The variety of activities allows for solitary individual, staff and student one-on-one interaction, or group participation. A child on a school visit stays with the group, yet is given time to explore the buildings or handle the exhibits with only one or two others.

Another common theme in the learning theories is the stress on the idea of "story" within history. The application is obvious: museum displays and tours are set up to tell a story. Furthermore, if children are

taught to listen to their own relatives' personal histories, then they may listen more accurately to other's lives or stories.

Jacques Barzun, in his essay on history as part of the Paldeia Program, explains that "each of us is part of the stream of history. Some portion of our share in events is known to our family and friends, some of it stays inside of us, in memory, where our reasons for doing things and our purpose in doing them will probably remain hidden" (Barzun 110). He believes that between first and seventh grades an interest in history can be sustained by discussion of complex stories of the past (111).

Both Egan and Gilligan suggest using the story form to get at concepts underlying the past behavior of human beings. There is a cohesiveness to a form with a beginning that sets up a puzzle, then a central interest that is developed, and a final resolution at the end. If history is the account of human actions in the past, then stories can explain what has happened.

Understanding history involves making connections with the present and future, both at home and afar. In this spirit, John Dewey wrote:

For the creation of a democratic society we need an educational system where the process of moral-intellectual development is in practice as well as in theory a cooperative



transaction of inquiry engaged in by free, independent human beings who treat ideas and the heritage of the past as means and methods for the further enrichment of life. (Schools for Tomorrow xix)

Teaching American history to elementary school children in a way that emphasizes acceptance of each other across gender, class and racial lines can lay the foundation for genuine understanding of difference. Appreciating one's local history is a first step to a larger view of the world.

Just as we must love ourselves before we can love others, so we must understand where we come from before we can perceive another's culture. Local history can lead one out of provincialism toward apperception of greater historical concepts.

### Teaching Local History

For elementary, middle, and high schools in Massachusetts and other New England states, teaching and learning local history are required by state law. Historical museums are the ideal cultural institutions to help teachers stay abreast of this field because so often their collections reflect the community where they are located.

Because local history research includes many components and issues, students must be trained to collect the data and elicit fruitful information from them.



Students can concentrate on such aspects as community history, ethnic groups, family history, genealogical research, quantifying the past, demographics, personality in history, workers, mapping, cultural artifacts, local government, architecture, and biography. Selecting just one aspect to study is the first step in this complicated and useful introduction to the concepts of history.

As Myron Marty of the National Endowment for the Humanities says, "By starting with the nearby world, you counter the notion that history is to be found only in books" (471). As soon as students become actively involved in an individual search for answers, they understand that history is relevant to contemporary people's lives. Very often the search for evidence leads them to ask in more philosophical terms: How do we know what we know? I believe that by concentrating on nearby history, with its personal connections, students are more apt to develop an intense fascination and desire to know more about history in general.

H. P. R. Finberg, an English specialist in local history, writes:

We may picture the family, the local community, the national state, and the supra-national society as a series of concentric circles. Each requires to be studied with constant reference to the one outside it; but the inner rings are not the less perfect circles for being wholly surrounded and enclosed by the outer. (39)

The image of concentric circles helps make the relationship of different levels of history understandable. The inner ring of the familiar and personal world of the student must be compared with the issues at large. By studying the particulars, students discover the connections with the universals. This idea of beginning with the familiar and moving outward in expanding topics of study fits very well with John Dewey's "expanding horizons" curriculum. He advocated that young children study the family, then the neighborhood, then the larger town as they move outward in accumulating knowledge.

The territory of nearby history is both a training ground and workplace for students who want to be involved in the field of social history. At an American Studies conference held at Hampshire College in 1984, Leo Marx explained that "history is a process of unconcealing the real." Many people, especially cultural historians, have begun an attempt to reveal what

has been obscured by the neglect of teachers, writers, and historians. "History from the bottom up" describes the process of looking at local issues and patterns of living and the lives of ordinary people instead of looking at the past from a perspective of the powerful elite. Students can use community studies to take the pulse of everyday life in order to gain a sense of the greater complexity of the world.

Many teachers believe that in order to reshape the conceptual framework of history courses, there must be a commitment and attachment to the issues of racism, sexism, and classism. In that sense, Carol Gilligan's theoretical stance applies to the new social history. She asks that we listen to the "different voices" of women and to generate research materials that are appropriate to imaginative, creative ways of looking at the world. If the beginning of wisdom is to ask good questions, then the fact that omissions in history and American studies are being queried is a start toward a more complete understanding of our collective past.

### Living History Programs

A most powerful and intense way to teach history is through re-creating the past. Living history is the term used to describe simulation, role-playing, and other such attempts at capturing the essence of another

time period. The living history approach is not as successful in classrooms because it helps if the setting is authentic to stimulate the participant's imagination. A museum which offers an historic site, trained staff, and educationally sound methodology can be extremely effective in teaching history in a non-traditional way. The site itself becomes both a time machine to help transport people to the past as well as a destination for the imaginary trip.

Jay Anderson, professor of folklore and historic preservation at the University of Oklahoma, wrote in his preface to Time Machines, that there are many ways people have to slip away from the modern world. He calls it "time traveling" (10). Some people use old photograph albums, historical novels, or science fiction films; others try the great adventure of the more physical experience of re-enactment.

The possibility of time travel, however, is not wholly accepted by historians and educators. The attempt to re-create and immerse oneself in the past for purposes of studying and interpreting the time period is credible, but the realization of that attempt is considered impossible. "Time travel defies our common sense, which cautions us that time is real and well-grounded in the individual's own experience of



the natural cycles of day and night, moons and seasons, and the irreversible stages of life" (Anderson 11).

Albert Einstein tried to answer skeptics in his Special Theory of Relativity where he theorized that if we could somehow enter the domain of light, all time would stop; light is timeless and lives in the present. "From this eternal perspective, he wrote, 'For us believing physicists, the distinction between past, present, and future is only an illusion, however persistent'" (quoted in Anderson 11).

One way to think of time is in a less linear way. Jay Anderson suggests that we imagine all the events of history shown not in a timeline, but on a large painting, perhaps Children's Games by Peter Bruegel. "Every creature, person, and historical event has a place on history's teeming, colorful canvas. Time travel now becomes a simple trip from one part of the picture to another" (11). Children, especially, may not be able to understand this abstract, humanistic view of time because they have been trained to think in terms of sequence and chronology. On the other hand, children very often confuse the real and the unreal, the before and after. I have found that they are highly suggestible and willing to be totally involved in a living history program; students I have observed enjoy the drama and out-of-the-ordinary aspects of simulation.

Kieran Egan's educational theory of teaching history to young children backs up the concept of role-playing. He stresses that educators do not have to falsify the past to design a history curriculum --they may have to simplify it, but that is true of the most sophisticated historical narrative. He states, "The first principle for teaching young children history is that curriculum content should consist of real events, real characters, real times, real places" (441). He also encourages teachers to introduce such characters and events by way of acting them out. A bit of costume, a slight accent will give students an illusion to work with.

Jean Piaget's belief in students' personal construction of reality through active involvement also fits well as a rationale for living history. As students reach the concrete operational stage, they combine and order objects to help make sense of the larger world. Working with tangible artifacts, using them in concrete ways would encourage development in this area. And, of course, when older students reach the formal operational stage, they are more able to think abstractly about time and time past.

In teaching living history, museum educators need to be sensitive to all aspects of planning the recreation. A romanticized version of the "good old

days" is not helpful, nor is the notion that we can recover the past exactly as it was. The significance of the living history museum is its full context: people and their daily activities woven together in a system that makes sense. Everything is related in a coherent scheme that tells a particular story in our history.

### Using Archaeological Research

Another way to find out about history first hand is to conduct archaeological research. Both pre-historic and historic archaeology can help students of American history although they differ in how and what they use for evidence. One major difference is that pre-historic archaeology centers on cultural history before the advent of writing while historic archaeology studies the remains of people who were literate and who left recordings of their times. The major technique used by archaeologists is to take the best guess and refine it according to high probability. In this way, both historians and archaeologists study a certain time period, make hypotheses, gather data, ask questions, and try to answer the questions carefully.

James Deetz points out in his book In Small Things Forgotten that "The question of the factors that favor survival of certain objects and the disappearance of



others is important here. For a variety of reasons, surviving artifacts cannot be taken as necessarily representative objects of their period" (6). Most museums save and show only the valuable and rare; common everyday objects were often destroyed by overuse or were thrown out. Prehistoric evidences of Woodland Indians in New England are harder to find because the acid soil created by maple leaves tends to deteriorate the material itself. Projectile points, therefore, are more commonly excavated than clothing; anything made of leather, wood, or hair is not preserved very long in the ground. Thus, written records must complement the material evidence and add to our information.

On the other hand, historic archaeologists studying the twentieth century can sometimes find informants who have actually witnessed what is being studied. There are special problems here with credibility, biases, and memory lapses. Two people who have witnessed the same event will give very different accounts, so once again, written sources must back up the oral.

More than most fields, archaeology relies heavily on many other disciplines to achieve research objectives. Architecture, anthropology, botany, cartography, chemistry, climatology, ecology, farming, geology, medicine, osteology, surveying, and zoology all play a part in archaeological research.



In considering archaeological research as a way to teach history in a museum, I thought of Jerome Bruner's curriculum goals for *Man: A Course of Study*:

- 1) To initiate and develop in youngsters a process of question-posing (the inquiry method);
- 2) To teach a research methodology where children can: a) look for information to answer questions they have raised, b) use the framework developed in the course, e.g. the concept of the life cycle, and apply it to new areas;
- 3) To help youngsters develop the ability to use a variety of first-hand sources as evidence from which to develop hypotheses and draw conclusions;
- 4) To conduct classroom discussion in which youngsters learn to listen to others as well as to express their own views;
- 5) To legitimize the search; that is, to give sanction and support to open-ended discussions where definitive answers to many questions are not found;
- 6) To encourage children to reflect on their own experience;
- 7) To create a new role for the teacher, in which the teacher becomes a resource to the children, rather than an authority.  
(Man: A Course 12)

Each of these goals is applicable to the study of archaeology. MACOS is, in effect, a classroom museum of cultural anthropology. Students study artifacts and ask "how things are related" (Bruner Process 7).

It is clear that these goals center around the process of learning, rather than around the product. Just as Bruner suggests, these goals put highest importance on the community of education, on explorations, and on question-posing, rather than on teaching factual specifics or information per se (Man: A Course 13).

In the same vein, archaeology seeks to infer behavioral patterns, not merely dates. Students trained in the field learn not only how to collect data, but also what to ask the specialists and how to synthesize their answers (Henkoff 12). Eventually, these students may develop the personal capacity for evaluation and the ability to identify the common threads that give meaning to all of life. Bruner would applaud this search for a broader view of our common heritage.

## CHAPTER V.

### MUSEUMS AND PARK GUIDELINES

#### Samples of History Museums

Preliminary interviews conducted over the past five years at historical museums in Massachusetts have consistently indicated that museum educators do not have training in educational theory. There is growing interest, however, in planning programs from a child-centered point of view rather than using only the collection objects as the main focus.

Professional museum educators recognize the gap in their training and are beginning to include educational perspectives in their staff development efforts. Yet most small historical museums have no resources nor access to such resources for staff training. This study will offer guidelines specifically geared to such personnel.

Following are interviews with museum staff at three very different historical museums. There are, nonetheless, common themes evident in the background training, educational philosophies, and program planning of each museum educator interviewed. These museum educators preferred anonymity; in this way, they felt they could speak more freely about the limitations and drawbacks of their respective programs.

The first site is representative of many historical societies located in an historic home with two or three staff on hand to greet the public, to set up publicity, initiate new memberships, and plan school programs.

This particular museum educator, Ms D., had been employed by the Virginia State Park system one summer and had worked in an historic nineteenth-century home. When asked about her knowledge of educational theorists Dewey, Piaget and Bruner, she admitted she had never heard of any of them. "I've never had the education," she said in a recent interview, "and I don't necessarily want the theory. What I want to know is how the theory translates into programs for me."

This well-established historical society has a monthly series of workshops for adults and children and, needing space for group meetings, has recently built an addition for that purpose. The adult programs are free lectures, funded in part, by a grant from the Massachusetts Council on the Arts and Humanities, a state agency. A "Treasures of Our Past" program includes such topics as bookbinding, Victorian musical instruments, covered bridges, quilts, and antique automobiles.

Programs for children, called, "Take the Mystery Out of History, usually include a talk, demonstration,



and activity. Some of the subjects presented this past year are fun and games from a hundred years ago, magic lanterns, children's clothing, and dances.

Much thought goes into the choice of topics for public programming, but, in the end, it is left to the guest lecturers to conduct successful events for children. When school groups make appointments to visit this historic house, the museum educator, as is usually the case, conducts tours of the building and exhibits. Most of the rooms are crowded, so the group moves slowly through the house and then meets in the large new addition for a concluding talk and answers to questions. There are few, if any, hands-on exhibits for the children.

Visiting one of the newest of the eight Massachusetts Heritage State Parks, I found that park personnel have a variety of background experience and training, not much of it in education. The interpreter I interviewed, Ms. C., was a musician who had performed in public schools and had been an artist-in-residence. She was in charge of planning programs, some of which are mandated by the state. For example, there are regularly scheduled walking tours during the spring, summer, and early fall. Twice a month there must be a one-day special event, and there are several annual events such as bus tours and concerts.

Programs for children focus on theatre workshops and performances and Junior Ranger training which takes place during the spring vacation. When the park first opened three years ago, there were many school groups visiting. But according to the park interpreter in a recent interview, "That has lost momentum. We are not recruiting now, but will try to do more later." The Junior Ranger program will also be abandoned for the time being as emphasis shifts to including more diverse age groups. There is a large art exhibit soon to be installed, an adult craft series in process, and an exploration of collaborative activities with two nearby museums.

The physical space at the park is ample to accommodate school groups; the staff prefer working with fifteen children at a time so the three interpreters usually offer simultaneous activities: some children play a board game that introduces them to the city's history, some listen to a twelve-minute slide/tape show, and some visit the exhibits.

