BURGER, Mary Christina, 1941-
THE IMPLICATIONS OF JEROME BRUNER'S
STRUCTURAL RECOMMENDATIONS FOR THE
DEVELOPMENT OF CURRICULUM IN HISTORY.

The Ohio State University, Ph.D., 1970
Education, history

University Microfilms, A XEROX Company, Ann Arbor, Michigan

Copyright by
MARY CHRISTINA BURGER
1971

THIS DISSERTATION HAS BEEN MICROFILMED EXACTLY AS RECEIVED
THE IMPLICATIONS OF JEROME BRUNER'S STRUCTURAL RECOMMENDATIONS FOR THE DEVELOPMENT OF CURRICULUM IN HISTORY

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

Mary Christina Burger, B.A., M.A.

The Ohio State University
1970

Approved by

[Signature]
Adviser
College of Education
ACKNOWLEDGMENTS

I would like to express my gratitude to the following individuals who advised and counseled me throughout my doctoral program.

Robert H. Bremner, Professor of History, my adviser in history. His consideration for a student outside his own department was greatly appreciated.

M. Eugene Gilliom, Associate Professor of Education, a member of my dissertation reading committee. His careful reading and perceptive comments were extremely helpful to me.

Robert E. Jewett, Professor of Education, my major adviser. During my program he has taught, advised, and listened.

Everett J. Kircher, Professor of Education, my adviser in philosophy of education. He helped me appreciate the philosophic dimension of some of the problems confronting education.

Paul R. Klohr, Professor of Education, a member of my dissertation reading committee. The answers to his probing questions provided form for the final writing.

George S. Maccia, former Associate Professor of Education. It was in his classes that I was first introduced to Jerome Bruner and the epistemological issues inherent in his work.
I would like to express my appreciation to Howard O. Merriman, Director of the Department of Evaluation and Research of the Columbus Public Schools and my professional colleagues for their patience and encouragement as I have completed my work.

Finally, I would like to thank my family for their support.
VITA

December 26, 1941 . . . Born - Sandusky, Ohio

1963 . . . . . . . . . . . B.A. - Economics, Flora Stone Mather
College, Western Reserve University,
Cleveland, Ohio

1965 . . . . . . . . . . . M.A. - History, Bowling Green State
University, Bowling Green, Ohio

1965-1966 . . . . . Teacher, Interlochen Arts Academy,
Interlochen, Michigan

1966-1968 . . . . . Research Associate, College of Education,
The Ohio State University, Columbus, Ohio

1967 . . . . . . . . . . . Supervisor of Student Teachers, The Ohio
State University, Columbus, Ohio

1968 . . . . . . . . . . . Instructor, Urbana College, Urbana, Ohio

1969 . . . . . . . . . . . Intern, Department of Evaluation and
Research, Columbus Public Schools,
Columbus, Ohio

1969-1970 . . . . . Evaluation Assistant, Department of
Evaluation and Research, Columbus
Public School, Columbus, Ohio

FIELDS OF STUDY

Major Field: Education

Social Studies Education. Professor Robert E. Jewett
History. Professor Robert H. Bremner

Philosophy of Education. Professor Everett J. Kircher
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>ii</td>
</tr>
<tr>
<td>VITA</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>vi</td>
</tr>
<tr>
<td><strong>Chapter</strong></td>
<td></td>
</tr>
<tr>
<td>I. THE RATIONALE FOR CONSIDERING THE APPLICATION OF BRUNER'S THEORY</td>
<td>1</td>
</tr>
<tr>
<td>ABOUT STRUCTURE TO CURRICULUM IN HISTORY</td>
<td></td>
</tr>
<tr>
<td>II. BRUNER'S RECOMMENDATIONS FOR THE STRUCTURING OF CURRICULUM</td>
<td>5</td>
</tr>
<tr>
<td>III. A SELECTIVE CONSIDERATION AND ANALYSIS OF CURRICULUM PROJECTS</td>
<td>41</td>
</tr>
<tr>
<td>BASED ON THE DISCIPLINE OF HISTORY</td>
<td></td>
</tr>
<tr>
<td>IV. SELECTED EPISTEMOLOGICAL NOTIONS ABOUT STRUCTURES OF DISCIPLINES</td>
<td>57</td>
</tr>
<tr>
<td>V. A STRUCTURE OF HISTORY BASED UPON BRUNER'S STRUCTURAL CONCERNS</td>
<td>69</td>
</tr>
<tr>
<td>VI. AN OVERVIEW OF BRUNER'S STRUCTURAL RECOMMENDATIONS</td>
<td>93</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>99</td>
</tr>
<tr>
<td>Figure</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1.</td>
<td>A Portrayal of the Structuring Effect of Historical Tradition</td>
</tr>
</tbody>
</table>
CHAPTER I

THE RATIONALE FOR CONSIDERING THE APPLICATION
OF BRUNER'S THEORY ABOUT STRUCTURE
TO CURRICULUM IN HISTORY

Jerome S. Bruner has attained a position of prominence in several aspects of current educational theory. His writings include recommendations for the areas of learning, curriculum, and principles of teaching. These are not areas independent of each other. Each affects and is affected by the others. For the purposes of this study, however, the focal concern will be with Bruner's postulates for curriculum development. More specifically, the discussion will be centered about an analysis of the appropriateness of Bruner's structural recommendations for curriculum development in the discipline of history.

The study was motivated partially by an awareness of the present writer's fragmented understanding of Bruner's proposals for a structured approach to curriculum development. With the recent proliferation of curriculum projects based upon Bruner's suggestions about structure, the need for a thorough understanding of his proposals
for structure has become increasingly evident to one who would attempt to study developing curriculum projects. Bruner's recommendations for structuring curriculum have been presented in several works. These include *The Process of Education*, *A Study of Thinking*, *Toward A Theory of Education*, *On Knowing: Essays for the Left Hand*, *Learning About Learning* and several published articles. These works have been reviewed and analyzed to formulate a basis for the discussion of the implications of Bruner's structure for curriculum development in history.

The writer's limited awareness of history as an academic discipline was sufficient to reveal the diversity of purpose within history and the variety of forms it assumes to attain these different purposes. That is, history appears to assume a variety of postures dependent upon the historians' objectives as they create those manuscripts which have come to be considered part of written history. If there are varieties of history, it then seems appropriate that curriculum be so designed to transmit the essence of these different forms.

Paradoxically, it is the existence of varieties of history that concurrently complicates and demands a structured approach to curriculum development. The absence of a singularly defined history has the effect of obscuring those similarities which may be considered
to constitute the foundation of a structured approach to history. An ideal structure would facilitate a broad understanding of history by encouraging a probing for its individual, diverse elements.

An attempt will be made to suggest the nature of a structure which is appropriate for the structuring of knowledge in history. Bruner's recommendations for structure may then be compared to this structure. Both historians and epistemologists have been consulted. The historians' writings provide a description of the breadth of the domain of history. The epistemologists selected addressed themselves to the nature of structures appropriate to the various disciplines. Thus, it should be possible to postulate the nature of a structure appropriate for history. This structure will then be used to assess the adequacy of Bruner's structural concerns for curriculum development in the discipline of history.

The thesis is organized about three foci--an explication of Bruner's structural recommendations for curriculum development, a definition of a structure appropriate to history, and an assessment of Bruner's structural recommendations for the development of curriculum in history. The discussion of Bruner's theory about structure is derived from a consideration of his writings. Bruner has been strongly influenced by the general area of developmental psychology. Within this field, two men particularly have had an appeal for Bruner--Jean Piaget and the Russian psychologist, Lev Semenovich Vygotsky who has written
about language development in children. To enhance an appreciation of their influence, generalized overviews of relevant segments of their theories are also presented.

The definition of structure has been derived from the writings of historians and epistemologists. Many recent curriculum projects have asserted the presence of structural foundations. A sample of these is presented and discussed as illustrative examples of the effects of developing curriculum along the structures of the related disciplines.

Several themes pervade Bruner's writings about the necessity for a structured approach to curriculum development. These may be viewed as postulates for a structured approach to curriculum development. These statements have been used as general guidelines for the formulation of a proposal for a structured curriculum for the discipline of history. This proposal is an extrapolated model formed according to Bruner's postulates for structuring. It is to be evaluated in terms of its adherence to the structuring rules developed by epistemologists. Should it appear to be a viable model, its implications for curriculum development in history will be identified and discussed.
CHAPTER II

BRUNER'S RECOMMENDATIONS FOR THE
STRUCTURING OF CURRICULUM

With the publication of *The Process of Education* (1960), Jerome S. Bruner was catapulted into a dominant position in the area of curriculum development. The past decade has witnessed an expansion of the ideas initially presented in this book, widespread commentary about his ideas, and a proliferation of structurally focused curricula. Bruner's recent concerns with the nature of curriculum development are in marked contrast to his prior endeavors. Previously, he had devoted the bulk of his time to experimentation in the area of cognitive psychology. Bruner's later concern with the structures of knowledge tends more towards epistemology than cognitive psychology. His work in curriculum development may be viewed as an outgrowth of his psychological experimentation. In his book, *A Study of Thinking* (1956), Bruner attempted to provide an explanation of the nature of concept development. This explanation was based upon his experimental work in psychology. In his discussion of the apprehension of concepts, he alluded to the philosophical controversy about concepts as universals. He questioned:
whether a universal is something that resides in objects and may be directly known or whether it is in a Platonic realm of universals that can only be prehended in corrupted form or whether it is something that is imposed on regularities in nature by a conceptualizing mind.  