Interpreters receive occasional staff-development training from the state Department of Environmental Management, but most of the training is geared to the seasonal workers. Although the Heritage Park staff agree that full-time personnel need a different approach and more in-depth educational training for the

positions they must fill, no plans are being made to offer such staff development.

The third museum site is a good example of an historic house museum. It is owned by the city in which it is located, run by the Historic Commission, and administered by a small staff. The museum director received her training from Cooperstown in nineteenth-century history. She had not taken any education courses, but wishes now that she had. Reluctantly, she has hired an education director on the strengths of his community connections, not his background in museums or education. The programs offered here have a focus on art, although the director would like to balance that focus with the history of the time period represented by the house.

The day I visited this museum there was an exhibit of city-wide student art. During one hour, there were seven first-time visitors who had come to see the exhibit. Two fifth-grade boys came to look at their classmates' drawings, then spent 45 minutes going through rooms in the house. Three grandparents and a mother and daughter also arrived to look at works by children they knew. This student exhibit seemed one way to bring in new people to the museum. It was, however, a limited experience of looking at various paintings and drawings in a dimly lit room.

Art classes for children are offered during school vacations and on some Saturdays. There is also a separate carriage house where Native American artifacts are displayed. The director has worked with several pre-school groups here, while, as she says, "allowing for a limited program, short exposure, and hoping to help the children make a few broad generalizations."

Teachers are encouraged to call the museum for additional information and ideas for activities related to nineteenth-century history and social life curriculum. School programs are available for one class at a time and are free of charge for city schools. There are some traveling outreach programs also available at special request. One such program called "Meet My Family" teaches children to "discover your own family history, traditions, and treasures while learning the detective skills of a historian in researching and recording family history, examining family roots and heirlooms." This sort of active involvement in research seems to appeal to children who have already asked questions concerning history. The outreach program works best, I believe, if children have formed some sense of cultural identity and want to know more.

Each of these three representative museums has staff who are untrained in educational theory; each has a small or non-existent budget for staff development.



I believe a new priority must be advanced that requires education courses for those museum staff who call themselves educators. The variety of programs offered for children could be more successful if the staff were given an understanding of how children learn best. Educational theory offers a cohesive structure for working with children rather than a "hit or miss" approach which wastes the time and energy of personnel who are already overworked and understaffed.

#### Interpretation Guidelines for Parks

Because I am personally involved with teaching history through a museum in a state park, I reviewed the educational background and theories used in the parks interpretive field. Various state park interpreters' handbooks indicate the beliefs held in common by professionals in this branch of education.

In a planning survey of the nation's state parks conducted by the Massachusetts Department of Environmental Management in 1985, thirty states responded to a questionnaire regarding their interpretive plans and policies. Sixteen indicated they did have a state-wide interpretive plan; five master plans were in the process of being written; and nine states did not have any overall interpretive plan for their state parks. Among the states with no interpretive plans or guidelines

were Arizona, Connecticut, North Carolina, North Dakota, Oregon, Kansas, Mississippi, South Carolina, and Utah.

A review of the interpretation guidelines returned by the state parks to DEM shows a heavy use of Freeman Tilden's book, Interpreting Our Heritage, published in 1957. Tilden wrote the classic used by park management throughout the country. He was one of the first to discuss the new discipline of interpretation which started with nature guides and grew to encompass archaeologists and historians. The definition of interpretation often used by park personnel is Tilden's:

An educational activity which aims to reveal meanings and relationships through the use of original objects, by first-hand experience, and by illustrative media, rather than simply to communicate factual information. (8)

The uses of objects, first-hand experiences and media all exemplify good teaching methods based on substantiated learning theory. Tilden discusses the particular needs of school children later in his book when he describes their "eagerness for pure information..., delight in the superlative,..." and "the love of personal examination through three senses other than sight and hearing" (49-50). He concludes that interpretation for children requires a special talent which will give "a sense of companionship and conceal any

show of direct instruction" (52). He believes children are an ideal audience because they are highly receptive and will ask questions unhesitatingly.

State parks also often use Tilden's six "Principles of Interpretation" as the framework for their own programs:.

- I. Any interpretation that does not somehow relate what is being displayed or described to something within the personality or experience of the visitor will be sterile.
- II. Information, as such, is not Interpretation. Interpretation is revelation based upon information. But they are entirely different things. However, all interpretation includes information.
- III. Interpretation is an art, which combines many arts, whether the materials presented are scientific, historical, or architectural. Any art is in some degree teachable.
- IV. The chief aim of Interpretation is not instruction, but provocation.
- V. Interpretation should aim to present a whole rather than a part, and must address itself to the whole man [sic] rather than any phase.
- VI. Interpretation addressed to children (say, up to the age of twelve) should not be a dilution of the presentation to adults, but should follow a fundamentally different approach. To be at its best it will require a separate program.

The National Park Service, charged with serving the cultural resources of our country, uses its official guidelines to stress the integral part that interpretation plays in overall park management. The con-

tents of its 103-page information packet range from folklore and folk culture, special programs and populations to historic weapons firing demonstrations.

The guidelines define interpretation as "the process of translating the values and meanings of park resources into 'language' that can be understood by park visitors when such translation is needed" (Chapter 1, p. 2). This national guide stresses that park interpretation is not designed as an educational service; supposedly "appropriate" interpretation is so linked to park resources that it cannot effectively be given in a location outside the park. I believe such constraints on programming deny children direct access to parks through school/park liaisons. Successful introduction to historic park resources often depends on pre-visit activities, information, and outreach attempts.

I find no mention of the special learning needs of children nor of tailoring the presentation to audience age and experience. This lack of educational learning theory as background training for our nation's interpreters serves as an unfortunate model for state parks and state historic sites. This omission continues in every interpretive training manual I have reviewed.

The North Atlantic Regional handbook, published by the National Park Service, includes a section on the



art of interpretation which is based on Freeman Tilden's six principles of interpretation, and is followed by themes, techniques, questioning and tips for tours. The booklet mentions no programs for children other than Tilden's suggestion not to dilute adult versions of interpretation. The handbook gives only a cursory view of the interpreter's position and does not mention the educational aspects of the job.

The Colorado Division of Parks and Outdoor Recreation issued a handbook which addresses four major areas: essence of interpretation, definition of concepts and goals, interpretation techniques, and evaluation efforts.

This source also relies on Tilden's six principles of interpretation, apparently since he was the first to discuss the translating of knowledge about resources into relevant meanings for visitors. The handbook expands the definition of interpretation to include the goal of changing attitudes, and cites Don Aldridge of the Countryside Commission of Scotland:

Interpretation is the art of explaining the place of man in his environment, to increase visitor or public awareness of the importance of this relationship, and to awaken a desire to contribute to environmental conservation.  
(4)

And finally, it offers a definition through the Interpretive Policy Statement adopted by the Colorado Parks Board:

Interpretation is the communication process by which we will instill in our public an environmental ethic based on a sound recognition of man's relationships with his surroundings. (6)

The handbook gives a general message to consider the anticipated audience and to re-evaluate the means of communication. Children, as an audience, are mentioned under "misbehavior" (19). Interpreters are advised to give such young attention seekers a special task to perform. Under a separate heading, "Youth Groups," the authors note that children in organized groups are appearing more frequently in state parks.

Several "trade secrets" are listed: children learn best by doing, they generally have a good deal of pent-up energy, and it is best to divide large groups in order to work with one small group at a time. This sort of information should come as no surprise since each of these tips is a valid observation of children's behavior, but a cohesive, comprehensive, helpful guide to interpreting for children has not been presented here.

The philosophy stated by the Wisconsin Department of Natural Resources is that "while it is important to reach the interested public through interpretation, it

is of greater importance to reach the uninformed and/or uninterested public" (Chapter 10, p. 1).

This department believes that sound interpretation should result in the following:

- a) creation of interest, of understanding, and a sense of responsibility toward our environment
- b) development of appreciation, respect and reverence.

Unfortunately, these goals are difficult to encourage and even harder to evaluate. The main goals of the interpretive program are listed as hikes, nature trails, formal and informal programs, vehicle tours, and museum exhibits. Children are not mentioned specifically as an audience.

The lengthy interpreter's handbook of the Virginia State Park system covers sections on the history of Virginia state parks, personnel information, visitor protection, reports, and interpretive services. In the glossary of terms, interpretation is defined as

An activity which presents the inspirational, educational, and recreational values of the park in such ways that the visitors may derive understanding, appreciation, and enjoyment from their experience.

The Virginia guidelines coincide with Tilden's belief that while instruction is dull, interpretation should be provocative or inspirational. "The purpose of interpretation is to stimulate the readers or

listeners, not to instruct them" (Introduction, iv). Interpreters are asked to think and react like children in order to rediscover the simple pleasures and excitement of natural history.

There is one brief section on children's programs which according to the authors, "take a different and refined type of interpretation" (Chap. 5, Part 5, Page 1). The only other instructions for teaching children remind interpreters to remember to watch out for youngsters' safety and to be patient.

Although first quoting Tilden's definition of interpretation, the Minnesota Interpretive Plan for State Trails and Waterways prefers a modification of the definition as used by Robert Pert in 1976:

Interpretation is any communication process designed to reveal meanings and relationships of our cultural and natural heritage to the public through first hand involvement with an object, artifact, landscape or site. (1)

The authors have chosen the phrase "communication process" as one more flexible for interpretation than Tilden's "educational activity." For example, one belief is that the design and layout of a trail can communicate an interpretive message to the trail user, but it is not an educational activity. "The vast majority of trail users are not on the trail to be educated" (2). I am surprised at the number of state guidelines which emphasize this schism between doing



and learning. The handbooks stress that education is a separate, distinct situation that people must consciously choose; most educational theorists now believe to the contrary that engaging in any new activity leads to new learning whether designated "educational" or not.

The last handbook to be discussed in this section is from the Massachusetts Department of Environmental Management. The guidelines include descriptions of various interpretive techniques, suggestions for planning programs and examples for publicizing park events. The spelling of Interpretor with an "o" is meant to distinguish it from the language Interpreter and from the traditional naturalist/educator. (It should be noted that this distinction and spelling is not used by other state and national parks.)

Freeman Tilden's principles of interpretation are stated, as well as the National Park Service's belief attributed to Stephen T. Mather, the first National Park Service Director: "Through interpretation, understanding; through understanding, appreciation; through appreciation, protection." According to the Massachusetts Department of Environmental Management, interpretation can be thought of as "an enjoyable educational and management tool" (Introduction 3).

Interpretors are said to be different from school teachers because they use techniques that are a "blend of formal education, environmental education, and activities designed particularly for the interpretors in specific park situations" (Introduction 4). Interpretors are encouraged to be their own best teachers in order to transfer knowledge to the visitors.

Part II of this handbook is called The Basics of Interpretation. The general principles involve using themes, organizing material in an understandable learning sequence, encouraging active involvement (i.e., speaking to people's own experience, learning by doing, using more than one sense, and allowing personal learning time), teaching by example, and asking and answering questions.

Presumably because these sections are crucial in developing an educational program, some of them are covered in more detail in part III of the handbook. The basic principles are, however, never referred to again in the same way. It is up to the reader to extrapolate from new headings such as "walks," "talks," "exhibits," and "humor."

Two of the final sections are of particular relevance for this study: historical interpretation and interpretation for children. According to the authors of this handbook, interpreting historical resources

"poses unique challenges" because the historical interpretor must make a static site come alive whether it is a cellar hole or a furnished mansion. Relying on Alderson and Low's book, Interpretation of Historic Sites, the Massachusetts guidelines agree that if costuming can not be done correctly, it is best avoided. The final conclusion is that historical interpretation is not identification of a series of objects, but rather the means to allow visitors to know the human aspects of our heritage and therefore understand why the site may be personally important.

Looking for references to learning theory in the section on interpretation for children, I found only a list of developmental tasks of middle childhood adapted from Robert Havighurst's Human Development and Education published in 1953. Most had to do with physical and social skills, although mention was made of expectations to develop fundamental skills in reading and writing and concepts sufficient for thinking effectively. Recognizing only these very sketchy, general developmental tasks seems insufficient for precise planning of programs for children.

On the other hand, later the book notes that "with children, it is important to create an atmosphere where they can explore and develop their own perceptions of and feelings for the world around them" (12). Inter-

pretors should use stories and dramatizations, let children be active, and watch how kids learn by themselves. There were also lists of arts and crafts activities and rainy day games provided.

The handbook could be strengthened by an additional section on how children learn and at what ages certain activities are appropriate. Giving more concrete and precise examples could help interpreters make better presentations.



## CHAPTER VI.

### A CASE STUDY

#### Moore Memorial State Park

Just a mile from the common in the center of Paxton are 325 acres of land owned by the State of Massachusetts. Moore Memorial State Park, named for Major Willard Moore, a Paxton native who was killed at the Battle of Bunker Hill, is undergoing renovation and reconstruction of a thriving nineteenth-century mill village.

Much of the history being presented in this paper is a compilation of information passed down to me orally by park staff, residents of Paxton, and relatives of former property owners. I have substantiated their stories with written references whenever possible.

The history being highlighted at the park begins in 1740 when Jaazaniah Newton and John Smith purchased 95 acres in a southwesterly part of Rutland, MA. (This parcel of land was to become part of Paxton when it was incorporated in 1765.)

By 1747 an indenture between Newton and Smith mentions "a milldam, sawmill and cornmill then standing" (Worcester Registry of Deeds, Book 26, page 271).

This documentation gives strong evidence to us that the sawmill at Moore State Park may be the oldest standing sawmill existing at its original location in New England (Paxton's Past Revisited 47).

Turkey Hill Brook was an ideal site for the mills. A stream flows from Eames Pond, over a waterfall to the mill pond, where it drops ninety feet through a gorge in less than a quarter mile.

Even with a good stream and mill seat, it takes exceptional planning to build a mill that will not flood away. "The sawmill here, for example, has a freestanding, dry laid, fieldstone foundation unique in New England -- 20 feet high, 41 feet long, and 10 1/2 feet thick at the base" (Park Brochure 3).

Twenty years after the sawmill's construction, Jaazaniah Newton carved the following inscription on an interior beam: "J Newton A D 1767." Newton bought out his partner and eventually transferred 225 acres to his son Jonah who added his own initials to the sawmill: "J N 1790."

Jonah Newton must have been fairly successful because in 1784 he was rated on the Paxton polls and estates for "two grist, one saw, and a fulling or slitting mill" (Melican interview, spring, 1987).

After changing hands again, the mills became the property of Samuel Jenison in 1799. Jenison owned the mill village property from 1799-1830, during its peak of growth and prosperity. Town records show a rise in population and a subsequent rise in small businesses at the brook, some owned by other people. The mill village complex drew commerce from other towns and soon another grist mill and triphammer shop were built.

In the Grantor and Grantee Records at the Worcester County Courthouse, there is a deed of sale of land from Sam Jenison to the North West School District in 1812. It was for a "plot of land suitable for said school district to build and equip a schoolhouse thereon the hill just easterly of Mr. Jenison's barn" (Book 26, page 272).

According to Ledyard Bill's History of Paxton, printed in 1899, Jenison was "reputed to be a rough sort of man. He kept a wet grocery store in the basement of his house, and it used to be a much-frequented resort" (54). This was in keeping with the general practice of mills being social gathering places where workers would stop for a drink while their lumber was being cut or grain was being ground.

Indications are that Jenison was a prosperous small town miller and farmer. With his three dwellings, four barns, three mills, a store, and 289 acres

of land, he was one of the most heavily taxed men in Paxton. However, one of his numerous real estate and business dealings ruined him. In 1830 the Court of Common Pleas at Worcester rendered a judgment against him for \$692.51. The mill property had to be auctioned off, but fortunately the highest bidder was his son-in-law, Homer Chase, who had been the schoolmaster at the brick school (Melican Report to MA DEM 6).

Homer Chase ran the mills and store for fourteen years. Before he sold out, he, too, left his initials on the sawmill beam: "H C 1841." Very little is known about the three owners in the next twenty years of the mill village history.

Great technological change occurred during the years that William Comins was in charge of the mills. From 1864-1885 Comins and his family and hired help lived in a sprawling twenty-four room house built on the foundation of the former store. Three mills had gone out of business, but the sawmill continued in operation, now powered by a turbine. The original six-foot blade which moved up and down two times a second was replaced by a circular saw. And a new grist mill was built along with a blacksmith shop.

Edward Eames, a Maine lumberman, bought the place in 1870 and ran the sawmill for fifty-seven years. He logged much of the area with his twenty teams of horses



and would often foreclose on property which had good stands of lumber. In 1917 his house, built earlier by Comins, was suspiciously destroyed by fire. Ten years later, as Eames was going to close the sluiceway one November evening, he slipped on the ice and fell onto the rocks below. He never recovered and the sawmill never ran again (Myron Eames interview, spring, 1985).

With Eames' death, the one-hundred-and-eighty-year industrial history of the mill village came to an end. Starting in 1930 the site was taken over as a country estate by two wealthy Worcester families, first the Mortons, then the Spauldings. Turkey Hill Brook was enjoyed by these families and their friends for its scenic beauty rather than for its source of power. To make the grounds even more beautiful, thousands of rhododendrons and azaleas were planted, the grist mill was torn down, and the sawmill was converted to a tea room for guests.

In a fortunate decision, the Mortons kept the one-hundred-year-old schoolhouse by using it as a wing and building their home around it. They also built a back bedroom which is now the local history museum and added on a sunroom which will eventually be made into a library.

The Spaulding heirs decided to sell the property to the state in 1965. Today Moore Memorial State Park

is enjoyed by people who are attracted to its peace and quiet and natural beauty. The solitude, waterfalls, stonework foundations, flowers, trails, and the sense of history all contribute to a memorable experience for those who visit here.

### Designing the Museum

In the spring of 1982 a teacher from the Paxton Center Elementary School asked if I would meet with some of her colleagues to discuss educational uses of Moore State Park. At that time the state had owned the property for seven years, but had not developed it, nor had the school made use of this resource.

After visiting the site and meeting with a team of teachers, I listed possible activities that could be used in an interdisciplinary approach. I also wrote to the Department of Environmental Management to suggest possible reconstruction of buildings and I noted undisturbed archaeological sites and gave ideas for school group visits.

A year later I was hired as a consultant to begin work on a plan for an 1820 schoolhouse, research library, and local history museum. I was to design not only the three-room building and its exhibits but the program as well.

My perspective for the design of the museum was based on developmental learning theory, an approach that was child-centered. As far as I knew, at that time there were no other small local history museums in the state built specifically with children in mind.

Accordingly, I invited suggestions from eighty-six seventh-grade students at the Paxton Center School. Their replies gave me ideas, not so much for design, but for use of the building (See appendix B). Most of the students seemed surprised that their views would be taken into consideration.

Some of their suggestions were to offer workshops on old tools or pottery, to display photographs, scrap-books, and old postcards, to have diaries and copies of books that were used during the time of the mill village, to show movies, display nineteenth-century clothes and jewelry, and provide a television to show a video tape of the grounds.

One of the questions I asked the students after they had visited the schoolhouse and museum building was "Would you visit on your own?" The majority of these adolescents said, "I hate going places alone," "It can be lonely," "I think I would rather study with my friends or family than by myself," "You could learn more with someone else," "I like to share the beauty with my friends."

These responses helped me realize the social nature of teenagers made it crucial to involve groups of students in any research activities at the park. The only time they consented to come alone was to go fishing in Eames Pond!

In another survey of forty-one eighth graders from the same school, twenty-six students said they liked studying history and fifteen disliked it (See appendix C). According to the students' words, those who disliked it said one finds out about the past by "looking in encyclopedias," "through history books," "by reading," "by hard research," "by asking your history teacher," or "by studying." These very traditional responses show a limited view of the processes of historical research and are the least active ways to become involved in history.

The students who indicated they liked history gave answers that correlated with responses that reflected an understanding that finding out about the past can be an active, ongoing process through studying artifacts, going to historic sites and museums, and listening to people's stories. Most of these students liked history because "It teaches me new things," "I like studying about people and their lives," "It's neat finding out about certain people and buildings," "It's fascinating to be able to put yourself back in time," and "It makes



you think how it was then and how much you are glad of what you have."

My approach as museum designer was to put myself in the place of a student researcher to see if my model of teaching history worked. I wanted to continue to look at my task from a child's point of view. So I adopted the five steps from my book, Independent Research Student Notebook: 1) Choose a Topic, 2) Find Resources, 3) Research, 4) Define Audience and Product, and 5) Evaluate.

Therefore, my topic was the history of the mill village, particularly during the period 1800-1830, as it related to the design of the museum complex. Resources came from such varied sources as early school texts, old photographs, nineteenth-century paintings, interviews with people who ranged in age from ten to ninety-nine, local histories of Paxton and surrounding towns, reproduction catalogs, antique stores and auctions, rare book stores, and local cemeteries.

I conducted research at such places as The American Antiquarian Society, Historic Deerfield, Old Sturbridge Village Research Library, Storrowton Village, Boston Public Library, nearby local history societies, Worcester County Courthouse, Massachusetts State Archives, Wadsworth Atheneum, other New England

mill sites, Society for the Preservation of New England Antiquities, and the Paxton Town Hall.

Luckily, Paxton town records are available from the time of the incorporation in 1765 to the present, although there is a mysterious gap between the years 1848 and 1878. No one knows where those records are or why they are missing. At one point, I needed to know who taught school in the North West District Schoolhouse in 1820, but the school committee records were not with all the other records for that year. They were found lodged behind the safe in the Town Hall, where they had apparently fallen several years ago. Perhaps the other missing records will be uncovered some day.

The audience and product were, of course, school children who visit the state park and the museum complex designed for their use. My task was to have a good fit between the two. I understood that "learning occurs when children's experiences and personal interaction with relevant concepts are in concert with the goals of an instructional activity" (Finklestein 150).

I also knew that my selection for an audience was a group of school children coming for a field trip visit, but I believed that if the design were appropriate for these children, it might provide a valuable experience for adults as well. The product, an inter-

active museum with a variety of exhibits and useable research space, could work for both audiences.

The evaluation of my work came from using the criteria of the five learning theorists, from visitor comments and the number of return visits, from park personnel comments, and from a comparison with other local history museums.

### Architectural Design

For the architectural design of the museum I had to use the existing three rooms without making major structural changes. The interior walls of the schoolhouse were constructed of pine planks cut with an up-and-down saw as they would have been in the early nineteenth century. Before I had the chance to confer with them, park personnel charred the pine and rubbed the walls with linseed oil to give an aged look to the wood; otherwise, I would have asked for a gradation of stain, darker near the stove and less in other corners.

Eight rows of pine desks with extra benches at the front and rear of the room will accommodate forty students. The design of the desks and their shelves came from William Alcott's Essay on the Construction of Schoolhouses, which won a prize offered by the Ameri-

can Institute of Instruction in 1831. Barnard's School Architecture, published in 1854, was also consulted.

In the past, up to sixty-two students, from ages three to sixteen, were taught in that one-room brick schoolhouse at one time. "Seats were arranged in two rows, which brought the scholars in two lines, one directly back of the other" (Bill 41). Roxa Bush also mentions in her memoirs that when Clifton Parkhurst attended school "there were thirty-seven pupils and when his father, Nathaniel was a pupil, there were sixty-two" (Landmarks 18).

The two original windows with southern exposure let in natural light, while the windows on the west have been covered by the wall which separates the sun room from the large house. A trompe d'oeil light box facing north gives another source of light. Paintings of the changing seasons are rotated here to give the illusion of scenes which former students once gazed upon.

The teacher's desk was donated by a generous benefactor and is believed to have been used in this school. It is made of cherry, thirty-inches wide and forty-two inches high, closed on the front and sides, with two box drawers and niches inside. Someone has scratched "money" on one of the small drawers.



Because the original brick exterior was covered with stucco when the school was incorporated into the house in the 1930's, I left a secret door in the wall behind the teacher's desk so that children may see a glimpse of the "real thing."

The iron box stove is a simple model built in 1820 and found in a general store in Maine. A wood pile is in back of the building. An outhouse, based on one found in Barre, MA from 1820, will soon be placed in the same vicinity as the wood pile.

Because the sawmill was nearby, there was no problem in getting wood to feed the fire. In fact, unlike other rural district schools where each child was commissioned to bring a stick of wood to add to the fire each winter day, we have evidence that men in the district received a tax break for supplying the wood themselves (Paxton Town Records, January 4, 1820).

The room in back of the schoolhouse makes a fine setting for a local history museum and research room. I wanted this room to have changing exhibits and a simple, bright interior. The walls and ceiling are painted oyster white over sheetrock to look like nineteenth-century plaster.

Since the room has a dual purpose, I wanted it to take on the look of a study. Small items, such as photographs, maps, and copies of town records are kept in

a reproduction desk that is wide and tall with many drawers that enable clutter to be reduced. This type of exhibit furniture serves two ends: It keeps historical artifacts accessible but away from light and dust, and it suits the overall theme of a research/history museum.

I maintained the mantel and fireplace molding because it coincidentally was in the style of the early Federal Period and was therefore suitable. I hope that in the future a fire can be lighted during gloomy winter days.

Unobtrusive track lighting is hung from the ceiling with spots aimed at the display case indented above the fireplace. There are dimmer switches with optional levels of lighting available for study purposes.

There are several other pieces of reproduction furniture in the room which are both work areas and exhibits. One side table is for craft activities, an apothecary chest is used for storage, and a large library table is centered in the room surrounded by eight Windsor chairs.

The third part of the museum complex is incomplete. I have given some design suggestions to the Department of Environmental Management and talked with staff at the park. The sun room will be converted to a reading room and library. The French doors are being

retained to allow natural light; they open out onto a small walled garden. It would be nice to plant herbs and aromatic flowers there so that a sweet, nostalgic smell might be in the air while visitors spend time doing historical research.

The sun rooms's purpose could be to highlight local regional history. This library should have a collection of early textbooks, selections of literature read between 1765 and 1865, and regional histories, as well as books on genealogy, gravestone rubbing, and other aids to historical research. The collection could be expanded to include reference material on environmental education, archaeology, geology, and other areas of interest in New England.

One corner of the reading room could be devoted to a display of books from the "Young Ladies Literary" which met in Paxton from 1825-1830. Dues were \$.25 a year and a library was maintained by subscriptions. The young ladies read such books and newspapers as Vicar of Wakefield, Four Georges, and "The Spectator" (Bush 20). Signs could be posted to explain the choice of books on display there.

### Exhibit Design

After taking inventory of the artifacts and resources at the park, I was able to discern areas of

weakness and strength in the collection. This information provided me with a sense of the objects and the spaces available to work with. I began to solicit specific items that would enrich and complement the ones we already had at our disposal (See appendix D)..

In collaboration with teachers at Paxton Center School and staff at the the park, I decided to focus on a theme for the local history room: "Paxton -- The First One Hundred Years." The exhibit could be changed later to celebrate the second hundred years. These broad topics were chosen because the collection was sparse and had no depth.

The objects were then divided, put in order, and catalogued (See appendix E for registration and appendix F for gift/loan forms). The chief staff member at the park was trained in registration techniques and given advice on conserving artifacts through use of archival quality storage materials.

Then the storyline or exhibit script was written to provide a framework for the items being displayed. In some museums the script is published as a handout for visitors or a catalog for a special exhibition.

Labels were written, taking into consideration that the main audience would be young children. Colonial Bold typeface was used for its clear readability.



A floor plan was drawn and traffic patterns were set up through the placement of the furniture. Although there is mention in the park's master plan of including special needs visitors and overcoming barriers to their participation at the park, the state was unable to make special allowances for handicapped visitors. However, I had a ramp built which permits those in wheelchairs to enter the room.