Within this work, he deferred the resolution of this controversy. Instead, he opted for the identification of classes of events according to a set of "observed criterial properties." His primary interest was in a definition which would be operable in the field of cognitive psychology.

Bruner did not abandon his concern for the philosophic aspects of the way in which knowing is attained. The epistemological aspect of his position is directly related to his conception of nature as a construct derived from human experience. He writes:

There has been a profound revolution in the philosophy of nature that provides the base of modern science, a revolution that seriously brings into question whether there is such a deep gulf between the ways of knowing in the arts and humanities. The revolution takes the form of a new nominalism, one which conceives of nature as a construct from experience rather than as an external or extrahuman unknown, one which conceives of scientific activity as a form of disciplined inventiveness rather than an act of discovering islands of truth in an uncharted sea.

---


2Ibid.

"Colloquy on the Unity of Learning," Daedalus, Fall, 1958, p. 156.
There is an element of continuity running from this statement forward to his suggestion in *The Process of Education* that each of the academic disciplines be analyzed to determine their basic structure. A delineation of these structures would provide the basis for curriculum development. Bruner makes the tacit assumption that the difference among disciplines lies in the differences in the kinds of knowledge which are appropriate to each of the several disciplines.

There is similarity, however, in that each discipline is characterized by a structure which serves to organize its knowledge. It is Bruner's contention that this similarity, defined by the presence of structures in all disciplines, warrants a unified approach to curriculum development. Curriculum should be organized according to the structure of the discipline(s) involved. The apprehension of knowledge, in general, should follow the structured pattern of the discipline. In recommending that all knowledge should be apprehended according to the structural patterns for that knowledge, Bruner asserts that the process by which knowledge is acquired is, then, similar across the various disciplines. This process of acquiring knowledge may be viewed as the way in which one comes to know.

It is apparent that Bruner's concerns with curriculum development have a basis in epistemology. Bruner has acknowledged the influence of the work of two men—Lev Semenovich Vygotsky and Jean Piaget. Both have worked extensively in the area of cognitive
psychology. Like Bruner, much of their work has been experimental. Yet, Bruner has asserted that Piaget's main purpose is epistemological rather than psychological. In the introduction to Vygotsky's *Thought and Language*, Bruner portrays Vygotsky as a "theorist of the nature of man" whose developmental theory describes "the many roads to individuality and freedom." It appears to be significant that Bruner has chosen to identify with these two psychologists. Particularly important is his assertion that their primary contributions are philosophical rather than psychological.

Because of the impact the work of these men has had upon Bruner, it is timely to present capsule summaries of selected aspects of their work. These precis do not attempt to cover the breadth of the theoretical contributions of Piaget and Vygotsky. However, they do provide general descriptions of the relevant segments. As such, they serve to enlighten a discussion of Bruner's theory about the role of structure in curriculum development.

Piaget's scholarly activities may be divided into three general categories--studies of space, time probability, movement; studies in perception; and theoretical and experimental concerns about genetic

---


A major source on Piaget has suggested that he is interested primarily in the "theoretical and experimental investigation of the qualitative development of intellectual structures." Several aspects of Piaget's work are crucial to an understanding of his theory. He may be distinguished from other child psychologists by his awareness of the role assumed by the factor of intelligence in his theory. The study of ontogenetic change is an appropriate goal, according to Piaget. Hence, the developmental nature of his psychological theories. Piaget is concerned with the structure of the development of intelligence rather than with the function and content of intelligence. Cognitive structures are the "organizational properties of intelligence." They are "created through functioning" and are "inferable from the behavioral contents whose nature they determine." Finally, Piaget is interested in the qualitative characteristics of his postulated developmental stages.

According to Piaget, cognitive development must be based in biological growth. His early biological studies provided him with the foundation for his ideas about cognitive structures. In experimentation

---


7Ibid., p. 15.