The exhibit was mounted in time for the annual autumn open house. Students dressed in replica 1820 clothing acted as guides to the buildings and grounds. They explained what a day would have been like in an early nineteenth-century school and they accompanied visitors through the museum and answered questions. I had previously given the students a tour of the museum and described the on-going features.

The overall design of the room included exhibits that were hung, some could be handled, some could be taken home, and others were designed to appeal to several senses. The time frame starts in 1775 with a large blow-up of John Trumbull's painting, "Battle of Bunker Hill," which shows Major Willard Moore, the man for whom the park was named.

Other items in the room are chronologically displayed:

1) artifacts dating back to 1800 discovered during a 1974 dig of the brook and sawmill site, an archaeological kit for children, books regarding the process;

2) an herb center with information about Dr. Samuel Harrington, who lived at the village in 1830, and mortar and pestle to permit visitors to grind and smell different herbs;

3) stencil equipment with which visitors work on a canvas floor cloth for the room, sample stencil designs and books about Moses Eaton, an itinerant stenciler who traveled through the area in 1835;

4) a five-by-six foot map of Paxton and surrounding towns dated 1857 and there is a magnifying glass to help visitors see specific sites;

5) a Civil War corner where children sit at a large desk and read copies of letters sent by Paxton soldiers to their families; at the same time, children can listen through headphones to a taped reading of the letters.

The exhibit design was carefully planned to incorporate such subjects as chronological time, family and town history leading to the larger world, storytelling, the research process as shown by archaeological techniques, multi-age activities, gender specific activities such as individual and group projects, and opportunities for self-discovery.

### Program/Curriculum Design

In order to promote greater involvement of students as substantiated by the learning theories chosen, I emphasized three approaches to teaching American history as pertinent to Moore State Park: local history, living history, and archaeological research.

Teaching local history, as I see it, is not merely presenting to students the story of their community's past. Rather, it involves challenging students to use primary source materials and become immersed in the research process which is one crucial way for learning the skills of critical thinking.

Local history is a particularly rich field for integrating concepts such as community spirit, political activism, and family dynamics of the past with those of the present. Students who engage in this type of research are better able to grasp the idea that their lives are to be part of someone else's past, and that, in fact, they are creating history for others. Further, if the students actively gather information and prepare it for others, they are taking part in the process of preserving history.

"Living history" is a relatively new term used to describe an experience where the participant re-creates and tries to re-live a moment in the past. Wearing

authentic dress, replicating speech patterns, engaging in daily occupations and tasks, preparing and eating food in the manner appropriate to the period are all activities that draw people psychologically and emotionally back in time.

Original source material found in diaries, tax records, census reports, and both public and private letters can serve as the script for role-playing and creative writing, or as data for independent research about a character. Consequently, the living history experience is a powerful vehicle for understanding attitudes and behavior of people who lived in the past.

Archaeological research can provide students with the opportunity of discovering for themselves history at the source. The science of archaeology involves looking for anything that a past group of people has left behind; this search can be both under and above ground. The real importance of archaeology is not so much that we gather artifacts, but that we come to understand the people who made the artifacts, and by comparison, come to know ourselves a little better.

Archaeology's message to students is that visual data is just as important as verbal or written data in historical research. Another value of learning archaeological techniques is that they afford us a dis-



tinct way of seeing, a way of "reading" objects and a framework for posing important questions.

At Moore State Park I have encouraged students to play a major role in gathering information and artifacts for the local history museum. With continued training in mechanical skills such as oral interviewing, survey taking, using account books and ledgers, photography and transcribing handwritten manuscripts, students can contribute to their own history in a serious way.

I would also like older students to learn to catalog the actual artifacts and local history material available. Because artifacts give us ideas about history, it is beneficial to spend time with the objects. At an NEH colloquium, "Historians/ Artifacts/Learners," which took place at Williamsburg, VA in 1981, Carter Hudgins proposed, "The greatest potential the study of material culture has is its ability to force us to think about the world we have lost in ways that might never occur to us when we study the documents alone" (Fertig 60).

At the park role-playing is taught in the 1820 schoolhouse. Before teachers bring their classes there, though, they have all been involved in a cultural unit on nineteenth-century village life. The day

at school is not an introduction, but rather, a culmination of the study.

Using a technique begun at Old Sturbridge Village, teachers give students new names to take on for the duration of the study. These names, which were found in school records, prove sometimes to be actual relatives of the students. They are given information about their "families" and try to reconstruct what would have been their lives.

Role-playing techniques are taught and most students become readily absorbed by the imaginative process. Their casual conversation and responses often show how great a sense they have of the time period. They remember details of daily life and use them to make their acting seem more authentic than if they merely read a prepared script.

Archaeological research is the third area of special focus at Moore State Park. Students are beginning to learn archaeological techniques in preparation for a summer dig. The state has its own team of professionals, but we hope to have students in the field as well.

Thus far, students have been taken on a tour of the grounds where foundations, old roads, and a cemetery were pointed out. They have also seen the collection of artifacts uncovered by Roland Wells Robbins when he cleared Turkey Hill Brook in 1974. Generally,

the finds were stoneware and bottles, bricks and nails, horseshoes, scythe blades, buttons, and bolts.

In his report to DEM, Robbins suggested the state initiate

a controlled program of dig-it-yourself history for local school children. The dump for the Eames family, and quite likely for earlier occupants of the site, was over the westerly embankment beyond the house. A mass of rubbish and artifacts exist here and the site has been a hunting ground for pot-hunters for years. To make this available for educational purposes would create the means for recovering its artifacts, using acceptable methods for excavating historic sites. And it would provide the students with the thrill of discovering their community's history. (42)

These architectural, exhibit, and program designs based on learning theory are not only educationally sound, but are cost-effective and do not require a large staff to maintain them. Conclusions and recommendations concerning these designs will be discussed in chapter seven.

It is my hope that through such efforts made by small museums students will come to understand history in a way that Sybil Marshall explains in her book, An Experiment in Education. She wishes children would realize that history is like a coral reef, composed of things that are dead, but in itself still living and growing. The children's lives are the polyps being woven by time into the topmost layer (45).

## CHAPTER VII.

### CONCLUSIONS

#### Implications of the Study

For my case study at Moore State Park, I chose elements from five learning theories, then translated them into exhibit design and curriculum programming. I wanted to discover when and how the theories were applicable and useful for museum educators. The purpose of the study is the highlighting of an important gap in museum training and offering suggestions for those who wish to consider the implications of educational theory for museum work.

Dewey, Piaget, Bruner, Gilligan, and Egan all have perspectives on the way children learn that I believe are timely, pertinent, and substantiated by educational experience. In order to test their applicability to history museums, we must overlay the key elements from the theories onto the demands of museums' resources and schedules.

I found in my work at Moore State Park that some of the ideas I wanted to implement would require patience on my part and the cooperative efforts of others. My experiences taught me it helps if adults



working on a project share a similar educational perspective. It is also beneficial if children are in the right frame of mind to learn history because learning is something they do, not something that is done to them by museum staff.

From the early stages of restoration and development, Moore State Park was designed to be an independent research site for students. Using the theory that children construct new knowledge by actively building on and transforming existing knowledge, I chose to emphasize the inquiry method of teaching. The mill village was tied to the more general history of Paxton through use of other community sites, oral history, and historical documents. Possible themes for school children's future investigations were the changes in the way people made a living in 1830, 1900, and today. Records survive of shoemakers, a postmaster, tavern keeper, farmer, and carpenter in Paxton; these records were supplemented by other materials. Students explored environmental and economic reasons why Paxton never developed factories as did most other New England towns.

Students at Paxton Center School were given six research projects as options. The projects involved collecting oral histories, walking tours of Paxton center and the mill village, investigating water power and the operation of mills, gathering the history of

local industry, mapping, and studying schools in Paxton. Student work was incorporated by teachers in a grant proposal for a training program sponsored by Old Sturbridge Village. This project was later implemented in 1986-87. In this way, Paxton and Moore State Park became an educational laboratory.

The following are the five models that were used for teaching history through personal projects:

1. Work on a theme using the same type of source. Twelve diaries all on one topic; the basis for discussion is comparison.
2. Use different types of sources on a theme. Industry: two diaries, two photographs, two mill inventories, two descriptions of town; they play off and reinforce each other and show several perspectives of the same topic.
3. Try a case study rather than a topic. Use one person's life to discover some of the past (diary, photo of house, genealogy, newspaper articles, etc.)
4. Make comparisons over time. To study the downtown section, take documents from the last 150 years in order to show continuous change.
5. Focus on the town at only one particular period. For example, use multiple sources to study the Civil War's impact on a small New England town.

Each research project required preliminary study and interviews with mentors who agreed to give the students guidance and information. This phase was in keeping with Bruner's idea that children of all ages are able to grasp some of the fundamentals of a particular discipline if they have the aid of professionals in the

field and if they act out some of the steps involved in the historian's craft.

Not everyone agrees with this type of participation on the part of young children. Barzun, for example, maintains that at the elementary level, "It is no less play-acting to go through the motion of 'research.' The word should not even occur, for at that level the thing is non-existent. A report on reading is a fine exercise and it should be called just that, with its proper name" (114). The problem, it appears, is with the word "research." I think such an activity is much more than "a report on reading." Research involves using multiple resources, investigating real problems, and presenting the findings in a variety of forms which are suited to a particular audience. Young researchers may not be able to draw sophisticated conclusions, but the time they spend exploring is bound to lead to connections. Barbara Tuchman in her collection of selected essays, Practicing History, has pointed out:

To find out what happened in history is enough at the outset without trying too soon to make sure of the 'why.' I believe it is safer to leave the 'why' alone until after one has not only gathered the facts but arranged them in sequences; to be exact, in sentences, paragraphs, and chapters. The very process of transforming a collection of personalities, dates, gun calibers, letters,

and speeches into a narrative eventually forces the 'why' to the surface. (23)

Another applicable aspect of Bruner's theory concerns the discovery technique which involves children in several domains of learning at the same time. Bruner believes we all learn through insights which lead to new thought patterns; he would structure the content of a museum program so that certain objectives would be met.

In contrast to this, Bruno Bettelheim advocates unorganized, random learning that leaves the museum visitor in awe. He says about museums in general:

What they all have in common are contents that can arouse a curiosity that is not easily satisfied but which can induce a lifelong veneration for the wonders of the world. (Children Today 22)

There should be opportunities for both kinds of experiences in museums. I often structure the initial large school group visit and then leave time for individuals to wander at leisure. I stress that the trip to a museum should be not just once, but the first of many. Moore State Park's acreage and three museum rooms allow children to return on their own, with their families and friends, and also during subsequent grades in school.



Bettelheim takes the stand that "Our museums are mainly designed to be instructive, which makes them much less apt to arouse a sense of wonder and marvel" (23). But instruction and pleasure should not be perceived as dichotomous. According to the staff at Moore State Park, the various pedagogical techniques tried out at Moore confirm that learning can produce a sense of curiosity and wonderment on the part of students and satisfaction for the park interpreters (Melican interview, spring, 1987). The self-discovery method, carefully arranged by museum staff, is one that is appropriate to museums. Grinder and McCoy agree:

Learning by discovery, which involves pre-planning, however, is probably one of the best teaching approaches in the museum setting. This is because of the nature of the institution, that is, to relate the characteristics of objects to one another, and to promote general principles underlying historical contexts, environmental effects, media, and artistic intentions. (35-36)

The implications for teaching are that the discovery method, carefully planned, is best for large groups of children. Yet the possibility is always there for individual students to roam the grounds, using a longer time for self-discovery and exploration of new territory.

Another technique taken from the learning theory of John Dewey is to present history for very young children from a familiar point of view and work outward to larger issues. This approach is well suited for students who are at the corresponding levels of Piaget's concrete operations. Barry Wadsworth, professor of education and psychology at Mount Holyoke College explains:

Most children probably cannot view history or social studies classes as having genuine adaptive value to them before formal operations are developed. For younger children, motivation to learn history usually arises out of some spontaneous interest in the content or from social reinforcement (e.g. grades, parental and teacher encouragement).

According to Piagetian concepts, the history the child experiences is more likely to become a part of his [sic] knowledge structure if the child's involvement is spontaneous than if the child's involvement is motivated by social concerns. (185)

The implications are that the history museum can play a part in triggering children's involvement by introducing historical questions and providing an outlet for pursuit of spontaneous interests. The library and exhibits at Moore, for example, are valuable to a student who may bring in an old bottle collection to class and wants to find out more about antique collectibles. Moore is a resource place for children in Paxton.

The obvious next step for older students, according to Egan, is to make connections between history and what appears to be different from the mundane world. Students exploring the limits of reality do so by focusing on extremes. "They connect themselves with the extremes through the human qualities that most transcend the threats of everyday life -- power, courage, nobility, beauty, genius, and all the old virtues" (Educational Development 30).

In the Moore library there is an 1870's journal of a young woman engaged to a doctor who leaves for the city to start a large practice. Reading the diary gives us clues to courtship practices in the nineteenth century at the time of industrialization. There are missing pages midway through the journal and the second half reveals that the author's engagement was broken because of some misunderstanding. This journal provides a topic of study which is engrossing for an adolescent who is searching for human qualities that appear throughout recorded history. However, as yet, no one has used the diary because finding the right student to study it, setting up the study, and letting people know about the park's many resources are problems that are yet to be solved.

There were several questions advanced in this study: when and how learning theories are applicable

to local history museums, which theories are useful, and which criteria are helpful for evaluation of museum programs.

The argument of using learning theories for program design is a persuasive one according to the museum educators I have interviewed. Museum staff who do not plan with a knowledge of how children learn feel a gap in the audience's reaction; sometimes the programs maintain interest, sometimes they do not. Techniques based on learning theories allow museum personnel freedom to plan within a cohesive framework; there is less trial-and-error and more consistent success. Because they have a clear rationale for the program design, the educators feel more assured in their work. I also believe a beneficial side effect in the future will be a greater number of return visitors. Three years after the completion of the schoolhouse at Moore State Park, there has been a noticeable increase in school group visits.