8Ibid., pp. 16-19.
with mollusks, he noted that these active organisms selected and incorporated stimuli in a manner dictated by their structure while simultaneously adapting the structure to the stimuli. Flavell asserts that Piaget's "general hypothesis" is that "cognitive development is a coherent process of successive equilibrations of cognitive structures." 9

A more recent interpretation of Piaget suggests that evolitional development proceeds as "a regulating factor that is intrinsic to the unfolding of evolutionary organizations." Individual development proceeds according to a "self-regulating factor of equilibration which leads to stage-specific equilibrated states of intelligence. 10

Furth refers to two stages of "operational intelligence"--the concrete and the formal. The concrete stage is followed by the formal stage in which structures of intelligence or "groups" emerge which allow the application of logical operations to the systems of logical operations themselves as well as to concrete situations. Reflection, then, is the basis for the formulation of scientific hypotheses in addition to being the perspective from which to view the "real" as one of a range of possibilities. 11 Operational knowing is not "inherently

9Ibid., pp. 36-37.


11Ibid., pp. 247-248.
linked to any symbol representation." The greatest impact of language on intelligence is constituted apparently by the educative influence accumulated by a given civilization.\(^{12}\)

Vygotsky was the first to present a critique of Piaget's notion that egocentrism was the central feature of preschool children. Piaget propounded that the social thought of the adult replaced the initial solipsism and autism of the infant. In contrast, Vygotsky suggested that the gradual development of consciousness was based upon the initial social liaison of the infant with his surrounding reality.\(^{13}\) He concluded that egocentric speech does not disappear; rather, it is converted into internal speech.\(^{14}\)

The "unity of thinking and speech" as well as the "description of the stages in the formation of thinking, together with their dependence on the formation of word meanings," served as the focus of Vygotsky's experimental work. The development of thinking was postulated to have its own complex psychological content which was not the mastery of certain logical operations. Study of the changes in the forms of thinking become the study of semantic and systemic structure and consciousness.\(^{15}\)

\(^{12}\text{Ibid.}, \ p. \ 252.\)


\(^{14}\text{Ibid.}, \ pp. \ 182-183.\)

\(^{15}\text{Ibid.}, \ pp. \ 135-136.\)
In the introduction to Thought and Language, Bruner refers to Vygotsky as the "architect" of Pavlov's Second Signal System--"the means by which man creates a mediator between himself and the world of physical stimulation so that he can react in terms of his own symbolic conception of reality." This imposition of superordinate structures in order to see things more simply and deeply is viewed by Bruner to be "one of the powerful tools of human intelligence." 16

The crucial aspects of these theories as they have affected Bruner's thought are several. Piaget's concern for the structuring of intelligence rather than the nature of intelligence seems to parallel Bruner's emphasis on the structuring of knowledge in various discipline areas. Also important is the notion that cognitive structures are created through functioning. There is an interdependent relationship between these structures and their behavioral contents. A qualitative distinction is made between concrete and formal stages of development. The formal stage follows the concrete stage. In the formal stage, an ability to transcend the immediate experience via symbolic representation appears. Language plays a vital role in this development. Both Piaget and Vygotsky addressed themselves to the nature and role of language. These aspects are revealed in Bruner's formulations about the structuring of knowledge.

16 Thought and Language, pp. ix-x.
The Process of Education presents the skeletal outline of a theory which becomes more complete with Bruner's successive writings. This outline emerged from the Woods Hole conference of 1959, which was an attempt to provide recommendations for the improvement of curriculum in the area of science at both the elementary and secondary levels. The conference included representatives from such disciplines as history and the classics in addition to spokesmen for the several science disciplines and mathematics. Bruner's participation in the proceedings and his subsequent attempt to capture the essence of their outcomes in his report led him to speculate about the possibilities of applying the recommendations to other areas of academic inquiry.

In his report, Bruner dealt with more than the results of the conference. In attempting to synthesize the various transcripts of the meetings, he tried to take cognizance of the factors which directly or indirectly had stimulated the convening of the scholars. These factors were all related to the apparent failures of the American educational system.

Russia's successful launching of Sputnik in October, 1957, had aroused the suspicions of Americans that the quality of scientific education was in some way lacking. Committees in the areas of

physics, mathematics, and biology had been established to consider the most effective ways to present subject matter to students. Two concerns of these committees were uppermost--the content and structure of the scientific disciplines.\(^{18}\)

Bruner was convinced, however, that the motivation for the conference was a symptom of a more pervasive disease--the failure of American public education to keep abreast of developments in the scholarly communities. The disparity between the university communities and public education was apparent to him. Those responsible for conducting mass education were, to a large extent, totally removed from the results of advanced study and research.\(^{19}\)

Bruner noted that American education has traditionally been committed to a dual ideal which encompasses the teaching of both specific skills and the promotion of general understanding. General understanding is acquired through the study of history, mathematics, and logic. It requires a well-disciplined mind. Specific skills are more narrowly defined. They relate directly to occupational pursuits. The study of foreign languages and agricultural techniques are examples of disciplines which develop specific skills.

\(^{18}\)Ibid., p. 2.

\(^{19}\)Ibid., p. 3.
An educational system which purports to provide both general knowledge and specific skills must be efficient. Bruner cited educational research of the past twenty years as indication that:

...massive general transfer can be achieved by appropriate learning, even to the degree that learning properly under optimum conditions leads one to learn how to learn.20

Massive general transfer is not meant to imply the controversial notion that skills learned in one area will necessarily be applied in another. It is dependent upon the comprehension of the structure of a given discipline. As the structure of a discipline is apprehended, an appreciation is acquired of the inter-relationships of the various elements of a discipline.21 It is this belief that the structure of a discipline must be apprehended in order to know that forms the nucleus of Bruner's philosophy of curriculum development.

Bruner's notion of structure forms the basis for his consideration of the various problems which confront education. Intellectual activity may only be achieved through a consideration of the means by which a discipline is structured. Thus, there should be no fundamental difference between a child's study of physical principles in science and the usage of the principles by physicists in solving more complex problems.


21Ibid., p. 7.
As the child utilizes the principles, he imitates the activities of the physicist. Over time, he develops an increased capacity to approximate the work of a physicist. He acquires an ever greater capacity to formulate intuitively the alternative hypotheses to test. Thus, it is that Bruner asserts that the foundations of any subject may be taught in some appropriate form to children, regardless of their age.22

Education should be designed to provide real experiences rather than "talk" about intellectual experiences. An unnecessary burden is imposed upon students who are presented with second-hand accounts of intellectual experience rather than the actual experience. Such accounts, at best, merely describe the nature of intellectual activity and at worst, may be profoundly dull and uninteresting. The most effective stimuli to learning inhere in the object of learning. External stimuli such as grades or relative competitive advantages provide only minimal motivation to learn.23

The postulation of a structure-oriented curriculum makes several demands on those developing curriculum. The structure of each of the disciplines must govern the formulation of materials appropriate to it. This is a task for experts in the disciplines. Thus,

22Ibid., pp. 12-14.

the gap between scholars and those engaged in the conduct of mass education must be bridged. Experts are also needed to identify because there are levels of complexity within the disciplines. Appropriate levels of difficulty should be designated as appropriate for the various developmental stages of students.\textsuperscript{24}

Bruner does not recommend that students move through the developmental stages of concept formation within an area of inquiry. The stages of historic development of concepts within a discipline may not represent an appropriate sequence for curriculum development. Two factors are determinant--the nature of influence of students' environment and the axiomatic order of subject matter.

According to Barbel Inhelder, an associate of Piaget, it is frequently the case that psychological development more closely approximates the "axiomatic order of a subject matter than the historical order of a field's concepts."\textsuperscript{25} Thus:

The task of teaching a subject to a child at any particular age is one of representing the structure of that subject in terms of the child's way of viewing things.\textsuperscript{26}

\begin{flushright}
\textsuperscript{24}ibid., pp. 18-19. \\
\textsuperscript{25}ibid., pp. 43-44. \\
\textsuperscript{26}ibid., p. 33.
\end{flushright}
As indicated previously, *The Process of Education* is only the skeletal outline of Bruner's theory of a structured curriculum. The various components of this theory include:

1. The nature of structure
2. Learning as discovery
3. The role of teachers as catalytic agents to the process of discovery
4. The appropriate sequencing of materials in structured theory of instruction
5. The relationship between a structured approach and the goals of education.