The question of when learning theories are applicable to museum settings has to do with timing of the program planning. I was able to do planning in the initial stages of restoration, so it was relatively easy to incorporate the developmental framework that I devised. It would be more difficult, perhaps, to use this framework in an already established museum without



a great deal of staff training. But because my interviews indicate willingness for such training on the part of museum educators, I believe it can and should be done. Learning theories, however, are complex and cannot be translated into quick fixes for displays and tours. The entire museum education programming must be examined to determine a cohesive structure and what are next-step procedures.

How learning theories can be applied to educational programs depends on money and imagination. I prefer to draw on several theories because no one theory has all the answers for me. The theories presented here are complementary and have points to consider in conjunction with each other. A caution is in order, however, because even though these theories suggest ways that children learn, we must be careful to address the needs of children who do not seem to fit the various stages or levels of development. How we apply learning theories to teaching history is a sensitive issue which should be adapted to each specific site.

The description of the various components of museum design at Moore State Park illustrates how learning theories can offer a constructive basis for programming. The findings, of course, are limited to the small case study, yet one park employee told me,

"Your work has given impetus, not only to related projects at Moore, but to other interpretive sites in Massachusetts" (Melican interview, spring, 1987). Just recently, the Massachusetts Cultural and Historic Landscapes Program targeted Moore as the premier interpretive park in the state so it is crucial that the staff have formal training in developmental learning theories.

Whether the programs succeed or not depends on the expertise and experience of staff as well as the cooperation of volunteers and teachers from visiting schools. Budget considerations are also important; although some programs are low-cost, money should also be available to prepare new programs while the old ones are being maintained. Adding important nineteenth-century artifacts to the collection can be expensive if there are no benefactors or people who will lend items for display. At Moore the problem is that without a large interpretive staff it is difficult to encourage many school systems to take advantage of the park facilities.

One of the assumptions made in the beginning of this study was that one learns history by doing history. I wanted to conduct research on the background of the park that would give me good questions that children could explore; I wanted to use a procedure

that could be followed by museum educators, teachers, and students; and I wanted to devise a learning theory framework that would be helpful to them.

By doing the historical research myself and building the rooms of the museum from the ground floor up, I went through the stages of frustration, persistence, and final deadlines that would help me work better with children. My understanding of the historic reconstruction process gave me insight into what a young student might encounter during such an undertaking.

At the moment, there are many unfinished aspects of the museum complex at Moore State Park. The sunroom is half complete; there are inadequate storage facilities for information files as well as valuable collection items; there is no security system for the buildings. The excavated artifacts, themselves, have raised a series of conflicting questions about the history of the site.

Perhaps the answers to these questions lie in future work. But as Christopher Collier says, "A realistic understanding of the past requires an ability to live with ambiguities, unanswered questions, and loose ends" ("Criteria" 24). My work at Moore State Park was aimed at helping staff provide a sound program for children based on learning theory and to introduce

children to the complexities of life as seen through their local history. That work is still ongoing.

### Directions for Future Research

This study describing some of the ways to apply learning theory to history museum programs demonstrates the need for further case studies in the field of museum education. Throughout the course of my study I wondered whether the selected criteria were universally applicable or not. Archaeological research certainly is not as easily done at every site, although simulations may be. What becomes of an excavated site? In twenty years what is left to dig?

Knowledge of learning theories gives every museum educator a base for thinking about children, yet some money is needed to conduct staff training and programs. What happens in volunteer-run, small local history museums with few resources? Numerous studies, including various permutations of the theories identified in this study, will have to be done in order to answer these questions.

Other topics needing to be addressed in future research deal with finding out what kind of in-service training would be most helpful to museum staff. N. K. Harrison concluded in his 1980 dissertation, "The



Development and Implementation of Educational Programs in Selected History Museums," that there is a need for museums to document what they have done in their educational programming and what the effectiveness has been (57).

Topics for continuing education training might include using questioning techniques, self-evaluation for guides, engaging visitors in object or material culture study, and training in how to write curriculum activity sheets.

The Bay State Historical League is a non-profit organization with members from Massachusetts museums, societies, commissions, and archival and research facilities. The League sponsors four meetings a year at various local history museums and offers programs that are mainly social. If this organization undertook a survey of its members' educational needs and promoted educational training, we would all benefit from the results. Harrison concurs by saying museum professionals must recognize the necessity for using planned systematic procedures for developing and implementing educational programs (58).

Another area to investigate is the collaboration between schools and museums. Can museum kits be viewed as classroom helpers? What kind of outreach service is helpful to teachers before they begin an historic

study? How can a museum help children during their course of study? I would like to see a stronger partnership built between schools and museums in which teachers would feel free to work with museum staff and museum educators could talk over pedagogical concerns with teachers.

For example, one small but interesting project might be an offshoot of an elementary reading program. Museum educators could prepare teaching units which integrate children's literature and the museum experience. Such a unit would offer an alternative or supplement to the textbook and show how literature combined with artifacts and museum visits can be used to teach history and reading.

Another project for research is planned weekend and school holiday activities. The National Trust of Australia has issued a 28-page book with ideas and suggestions for guides and guardians of historic houses and museums. Other such handbooks might be written for historic museums in this country. Holiday courses are quite different in nature from school visits, and thus the changed expectations on the part of the child, the parents, and the museum staff need to be examined.

This study rests on the premise that historical museums can teach history in a way different from the methods used in elementary classrooms. Given the fact

that museum educators teach children, they will be more effective if they first know how children learn and then use developmental learning theories to plan their programs. Only then may children have a more meaningful group experience in the museum and begin to undertake what could be a lifelong study of history.

## APPENDIX A

### Handbook for Museum Educators

One way for museum educators to gain some understanding of cognitive development and its implications for their local history programs is through the work of well-known educational theorists. The various research activities of John Dewey, Jean Piaget, and Jerome Bruner, conducted over the past eighty years or so, have contributed significantly to our insights into the way children learn. Among the more recent studies that have built on or modified these theories are those of Kieran Egan and Carol Gilligan. The work of each of these researchers can have application to the teaching of history within a museum setting.

There are certain theoretical elements that can be valuable points of reference for planning museum programs. Briefly sketched below are four important elements from each of the five theories.

#### Learning Theories

John Dewey:

1. "The active side precedes the passive" or children learn by doing.



2. Children should be involved in interaction that leads to connections.
3. Children should actively pursue their interests, starting with family life and moving outward to the world at large ("expanding horizons" curriculum).
4. History must be presented as a "forceful, acting thing," not the mere accumulation of facts.

Jean Piaget:

1. Perception is shaped and limited by experience.
2. Knowledge is acquired continuously as we accommodate personal encounters to our prior expectations and beliefs.
3. The child is a constructionist attempting to build personal theories of the world. This dynamic process leads to greater knowledge if both the inquiry and the discovery can be made by the learner.
4. There are three major stages of intellectual development which we all proceed through at varying rates and levels:
  - a) Sensorimotor (ages birth to 18 months);

- b) Concrete Operations (18 months to 11 years);
- c) Formal Thought ( 12 years to adult);

In particular, students at the concrete operational stage can think of objects in multiple ways, although their thinking is primarily tied to concrete objects. Those at the formal level can understand relationships between symbols and can reach logical conclusions based on abstract thinking.

Jerome Bruner:

1. "Structure of the Discipline" -- curricula must be constructed to reflect the underlying, basic principles of the field of inquiry. These may be taught in some form to students of any age.
2. Subject matter is presented in a "spiral curriculum that turns back on itself at higher levels."
3. Discovery is the main process involved in learning; the steps must be made by each child.
4. Learning involves translating outside experiences into new forms, organizing that information, then going on to new modes of organization.

Carol Gilligan:

1. Boys and girls have different acculturated viewpoints for learning; boys tend to see the world in terms of isolated individualization and abstract generalities whereas girls tend to see the world in terms of connectedness and relationships and specific situations.
2. Male values are considered the norm in our society; therefore developmental learning theories should be rewritten to include the female perspective.
3. Gender-linked traits that carry over into the learning environment must be examined; e.g., individual projects compared with small group work, competitiveness compared with cooperation.
4. Educators must look at the history of all types of people and listen to the "different voices" in order to gain a more encompassing view of our past.

Kieran Egan:

1. The story genre and literary terms are essential structures for learning.

2. History can be taught at an early age; early learning is a constituent of later understanding.
3. Children need to find connections between concepts they understand and content that is distant from everyday experience.
4. There are four stages of educational development: the Mythic, Romantic, Philosophic, and Ironic, which progress from ages five to adulthood. In the Romantic (ages 8 to 15) children begin to see the world as fundamentally different and separate from themselves. History is best understood at this stage as a mosaic of anecdotes, facts, and dramatic events.

### Planning Programs:

In planning museums programs for children, first look for the common elements from all five theories. One that stands out is the belief that self-discovery is important for learners. Too much structure and organization leave too little room for individuals to make connections with new information. We need to allow students to develop their own learning styles, working with the students during the exploration, but not handing them a finished product.



An offshoot is that children need to learn in an active way. By participating in important activities at a museum, students teach themselves about the past and remember better than if they had been told a list of facts. Museum educators in this new role become resources and guides rather than the main speakers and doers.

Another common belief among the learning theorists is that children can absorb history at an early age and that it is the details that make history understandable for them. There is some disagreement about when to teach the local, familiar history, but there is no dissent about the fact that it should be taught. Dewey believes an "expanding horizons" curriculum, going from the family outward to the town and the larger world suits the young child's way of thinking. Bruner and Egan say that it is difficult for children to make generalizations from what is too familiar, although it is possible to find connections between concepts that are known and content that is distant from experience.

A final common element among the five theorists is an underlying, strong belief that history needs to be presented in a way that is different from the usual chronological approach. Presenting issues that engage children from their point of view will help show them that they are to be part of later history; and that

what they are studying carries over to an understanding of who they are and what they are doing.

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## Appendix B

### Seventh-Grade Questionnaire

#### MUSEUMS;

1. A museum is

2. After visitng a local history museum I might have learned

3. I would (would not) use the Moore museum and research library because

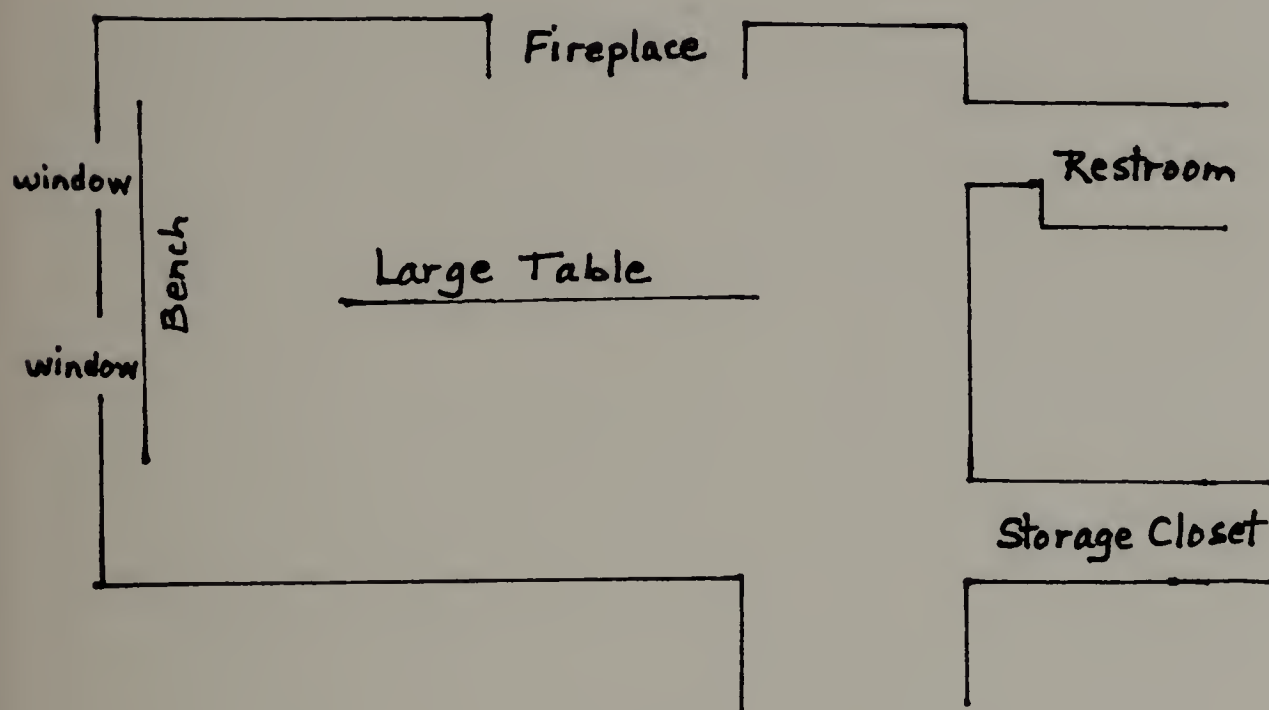
4. I would (would not) visit on my own because

5. Archaeology is

6. Materials I would find helpful in a history research library are



If you could design this local history museum, what would you put in it? Here is the floor plan. Draw or write some things you would like to see and some ideas for using them.



## Appendix C

### Eighth-Grade Questionnaire

The Department of Environmental Management is building a Local History Museum and Research Library at Moore State Park. Your answers to the following questions will help us plan a better museum for students. Thanks for helping.

Finish the sentences:

1. History is
2. Time is
3. The Civil War was fought during the years
4. You can find out about the past by
5. I like (dislike) studying history because

## Appendix D

### INVENTORY OF ARTIFACTS MOORE STATE PARK PAXTON, MA 01612

Pontil glass bottles, pottery shards, broken grist mill stone (pushed into cellar hole when grist mill was taken down), packing crate for last saw, slate tile, pitch fork without handle, lamp wick, cap gun, knife handle, various rusted items. (From Roland Robbins' excavations in 1974 and 1979.)