A presentation and discussion of these components follows:

**The nature of structure**

Several advantages of structurally oriented curriculum are noted. The mastery of the fundamental ideas of a given field tends to promote a positive attitude toward learning and inquiry. This attitude is likely to facilitate independent problem solving. The students' personal experience in solving problems tends to produce discovery of heretofore "unrecognized relations and similarities between ideas." Such an
experience will enhance the student's self confidence.\textsuperscript{27} Knowledge, thusly attained, is more apt to be retained since it is related to a pattern which the student comprehends.\textsuperscript{28}

Bruner's major concern is with designing curriculum which has a structural base. Structures vary in several ways. A structure may be characterized according to its mode of representation, its economy and its power.\textsuperscript{29} The mode of representation designates the way in which experience is "translated into a model of the world." Three modes are suggested--the enactive or action mode; the iconic, which is dependent upon some sensory organization and relies on the use of "summarizing images;" and the symbolic mode--representation in words of language.\textsuperscript{30} Economy refers to the amount of information required to attain comprehension. Power is derived from the "generative value" of learned propositions. It is unlikely that a powerful structure would not also be economical.\textsuperscript{31}

\textsuperscript{27}Ibid., p. 20.

\textsuperscript{28}Ibid., pp. 24-26.

\textsuperscript{29}Toward A Theory, pp. 44-48.

\textsuperscript{30}Ibid., pp. 10-11.

\textsuperscript{31}Ibid., pp. 44-48.
Structures serve to order concepts and groups of concepts. Bruner's work in cognitive psychology has provided the basis for his postulation that three kinds of concepts could be identified—the affective, the functional and the formal. The affective category is not easily described. It depends primarily on the relationship between the external properties of objects and individuals' internal needs. Typically there is a "lack of correspondence" between the development of affective categories and the ability to communicate verbally. This may be the result of the development of the ability to classify members of the affective groupings prior to the development of the ability to communicate verbally. Functional categories are identified by the ability of category members to respond to concrete and specific task requirements. They have either interpolative or extrapolative roles. Formal categories are constructed by "specifying the intrinsic attribute properties required by the members of a class." In contrast to the other two categories, this category type may be reliably distinguished according to the features of its members without regard to the use function of its members. Formal categories develop concurrently with the development of methods to represent and manipulate objects symbolically.  

32_32A Study of Thinking, p. 4.

33_33Ibid., p. 4-5.
These categories are not independent of each other. Not infrequently do members originally defined by one grouping technique become members of another grouping device. That is, objects initially categorized according to the characteristic of the affective grouping may later be grouped according to their function. Hence, they become members of a functional category. It is not unlikely, then, that the manners in which the categories are learned differ informatively from each other. 34 Man's categories tend to reflect his culture and the discrete events of his personal history which are processed by these categories. 35

A major distinction may be made between those categories which are perceptual and those which are conceptual. The distinguishing feature is the proximity of the attributable characteristics of a class to experience. Perceptual categories are closely related to experience. Conceptual categories are more abstractly developed. As conceptual categories are utilized they may then be altered in such a way as to respond to perceptual cues. Or, as a concept developed abstractly is put to use, it acquires characteristics through usage which may be referred to as perceptual, rather than conceptual, since their origin was in experience. 36

34 Ibid., p. 6.
36 Ibid., pp. 9-20.
As a process of achievement, categorizing is the "discovering" of the environment's defining attributes. Later, then, the proper values of the defining attributes may provide the basis for judgments about identity. An attribute is "any discriminable feature of an event that is susceptible of some discriminable variation from event to event." Two kinds of attributes persist in the world--defining and criterial attributes. Defining attributes are those which are defined through some official, social process. Criterial attributes are defined by individuals and therefore vary greatly.

It is now appropriate to speak of the ways in which attributes combine to create classes of categories. Classes which are formed by the joint presence of several attributes are designated to be conjunctive categories. The category of red, triangular, pieces of paper includes only those things which are color red, triangularly shaped, and made of paper. Classes which are formed by the presence of one or another attributes or their joint presence are to be denoted as disjunctive categories. Using the same attributes as above, then, the disjunctive category for these attributes would be identified as that class composed of red elements, or triangular elements, or paper elements or any

37 Ibid., pp. 30-31.
combination of these elements. Clearly, a much more diversified category is created. It would be possible to define the set using elements which are not equivalent to each other. Categories which are defined by the relation between attributes are denoted as relational categories. Thus, we may identify a relational category as one composed of those elements which bear a particular relationship to each other. For example, indebtedness is a category which is defined by the relationship between assets and liabilities. Specifically, it is that class in which the sum of the various liabilities exceeds the sum of the various assets.\textsuperscript{39} Strategies for comprehending the various categories vary according to the nature of the category under consideration. It is possible to define a class which is created by more than one kind of attributes. The following example may be used to illustrate this point:

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|}
\hline
\textbf{LIGHT FIGURE} & \textbf{Triangle} & \textbf{Square} \\
\hline
\textbf{Red} & 1 & 2 & 3 & 4 \\
\textbf{Green} & 5 & 6 & 7 & 8 \\
\hline
\textbf{Square} & 9 & 10 & 11 & 12 \\
\textbf{Red} & 13 & 14 & 15 & 16 \\
\textbf{Green} & \\
\hline
\end{tabular}
\caption{HEAVY FIGURE}
\end{table}

\textsuperscript{39}Ibid., pp. 41-43.
Each number refers to an instance. Instance eleven may be defined as an attribute of a conjunctive, a disjunctive, or a relational category. A conjunctive category would be that category defined by the presence of the color red and the shape of square. An appropriate disjunctive category to which instance eleven might belong, might be that composed of elements which are either red or square shaped, or both red and square shaped. Another instance appropriate to this disjunctive category is instance twelve because it possesses the quality of squareness. Finally, instance eleven might be defined by an attribute of weight, or as an element of a relational category. 40

The greater the number of attributes instances exhibit, the more the number of hypotheses that must be entertained to attain the appropriate concept. 41 Thus in the previous example, instance thirteen introduces more attributes than does instance six. Instance thirteen includes the attributes of greenness, redness, squareness, triangularity, lightness and heaviness. Instance six includes the attributes of greenness, triangularity, lightness, and heaviness. Instance thirteen is possessive of six qualities to be grouped by a hypothesis while instance six possesses four qualities to be so grouped.

40 Ibid., pp. 43-45.
41 Ibid., p. 61.
Members of a conjunctive class are more readily apparent since all attributes must be present. However, in disjunctive classes, the various elements of the class exhibit defining attributes in such a manner that one or another attributes may be used for identification or categorization purposes.\textsuperscript{42} Thus, in dealing with the conjunctive category, the location of a correct member of the category provides the information that all the attributes of the members appropriate to the category are present. To locate a member of a disjunctive category does not necessarily aid in the defining of the category since all attributes are not necessarily relevant. However, the location of a member which is not a member of the category is highly informative in that it specifies which attributes definitely do not belong.\textsuperscript{43}

For obvious reasons, there is an uneasiness associated with the use of disjunctive categories. Wherever possible, attempts are made to transform disjunctive categories into conjunctive categories. Whereas, lawyers as a class could be defined by the disjunctive category of those who completed law school, or served an apprenticeship, or those who both completed law school and successfully completed an apprenticeship, lawyers have come to be identified as those who have

\textsuperscript{42}ibid., p. 156.

\textsuperscript{43}ibid., pp. 157-159.
successfully completed the bar examination. 44 Perhaps, the most disturbing factor related to the use of the disjunctive categories, is that these categories violate the notion that common effects are produced by common causes. 45

Categorization, for Bruner, is "an act of invention." The test of invention is the degree of predictability that accrues from the use of invented categories. 46 This notion is particularly significant in view of Bruner's conception that nature is a construct which is derived from experience. It is rendered meaningful by man's invention of order. This order is achieved through the grouping or categorization process.

To categorize is to render discriminantly different things equivalent, to group the objects and events and people around us into classes, and to respond to them in terms of their class membership rather than their uniqueness. 47

Bruner's experimentation with the acquisition of concepts provided the setting for postulating the way in which order may be attained. Bruner's work in cognitive psychology, then, provided him

44Ibid., p. 160.
46Ibid., p. 7.
with a predisposition towards order which is apparent in his recommendations for curriculum which is developed according to the structuring of concepts in an area of knowledge.

Learning as discovery

In a structured curriculum, students "discover" knowledge.

For Bruner, discovery is the "rearranging or transforming" of evidence in such a way as to provide new insights from the reassembled evidence. Knowing is, then, a personal experience.

For if man's intellectual excellence is the most his own among his perfections, it is also the case that the most personal of all that he knows is that which he has discovered for himself. 48

Bruner hypothesizes that:

... the degree that one is able to approach learning as a task of discovering something rather than "learning about" it, to that degree there will be a tendency for the child to work with the autonomy of self-reward or, more properly, be rewarded by discovery itself. 49

The pupil, then, becomes his own "paymaster." 50

This assumption is central to the advantages Bruner sees for the discovery method of teaching. The student's individual involvement in intellectual inquiry increases his intellectual potency. Furthermore,


49 Ibid., p. 88.

50 Ibid., p. 90.
no extrinsic rewards are required; the desired satisfaction from the search provides sufficient gratification. A major benefit is that two goals are served. Students learn both a body of knowledge and the requisite heuristics. As a result, they are more likely to retain information which was acquired as a result of a series of meaningful experiences. 51