Ice cutting tools: tongs, saw, ice pick, grippers, wooden snow pusher, leather straps to keep water off one's back when carrying ice cakes. Also: hay cutter, wheel with cement around hub (found in brook), pickax, edger, scythe, wooden water bucket. (Donated by Denis Melican.)

Wheel, hay fork with pulley and three tines on each end. (Donated by Les Spofford.)

Petrified tree found in brook in 1924. (Donated by Myron Eames.)

Old school slates, crocks, bottles, books, broadside. (Donated by Arthur Sturtevant.)

Framed pictures: "To the Mill" by Judith Russell, oil painting of the park done by Judith Russell, photographs of Bigelow boot shop, Eames house and barn, Model T and sawmill, M. Eames on mowing machine, brick school house pre 1884.

Beers Atlas 1870, maps of the region in 1795, 1830, and 1898, large framed map donated by Evelyn Lawlor.

Copies of all deeds mentioned in the Harvard Report.

Park history from 1974 to present: newspaper clippings, slides, photographs, and letters.

Copies of Willard Moore memorabilia: Town meeting records of 1775 when minutemen were outfitted, his will, deed from his son, Alpheus, notes and excerpts from his civic career, Jaazaniah Newton's will witnessed by Moore, reproduction of Trumbull's painting, "The Death of General Warren," which shows Moore in the background.

Books: A Branch From the Tree 1602-1983 How (e) Family, The Old Burial Ground - Rutland, Burial Ground Inscriptions to the end of 1849 printed in 1906, answers to inquiries for genealogical data, Paxton center cemetery inventory, personal study of the Civil War Memorial on Paxton Common. (Donated by Edward Duane.)

School master's desk valued at \$600 - "Exceptionally fine piece of early American school furniture" - OSV appraisal, Worcester County Atlas map of 1857, copies of Civil War letters from Paxton soldiers, Jenison liquor permit of 1790, original photograph of brick school house, Estabrook account book of 1832, ship's travel log - Boston to San Francisco - by Leland How in March 1849, Ella Rowell's diary of 1878, Town Report 1900, the modified marathon from 1930 (Colebrook to Paxton), Letter from Lewis Morse to Ledyard Bill in 1895 re: Bill's History of Paxton, unsigned letter 1878 re: possible early settlement on Asnebumsket Hill, Community Carnival 1937, 150th anniversary of Paxton (1915), photographs of Keniworth Hotel, Paxton Inn with old sign, Church and Goddard House, and Charles Boynton, handwriting sampler of Elwin C. Fenn of Ware, MA, map of Paxton drawn by George Maynard in 1700's, and 1765 permit for Paxton Innholder. (All donated by Miriam Dewey.)



Appendix E

MUSEUM REGISTER SHEET  
MOORE STATE PARK  
PAXTON, MA 01612

Source :

Name \_\_\_\_\_

Date Received: \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_

Initial, date tagged: \_\_\_\_\_

Acknowledged: \_\_\_\_\_

Donor card: \_\_\_\_\_

Marked & Registered: \_\_\_\_\_

Object card: \_\_\_\_\_

Description:

Origin:   Where

When

Object Register: (numbered list of items in the accession)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Appendix F

CERTIFICATE OF GIFT

Name of Donor: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

I hereby unconditionally give, grant, and convey the items described below to the Massachusetts Department of Environmental Management, Division of Forests and Parks, to be used at Moore State Park, Paxton, MA and to be administered in accordance with its established policies. The title to said property shall remain with the Commonwealth of Massachusetts.

Number and description of donation:

Signature of Donor: \_\_\_\_\_ Date: \_\_\_\_\_

Signature of Witness: \_\_\_\_\_ Date: \_\_\_\_\_

Please note: Because the Paxton Local History Museum at Moore State Park cannot exhibit its entire collection at once, and makes changes in exhibits from time to time, it cannot promise the permanent exhibit of any object. Those not on public exhibition, however, are almost always available to scholars for study.

(continued next page)

(cont.)

## LOAN AGREEMENT

The below described object has been offered as a loan to the Friends of Mill Village to be used at Moore State Park by:

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

and has been accepted by the Paxton Local History Museum and Research Center subject to any loan agreement conditions below.

DESCRIPTION:

LOAN AGREEMENT CONDITIONS:

Signature of Lender: \_\_\_\_\_

Signature of Museum personnel: \_\_\_\_\_

Date: \_\_\_\_\_

Please note: Because the Paxton Local History Museum at Moore State Park cannot exhibit its entire collection at once, and makes changes in exhibits from time to time, it cannot promise the permanent exhibit of any object. Those not on public display, however, are always available to scholars for study.

## Appendix G

### Curriculum Guide for Moore State Park





The naughty Boy who  
steals the pears,



Is whipt, as well as he  
who swears.

Early Nineteenth Century Educational History  
at Moore State Park, Paxton, Massachusetts

By Sue E. Sturtevant  
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For the Department of Environmental Management  
Division of Forests and Parks  
State Office Building  
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The Captain boldly  
draws his sword,



The Soldier marches  
at his word.

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Pre-Visit Information

Thank you for visiting the 1820 schoolhouse at Moore State Park.

The history of the schoolhouse goes back to the days when a mill village was flourishing on the 325 acres now known as Moore State Park.

When you visit the park you will see several sites in various stages of development. The Newton Sawmill has been partially excavated, the blacksmith shop is a summering place for brown bats, and foundations of the Eames home and shed are standing, waiting for archaeological exploration.

The grounds have new plantings of "old" shrubs and flowering bushes. Picnic tables are placed about the grounds and trails are being cleared for visitors. Slowly the park is being turned into a truly unique educational setting.

The 1820 schoolhouse is ready for teachers who wish to bring their classes to a New England rural district school. The basic structure is authentic, but now enclosed by a larger, private home not open to the public. The interior of the one-room school house has been carefully re-created according to architectural designs of the early nineteenth century.

The two original windows with southern exposure let in natural light, while the windows on the west have been covered by the wall which separates the sun room of the large house. A trompe d'oeil light box facing north will give another source of light. Pictures of the changing seasons will be placed in this box to give the illusion of scenes which students once gazed upon.

Eight rows of desks with extra benches at the front and rear of the room will accomodate forty students. It is noted in Ledyard Bill's History of Paxton that at one time up to sixty

students were crowded into the room which measures sixteen by nineteen feet.<sup>1</sup>

Roxa Bush also mentions in her book, Landmarks and Memories of Paxton, that when Clifton Parkhurst attended the brick school-house, "there were thirty-seven pupils and when his father, Nathaniel was a pupil, there were sixty-two."<sup>2</sup>

The walls and desks are constructed of pine planks and cut with an up-and-down saw as they would have been in those days. The pine was charred and then rubbed with linseed oil to give an aged look to the wood. The ceiling beam is hollowed-out ash fitted over existing supports. Hand-cut nails were used entirely as well as iron-ware hinges and latches on the doors.

The teacher's desk is a copy of one donated to the local history museum which is located in back of the school house. The desk is thirty inches wide and forty-two inches high, closed on the front and sides, with two box drawers and niches inside. A wooden ferrule lies across the top, ready to be used as a measuring rule, for drawing straight lines or, perhaps, for rapping knuckles.

Because the original brick exterior was covered with stucco when the school was incorporated into a house in the 1930's, we have left a secret door in the wall behind the teacher's desk. Just open the door to glimpse the old red brick.

The iron box stove is an old and simple model, just large enough to heat the room. Because the sawmill was nearby, there was no problem in getting wood to feed the fire. In fact, unlike other rural district schools where each child was commissioned to bring a stick of wood to add to the wood pile, we have evidence that men in the district received a tax break for supplying the wood themselves.

In the Paxton Town records of January 4, 1820, it was written to award "Samuel Jenison one order in full for boarding school master and finding wood in the NW District \$18.44." Later in 1821, John Howe received \$8.00 for finding wood and Levi Jenison the same in 1825. It wasn't until 1827 that the school master



himself took on the task of heating the school house. Of course, the teacher, Homer Chase, was the son-in-law of sawmill owner Sam Jenison, and he boarded himself at the mill village.<sup>3</sup>

The one-room school house was used by the children in the North West District for more than seventy years. It is said that the old hemlock on the hill outside the door was planted by the first class to attend school there. Exact dates for the construction are still not known; however, Paxton Town Records show a tax to build a school house was passed on November 22, 1812, and on September 23, 1833, the sum of \$75.00 was granted for the repair of the school house.<sup>4</sup> Since the population in Paxton was increasing in the 1820's, the school house was probably built during that time.



In the early part of the nineteenth century, children were sent to school when they could be spared from household and farming duties. Massachusetts averaged about seven months per year of schooling with a fourteen week summer session and a fourteen week winter session.

Qualifications of teachers were quite varied although they generally had to have a certificate of good moral character and some high school education. Men were more often hired in the winter when older farm boys attended school because it was thought that men were tougher disciplinarians. Because women were not required to teach arithmetic and were hired in the quieter summer session, they received lower salaries. This changed when teaching became an established profession and education was valued by everyone.

Most school teachers boarded for several weeks at a time in various homes in the district. The inconvenience and lack of a private room must have been difficult for some. Harriet Bradley's diary for 1819 notes that most evenings were spent reading Universal History, Lectures on Female Education, or Milton. Most of her expenses were for sewing materials for the ruffles, frocks, night caps, shirts, and petticoats which she made and gave away or sold. As a new school teacher, she expressed her doubts and beliefs concerning her work:

I have reflected much on the troubles of this life  
the past week, have thought much of my past life.  
Whether I am and have been in the way of my duty,  
if I am, why am I thus: Oh, that I might have a  
realizing sense of my situation and strive to  
resist the temptation which I daily meet with. I  
wish to feel for other's woe<sup>5</sup> and strive to  
alleviate the troubled soul.

A district school committee was responsible for the general running and maintenance of the school building. It was not, however, until Horace Mann was elected to the Massachusetts Board of Education in 1837 that statewide standards were set. Mann

issued twelve annual reports of the Common School Journal in which he discussed attendance, school architecture, systems of instruction, punishment, the influence of reading, and choice of textbooks.

During the early 1800's, great stress was placed on reading and rhetoric. In the countryside, children brought whatever reading material they could find to school. Since schools didn't supply books, teachers often used their own copies to read aloud. Children shared hand-me-downs and re-read anything available. They copied verses of poetry onto their slates and memorized for recitation day; in this way, all the children had a chance "to speak their piece."

In 1827, Samuel Goodrich, using the pen name Peter Parley, brought out Tales of Peter Parley about America, the first of our modern readers to use short sentences and many illustrations. Following this success, William McGuffey wrote a series of six volumes between 1836 and 1857. The McGuffey Readers became extremely popular and introduced students to a wider range of literature. These "Eclectic Primers" sold 122 million copies and are being reproduced today. By the mid-century, district school houses were using the standardized spellers of Noah Webster and spelling bees were an entertaining part of school work. Textbooks had become tools for comparing student progress: as children finished their readers, they could move to a higher seat. Ambitiously, students aged three through sixteen worked their way through the same material, but at an individual pace.

District schools were common in New England until the end of the nineteenth century when it became clear that the district system was uneconomical. The five district school houses of Paxton were converted into one large, graded school with many teachers in the building. Yet the district school had served its time well and built the foundations of an equitable educational system available to all.

### References

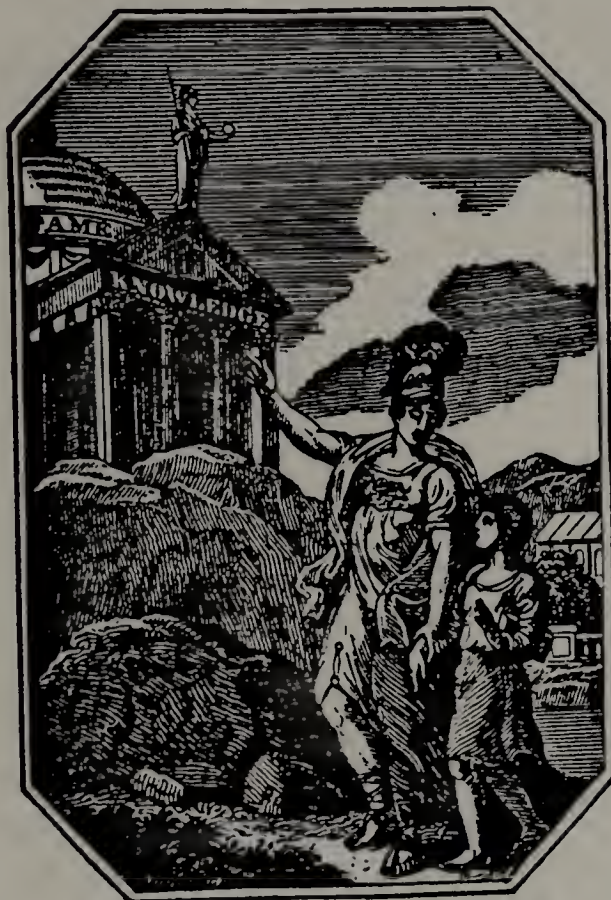
<sup>1</sup>Bill, Ledyard, The History of Paxton (Worcester, MA: Putnam, Davis and Co., 1889).

<sup>2</sup>Bush, Roxa Howard, Landmarks and Memories of Paxton (Paxton, MA: 1923).

<sup>3</sup>Paxton Town Records, Paxton Town Hall, Paxton, MA.

<sup>4</sup>Ibid.

<sup>5</sup>Harriet Bradley's diary (1819). Manuscript, Old Sturbridge Village Research Library.



Frontispiece to Webster's Elementary, 1829.



### On-Site Information

#### A Typical Day at the 1820 Schoolhouse

As the schoolmaster or schoolmistress rings the handbell, two lines are formed at the steps of the schoolhouse. Girls are in one line, boys in the other. Old Glory flaps in the breeze and makes the only sound heard on the hill.

The school teacher explains in a serious manner that obedience, diligence and politeness are expected from every child. Girls, in their long, printed calico dresses with puffed sleeves and aprons, stop to hang their shawls on the pegs in the entry way. The boys then enter and sit on their side of the room. They are wearing loose, checked muslin shirts with neckerchiefs, long trousers, and black felt bowlers or summer straw hats.

The room is sparsely furnished and dimly lit. Candles are too dangerous, so lamps of whale oil are sometimes used; kerosene did not become available until the 1860's. Most rural schools relied on natural light, so that on dark, rainy days little reading is done.

This school has no blackboards. Occasionally, a school teacher will supply a portable one on which to write the motto of the day. Sayings such as "Take care of the minutes and the hours will take care of themselves" are used for penmanship practice and opening exercises.

Only a few students have goose quills and ink made from swamp maple bark. Paper is abundant, but so expensive that it is primarily used for copy books and final copy exhibition pieces. Most work is done on slates drawn with soapstone, not chalk. Arithmetic ciphering, penmanship, spelling, poetry recitation and factual information are all copied down, memorized, and wiped clean with a cloth.

The thirty scholars, ranging in age from three to sixteen, are divided into groups and given lessons to prepare. No time is

wasted in getting to work; the children know that soon they will be called upon to give a recitation. Then they will go to the front of the room, fix their feet along the boards in a straight line and "toe the mark." They will be given only two chances to recite perfectly.

Arithmetic lessons are given out to everyone and before long it's time to be challenged by problems worked out mentally. No one notices the clock which is missing from the wall--it's better to concentrate on school work instead of hours passing slowly. The rhythm of the day is so regular that most students can judge the hour by the lesson assigned at that moment.

Just before lunch, there's a change of pace with some oral spelling, poetry reading or rhetoric. On the first day of school, the children were told to touch their eyes, ears, and mouth. Then the teacher explained that "you must see and hear twice as much as you say."

Dinner is a time for talking. Everyone unwraps a napkin tucked inside a basket or pail. Sometimes the meal is a biscuit and bacon grease or hard boiled eggs, or cold pancakes with molasses smeared between. Usually there's fruit in season and in winter a soup is made from a mixture of what everyone brings. It simmers on the stove all morning and tastes a little different each day.

Once the lunches are eaten, the children help with the chores by carrying in more firewood and water. Then there is time for a walk with the school teacher or for playing games with your friends.

Marbles, tag, Blind Man's Bluff are fun to play in the spring. So is "Let's Pretend": we'll be soldiers, or preach a sermon, or make a speech. Sometimes children play Rounders with a flat bat and soft ball, and run from third base to first.

Girls play with rag dolls and broken bits of pottery while boys whittle toys from scrap lumber. Sometimes they all go on picnics, roll hoops, or sing "Yankee Doodle." Boys go fishing

or swimming in the summer; girls are told to be content with berry picking. Even calisthenics are considered fun to do.

The afternoon session begins with a moralistic story and long discussion. After all, the purpose of going to school is to "improve your education and uplift your outlook on life." Then it's back to the slates for more reading and grammar. Each group recites in turn with all scholars paying attention and learning from each other. After the slates are checked, the teacher pairs an older student with a younger one to study geography or history. Some facts are repeated in unison.

One of the older students is feeling frisky, and decides to send a note to a friend at the end of the bench. Someone giggles, but since "frequent and loud laughter is characteristic of folly," the teacher descends with ferrule in hand. Some teachers prefer to rap on heads with a thimble or to send the offenders to the woodshed to ponder their bad behavior. Other forms of punishment are to bend over at the hip and put a finger on a nail in the floor, or to stand over the stove with hands outstretched holding a log. Sometimes a willow branch is applied to the backs of legs. Whatever happens, children know better than to tell their parents about being disciplined at school, since they would be punished all over again for disobeying the rules.

If there is time, we end the day with a spelling bee, everyone's favorite. Each scholar says the word the teacher gives, spells it, and says it again. "Patience, p-a-t-i-e-n-c-e, Patience." One by one, we stumble until there is only a single person standing--the Winner.

Because the present school day is two hours shorter than the one in 1820, we must hurry to clean up and be dismissed. There is no wastebasket because nothing is thrown away; we take apple cores to the pigs, save our paper for another day, and use the ashes from the stove as deodorant for the outhouse. Two volunteers sweep the floor and others clean the slates and put away books.

Row by row, scholars gather their wraps and lunch baskets and return to stand by their seats. Roll call is taken and each, in turn, "makes his manners" with a slight nod to the school teacher, and steps outside to the present. We have been dismissed to "go straight home and be civil to everyone met along the way."

## ALPHABET

a	A	<i>a</i>	n	N	<i>n</i>
b	B	<i>b</i>	o	O	<i>o</i>
c	C	<i>c</i>	p	P	<i>p</i>
d	D	<i>d</i>	q	Q	<i>q</i>
e	E	<i>e</i>	r	R	<i>r</i>
f	F	<i>f</i>	s	S	<i>s</i>
g	G	<i>g</i>	t	T	<i>t</i>
h	H	<i>h</i>	u	U	<i>u</i>
i	I	<i>i</i>	v	V	<i>v</i>
j	J	<i>j</i>	w	W	<i>w</i>
k	K	<i>k</i>	x	X	<i>x</i>
l	L	<i>l</i>	y	Y	<i>y</i>
m	M	<i>m</i>	z	Z	<i>z</i>



Recreated Daily Schedule  
Paxton North West District School

9:30	Opening exercises
	Assign morning lessons and names to students
9:45	Writing - slates or copybooks or exhibition pieces
10:30	Short recess with privy privileges
10:45	Arithmetic - assign four levels
11:15	Mental arithmetic for all
11:30	Spelling or rhymes or poetry
11:45	Lunch time
12:30	Moralistic story read by teacher
	Assign afternoon lessons
12:45	Reading and recitation - assign four levels
1:15	Grammar - written and oral
1:30	Check slate work
1:40	History or geography
2:00	Spelling bee
2:20	Clean up
2:30	Roll call and dismissal

### A Self-Guided Tour of the 1820 Schoolhouse

Be your own interpreter by following these role-playing techniques:

Be sure to prepare your students for their visit to the past. Have them bring lunches in buckets, pails, or baskets. Give them enough information to mull over during the preceding days, so that a general air of excitement and anticipation follow you into the Park.

Read excerpts from this packet of information and assign names of former students. Have your class "live" with their names for a few days; perhaps some will want to research the person they will role play.

Decide how long the simulation should last. An hour's concentrated lesson will give a taste, while a half-day or full-day will give a more realistic means of comparison. Your class should know that simulations are works of imagination. If a student finds a task difficult, give the reminder "just pretend."

Use the various lessons included in this packet as samples of authentic texts. Make copies in advance so there are enough for each group, and then fill in the outline of the day with your own choices of material.

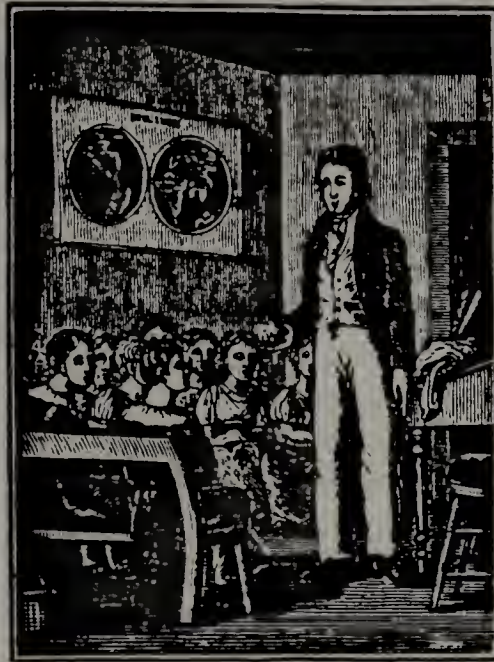
You may wish to bring a tape recorder which is helpful in planning future lessons. Try to keep it hidden somewhere out of sight. Take pictures after the day is over, since a modern camera would be obtrusive.

Role playing assumes some change in your behavior. Most school teachers were strict, formal, non-smiling, and stern. Have a signal, such as the handbell, to let students know when it's the nineteenth century.

Be clear about the rules when you begin, especially your expectations for their behavior. Don't spend much time in the beginning on punishment, as some may be tempted to test

you. Wait until later when the whole class is busy working before you discipline for inattention, slouching, or whispering.

Back in your own classroom, talk about the memorable aspects of nineteenth century education. Compare lessons and attitudes about children. Talk about things you liked or disliked. Discuss the reasons for changing our educational system. Encourage the children to find out more about their questions.



### Curriculum Ideas

Any action plan designed for Paxton teachers and students should be a cooperative effort that takes into consideration the curriculum work carried out in the past and plans already made for the school year 1983-84.

Grant monies may be available for an in-depth study of the town's history by students in first, fifth, and eighth grades. Gifted students in Project Soar will also be doing independent research aimed at publishing a local history collection. Much of this study could take place at Moore State Park.

Students could play a major role in gathering information and artifacts for the local history museum. With proper training in mechanical skills such as oral interviewing, survey taking, photography, and transcribing handwritten manuscripts, students could contribute to their own history.

Paxton town meeting records have been copied, but tax lists and school district accounts have not; care should be taken in their use. Worcester newspapers for 1801 and up are available for study at the nearby American Antiquarian Society.

Paxton community members who could be resources for interested students include Denis Melican at Moore State Park, Ruth Wentworth, Gail Tracy, Ed Dwane who studies gravestones, Bob Pierce who is interested in genealogy, Mrs. Cole, a former teacher at the grammar school, and Dr. Joseph Seremeth, Chairman of the Paxton Historical Commission.

Four important and respected senior citizens include Philip Pike, born in 1889; Warren Davis, born in 1887; Fred Flint, born in 1890; and Etta Robinson, born in 1894.

An introduction to history, presented to students with a sense of the "continuous past," will surely lead them to unusual perceptions of both time and locale. Students should



work on projects that have personal value and which lead to a better understanding of the present Paxton community.

Some models for teaching history:

1. Work on a theme using the same type of source.  
Twelve diaries all on one topic -- the basis for discussion is comparison.
2. Different types of sources on a theme. Industry: two diaries, two photographs, two mill inventories, two descriptions of town -- they play off and reinforce each other and show several perspectives of the same topic.
3. A case study rather than a topic. Use one person's life to discover the past -- diary, photo of house, genealogy, newspaper articles.
4. Make comparisons over time -- to study the downtown section, take documents from the last 150 years to show continuous change.
5. Focus on your town at only one particular period.

What was happening here during the Civil War period?

I would advise teachers and students to work with as many primary sources as possible. Included in this packet are excerpts from a school master's journal who taught in Paxton in 1818 and three notebooks of Samuel Jennison's (sawmill owner in 1830) donated to the museum by Miriam Dewey.

Beginning in September, I would suggest that older students begin to catalog actual local history material available. Each class will have to decide how the themes they will be working with correspond to the theme of the museum. By mid-year, they could start a campaign to let citizens know more about donating to the museum, and spring could be a time for sharing the collections with the public.

It is my hope that through these efforts, students will come to understand history in a way that Sybil Marshall explains

in her book, Experiments in Education: "to make each child to realise that history is like a coral reef, composed, it is true, of things that are dead, but in itself still living and growing; and to show him his own life and those of his playmates and peers as the polyps being woven by time into the topmost patterns."



You are old, Father William, the young man cried,  
The few locks which are left you are gray;  
You are hale, Father William, a hearty old man;  
Now tell me the reason, I pray.

In the days of my youth, Father William replied,  
I remembered that youth would fly fast,  
And abused not my health and my vigor at first,  
That I never might need them at last.

### Local History Museum

The room in back of the 1820 school house makes a fine setting for a lively local history museum. The sun room adds valuable space for storing books and reading them in quiet surroundings. It would be nice to plant herbs or aromatic flowers in the small garden between the two rooms, so that a sweet, nostalgic smell might be in the air while visitors spend time doing historical research.

After speaking with the teachers at Paxton Center School and staff at Moore State Park, it seems to be a good idea to focus on the theme "Paxton - The First One Hundred Years." The exhibit could be changed in several years to celebrate the second hundred years, 1865-1965. Paxton is so rich in records of its history that it is important to narrow the field of display in order to appreciate the information at hand.

As a preliminary plan for exhibit design, I suggest that the room take on the look of a study. Small items, such as miscellaneous photographs, maps, and copies of town records, could be kept in wide, tall, multi-drawered desks so that clutter is kept at a minimum. This type of specimen cabinet serves two purposes: it keeps historical artifacts accessible but away from light and dust, and it suits the overall theme of the museum.

The fireplace should be used occasionally for the effect it gives and whale oil lamps could be hung. Hidden track lighting could give the boost needed for viewing displayed items. I think a work table placed in the middle of the room to be used only with pencils would be helpful to researchers. And comfortable old chairs placed in the corners of the room could accomodate other patrons. A stenciled floor cloth would be neat and appropriate and easy to clean.

A map of Paxton in 1857 has been donated to the museum. After four hundred dollars of repair work, it could become a dramatic showpiece on the longest wall. Money is also needed to copy thirty-three deeds tracing ownership of the mill village area back to 1740.

The sun room's purpose could be to highlight local regional history. This library should have a collection of early text-books, selections from literature read between 1765 and 1865, and regional histories, as well as books on genealogy, gravestone rubbing, and other aids to historical research.

One corner of the reading room could be devoted to a display of books from the "Young Ladies Literary" which met in Paxton from 1825-1830. Dues were \$.25 per year and a library was maintained by subscriptions. The young ladies read such books and newspapers as Vicar of Wakefield, Life of Johnson, and "The Spectator". Signs could be posted to explain the choice of books available in the sun room.





## RESOURCES

Materials Needed for Re-Creating an  
1820 School Day

Textbook reproductions and songbooks.

Slates, slate pencils, and rags for cleaning slates.

Several goose quills and bottles of ink.

Copy books.

Dictionary.

Bible.

Water pail and tin cups.

Ferrule.

Counting materials: pebbles, nuts, seeds, etc.

Clothing: loose dresses and aprons  
sunbonnets  
loose shirts and neckerchiefs  
straw hats

Hand bell.

Penknife.

Broom.

Clothing Worn by Children  
in the Early Nineteenth Century

At six years of age, boys began to dress like older brothers and fathers who wore loose shirts with raglan sleeves and drawstring neck. They tied neckerchiefs on and sometimes wore vests.

Girls wore loose dresses with drawstrings at neck or bodice, puffed sleeves, long hems to their ankles and either a full or half apron. Quilted sunbonnets were used in the summer.

Period paintings at the Boston Museum of Fine Arts show several types of New England clothing. Check especially "Joseph Moore and Family 1840" by Erastus Salisbury Field, "Pat Lyon at the Forge 1829" by John Neagle, and "Georgianna Buckham 1839" by Henry Inman.

Sources for re-created clothing include Gohn Brothers, Box 111, Middlebury, Indiana, and the Boatman's Shirt from Folklore Patterns.



Excerpts from Paxton School Records

- November 2, 1792 - Voted to grant in addition to what has been already granted for building school houses 100 pounds and that each school squadron receive 20 pounds. Voted that Mr. Samuel Brigham be a committee man in the room of Mr. Samuel Robinson for building a school house in the North West school squadron (plot/district).
- May 9, 1811 - To see if the town will assist the North West District in building them a school house - Passed over.
- November 22, 1812 - We, the subscribers assessors of said town, have determined to tax in the North West school district in said town for the benefit of said district in building a school house in said district, all the land that lies in the said town of Paxton that is owned by the following persons living out of said town etc.
- September 7, 1833 - Granted the sum of \$50 for the repairing the school house in the North West School District to be assessed on the polls and estates of the inhabitants of said district (Meeting illegally held - null & void).
- September 23, 1833 - Granted the sum of \$75 for the repair of the school house in the North West School District to be assessed on the polls and estates of said District.

NORTHWEST SCHOOL DISTRICT TAX 1833	<u># of polls</u>	<u>total tax</u>
Jonas Brooks	1	.40
Homer Chase	1	12.98
Oliver Chase	1	.76
William Duncan	2	3.37
David Davis	2	9.57
Marmaduke Earle		1.36
Phillip Earle	1	1.92
Emery Earle	1	.40
Henry Eddy	1	.40
Dwight Estabrook	1	3.61
Daniel Estabrook	1	1.12
Frederick Flint		2.00
Jon Howe		1.20
Phillip R. Howe	1	.47
Paul Howe	1	8.09
Lucy Howe Ad	1	3.80
John O. Howe		.26
Abraham S. Howe	1	.40
Stephen Howard	1	.40
Silas D. Harrington	1	.81
Solon C. Howe	1	1.98
Samuel Jennison		.52
John Jennison	3	1.24
Lewis Jennison	1	.76
Moses Maynard	1	3.56
Benjamin Maynard	1	.70
John P. Metcalf	1	1.46
Moses Parkhurst	1	1.49
Esther Sweetser		1.48
Catherine Stebbins		.06
Justus Shaw	1	.40
Otis Upton	1	.40
Amos Ware	2	4.61
Town's grant for the Northwest School District		\$75.00
Total amount of tax from residents and non-residents		\$77.19
Overlay		\$ 2.19



Children born between 1820-1830 to taxpayers  
of the Northwest School District in 1833:  
a partial class list of children attending school in 1833

<u>Age</u> <u>in 1833</u>	<u>Birth Date</u>	<u>Name</u>	<u>Parents</u>
12	April 27, 1821	Oren Porter <u>Howe</u>	Philip & Alice
12	April 28, 1821	Moses Billing <u>Parkhurst</u>	Moses & Phoebe
12	November 10, 1821	Timothy Mason <u>Duncan</u>	William & Alice
11	May 24, 1822	Lucy <u>Howe</u>	John & Lucy
10	February 25, 1823	Horace <u>Jennison</u>	John & Lavinia
10	April 30, 1823	Nathaniel Lakin <u>Parkhurst</u>	Moses & Phoebe
10	May 15, 1823	David Leander <u>Ware</u>	Amos & Mary
9	December 3, 1824	Martha Goodrich <u>Ware</u>	Amos & Mary
8	February 23, 1825	Ruth Elisabeth <u>Jennison</u>	John & Lavinia
8	July 6, 1825	Dwight <u>Estabrook</u>	Dwight & Abi
7	July 24, 1826	Sarah Smith <u>Howe</u>	Capt. Paul & Sally
7	September 4, 1826	Tyler Richardson <u>Howe</u>	Philip & Alice
6	March 31, 1827	Hannah Bancroft <u>Metcalf</u>	John & Lydia
6	April 7, 1827	Caroline <u>Jennison</u>	John & Lavinia
6	May 23, 1827	Martha Ann <u>Ware</u>	Amos & Mary
6	July 1, 1827	Mary Antoinette <u>Estabrook</u>	Dwight & Abi
5	November 28, 1828	Seth <u>Metcalf</u>	John & Lydia
4	July 5, 1829	Sarah Elisabeth <u>Chase</u>	Homer & Sally
4	September 4, 1829	Annia Louisa <u>Duncan</u>	William & Alice
3	February 15, 1830	Roxanna <u>Jennison</u>	John & Lavinia
3	April 5, 1830	Fanny Brown <u>Estabrook</u>	Dwight & Abi
3	October 31, 1830	Mary Elisabeth <u>Parkhurst</u>	Moses & Phoebe

Excerpts from North West District School Orders

- Feb. 10, 1817      - Jonah Howe one order in full for boarding school master \$12.50  
                      Amos Ware one order in full for the NW District proportion of money for the year 1816 \$2.67  
                      Amos Ware Committee \$59.99
- Feb. 12, 1818      - Elbridge G. Howe one order in full for teaching school and boarding himself \$56  
                      Amos Ware one order in full for wood found for school \$4  
                      John Jenison Committee \$60
- Oct. 1, 1818        - One order to Alice Davis for keeping school 12 weeks in full NW District \$14  
                      One order to Jonah Howe for boarding Alice Davis 12 weeks in full NW District \$12
- Jan. 19, 1819       - Amos Ware, Jr. one order in full for providing and boarding school master in the NW District \$36
- Jan. 4, 1820        - William Duncan one order in part \$2 for school mistress and in full for so \$5.68  
                      Jonah Titus one order in part for teaching \$12 school in the NW District and one order in full for so \$12  
                      Samuel Jenison one order in full for boarding school master and finding wood in the NW District \$18.44  
                      Philip Earle one order in full for providing school dame in the NW District \$9.88  
                      Philip Earle Committee \$60
- Jan. 29, 1821       - Silas Clap one order in full for teaching school in the NW District \$24.80  
                      Sinthia Snow one order in full for teaching school in the NW District \$11.00  
                      Frederick Flint one order in part for boarding school master \$4.00

- Amos Ware one order in full for boarding school dame  
in NW School District \$7.04
- John Howe Jr. one order in full for finding wood for  
the NW District \$8.75
- Frederick Flint one order in full for repairs on  
the NW School District and finding a chair
- Frederick Flint Committee for 1820 \$60
- Oct. 13, 1821 - John Jenison one order in full for paying a  
school dame \$12.46
- Feb. 25, 1822 - Samuel Jenison one order in full for paying school  
master \$30.32
- William Duncan one order in full for boarding school  
master \$6.00
- William Duncan one order in full for boarding  
school master \$3.68
- Jonah Howe one order in full for boarding school  
dame \$7.54
- John Jenison Committee \$60
- Nov. 4, 1822 - Loiza Pierce one order in full for teaching school \$10.00
- William Duncan one order in full for boarding school  
dame \$7.00
- Feb. 10, 1823 - William Duncan one order in full for providing and  
paying school master in the NW school District \$33.00
- William Duncan Committee for year 1822 \$50
- Jan. 12, 1824 - Jonah Howe one order in full for boarding school master  
11 weeks \$7.04
- Relief Jenison one order in full for teaching  
school 11 weeks \$11.00
- John Jenison one order in full for boarding school  
master 7 weeks and two days \$6.98
- Henry Jenison one order in full for teaching school  
7 weeks and two days \$24.98

Samuel Howe Committee 1823 \$50

Jan. 3, 1825

- William Duncan one order in full for boarding school  
master 5 weeks \$3.15

Samuel Jenison one order in full for boarding school  
master 7 weeks and school mistress \$10.57

Levi Jenison one order in full for finding wood  
for NW school \$8.00

Relief Jenison one order in full for teaching  
school 11 weeks \$11.00

Martin Roper one order in full for teaching  
school 7 weeks \$17.28

John Jenison Committee for 1824 \$50

Jan. 2, 1825

- Eliza Leonard one order in full for teaching school  
11 weeks in NW District \$11.00

William Duncan one order in full for boarding school  
dame 11 weeks \$6.71

Moses Maynard one order in full for paying school  
master for teaching school for 7 1/2 weeks \$23.61

Jonah Howe one order in full for boarding school  
master 7 1/2 weeks \$7.88

Moses Maynard one order in full for repairing school  
house in said District \$.80

Moses Maynard Committee for 1825

Feb. 18, 1827

- Homer Chase one order in full for teaching school,  
boarding himself, and finding wood in the NW  
School District \$40.28

Amos Ware Jr. one order in full for providing school  
dame in said District \$6.00

William Duncan one order in full for boarding school  
dame \$3.72



Reproductions/Facsimiles of  
Early School Texts

(Check Dover Publications Catalog for additional titles.)

Arnold, Arnold. Pictures and Stories from Forgotten Children's Books.  
New York: Dover Publications, 1969.

The Adventures of Apple Pie who was cut to pieces and eaten by twenty  
six young Ladies and Gentlemen. A reprint of the circa 1835 edition  
by Dover Publications, N.Y., 1973.

Marmaduke Multiply's Merry Method of Making Minor Mathematicians, a  
facsimile of the 1841 edition. Dover Publications, N.Y., 1971.

McGuffey's Eclectic Readers. Reprinted by Buck Hill Associates, Publishers,  
Johnsburg, N.Y., 1965. Available from the New England Bookstore,  
Old Sturbridge Village.

Peter Piper's Practical Principles of Plain and Perfect Pronunciation. A  
Dover Publications (N.Y., 1970) reproduction of the Stetson Press  
(1911) edition, which is a facsimile of the single surviving copy  
of the 1830 edition.

The Salem Town Reader Series. Reproduced by the Washburn-Norlands Foun-  
dation, Livermore, ME, 1978.

## Useful Historical Resources:

Advisory Council on Historic Preservation, 1522 K Street, NW, Washington, D.C., 20005.

Advises the President and Congress on historic preservation.

American Association for State and Local History, 1400 Eighth Avenue So., Nashville, TN, 37203.

Publishes History News and numerous technical pamphlets on restoration.

Massachusetts Historical Commission, 294 Washington St., Boston, MA, 02108.  
The official state agency for historic preservation.

National Park Service, Office of Archaeology and History Preservation, 1100 L Street, NW, Washington, D.C., 20240.

Responsible for the National Register of Historic Places, administers national historic sites, and the National Historic Landmark Program.

National Trust for Historic Preservation, 740-748 Jackson Place, NW, Washington, D.C., 20006.

Publishes Historic Preservation and Preservation News. Operates the Preservation Press. Is the national clearinghouse for information and funding.

Society for the Preservation of New England Antiquities, Harrison Gray Otis House, 141 Cambridge St., Boston, MA, 02114.

Publishes Old-Time New England. Is the focus of preservation in New England.

United States House of Representatives. House Interior and Insular Affairs Committee, Subcommittee on National Parks and Insular Affairs, 1324 Longworth House Office Building, Washington, D.C., 20515.

Jurisdiction over historic preservation legislation.

United States Senate. Senate Energy and Natural Resources Committee, Subcommittee on Parks and Recreation, 3106 Dirksen Senate Office Bldg., Washington, D.C., 20510.

Jurisdiction over historic preservation legislation.

American Antiquarian Society, Salisbury St., Worcester, MA

Amherst College Library, Special Collections of Peter Parley material

Jones Library, Amherst, MA - Special Collections of Clifton Johnson material

Norlands Living History Center, Washburn - Norlands Estate, Livermore, ME

Old Sturbridge Village, Sturbridge, MA

Paxton Town Hall - June Herron, Town Clerk

Storowton Village, West Springfield, MA - June Cook, Director

Worcester Historical Museum, 39 Salisbury St., Worcester, MA

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## Especially for Children - Aids for Doing Historical Research:

- Burt, Olive. Old America Comes Alive. N.Y.: John Day Co., 1966.
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- Frankel, J. and Scheier, M. Digging For My Roots. N.Y.: Scholastic, 1977.
- Weitzman, David. My Backyard History Book. Boston, MA: Little, Brown and Co., 1975.
- Wigginton, Eliot, ed. Foxfire 1,2,3 and 4. N.Y.: Anchor Press/Doubleday, 1972-77.
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- Botein, Stephen et al., ed. Experiments in History Teaching. Cambridge, MA: Harvard-Danforth Center for Teaching and Learning, 1977.
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A List of Books Available To Be Used In The Moore  
State Park Local History Museum and Reading Room:

State Owned

- Adams, Daniel, M.D. Adam's New Arithmetic. Keene, N.H.: J. and J.W. Prentiss, 1839.
- Compayre, Gabriel. Horace Mann. N.Y.: Thomas Y. Crowell and Co., 1907.
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- Smith, Roswell, C. Smith's New Grammar. Hartford, CT: Spalding and Storrs, 1838.
- Watson, J. Madison. The National School Primer. N.Y. and Chicago: A.J. Barnes and Co., 1870.

Donated by Friends of Mill Village

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- Northrup, Henry Davenport, ed. Marvelous Wonders of the Whole World. Boston, MA: B.B. Russell, 1886.

Lois Kahn's Collection

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Denis Melican's Collection

(Still uncatalogued, but includes local histories of most surrounding towns.)

# Especially for Children - Reading About the Past:

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