It is Bruner's contention that much of what is designated as discovery is essentially the apprehension of workable forms to be applied to various kinds of problematic situations. Only through the process of resolving such situations may the heuristics of discovery be grasped. 52 Two activities are implied—manipulation and representation. Manipulation involves managing the presented variables in a way which will encourage the solution to the problem. But this is only half of the enterprise. The other part consists in the ability to describe the solution which eventually is achieved. Out of this representation should flow principles for future dealing with similar problems. 53 In its most

51 Ibid., p. 83.
52 Ibid., p. 93-94.
fundamental sense, discovery is a "matter of rearranging or transforming evidence in such a way" to provide new insights from the reassembled evidence. 54

There is an inter-relatedness between knowing in the artistic disciplines and knowing in the scientific disciplines. "Reaching for knowledge with the right hand is science. The right hand is characterized by the beauties of geometry and "taut implication." Yet, the "great hypotheses of science are gifts carried in the left hand." Bruner suggests that "reaching for knowledge with the left hand" is art. This is not equivalent, however, to postulating that art is an "undisciplined fantasy." Furthermore, the attainment of art, requires a right hand "adept at technique and artifice." 55

Even the left hand of art has a form, a sense of rightness. There is a decorum about creative activity which is dictated by an etiquette toward the object of one's efforts as well as a respect for the comprising materials. This is indicated by the notion of detached commitment which includes both the freedom to be "dominated by the object" and ability to defer completion. The apprehension of form--model--necessitates a precise course of action which may not be

54 Ibid., pp. 82-83.

55 Ibid., p. 2.
subjected to expedient concerns for closure.\textsuperscript{56} It is in this sense that man deals with his environment in such a way as to produce a myth which explains his world and then proceeds to imitate it.\textsuperscript{57} Bruner avers that presently ours is a "period of mythic confusion" that may be the basis for the evolving of a more relevant myth. The failure of the extant myths to provide models has induced man to become introspective. The tendency toward this introspection in art forms is exemplified in the modern novel-subjective, personal in its nature.\textsuperscript{58}

Bruner suggests that there are several aspects of art. One of these is the "connectedness" of the empty spaces of experience. Science, through the generation of laws which reduces the need for empiricism, is only partially capable of eliminating these voids. Art has two manners of accomplishing this. The first is in the construction of the "tauty economical symbol," which has the effect of producing an image to "correct ostensible disparities."\textsuperscript{59} Another device of art is to construct and exploit the category of possibility.

\begin{footnotes}
\item[56]\textit{Ibid.}, pp. 23-26.
\item[57]\textit{Ibid.}, p. 38.
\item[58]\textit{Ibid.}, p. 41.
\item[59]\textit{Ibid.}, pp. 60-65.
\end{footnotes}
This is the formulated but empty category which is used as a basis for the acquisition of new experiences—a category used by both artists and scientists.\textsuperscript{60}

Another aspect of art is the effort required for beholding art. Effort has a connotation which would appear to be antithetical to the spirit of art. However, Bruner propounds that a distinction should be made between art that is decorative and that which is beautiful. Decorative art is that which allows the beholder to remain aloof from the object of beholding. Art which may be called beautiful induces the beholder to actively search for the connecting qualities.\textsuperscript{61}

The beholding of art is, thus, an experience—an experience which demands both involvement and a conscious attempt to avoid over-involvement. Involvement is required to pursue the elements of connectedness. Should the beholder, however, cease to behold the objet d'art in its own form, and fall way to the emotions created by the art, the resultant effect is no longer the active beholding of art. Rather, it is the creation of a personal experience of the beholder in the form of a daydream or such.\textsuperscript{62}

\begin{itemize}
\item \textsuperscript{60}\textit{Ibid.}, p. 62.
\item \textsuperscript{61}\textit{Ibid.}, pp. 67-68.
\item \textsuperscript{62}\textit{Ibid.}, p. 72.
\end{itemize}
Like science, art is also possessive of a quality of generality. In science this aspect assumes the guise of verification of theory. However, this dimension in aspect is less tangible; less straightforward. What is beautiful in art is beautiful in a personal sense. That is, an art work, succeeds if it provides for the unifying of experiences of the beholders. Those experiences vary from individual to individual. It is the ability of a work of art to illuminate personal experience. The same work of art may be perceived to be beautiful by many for as many reasons as there are beholders. Thus, it possesses the dimension of generality in that it evokes in many a new ordering of personal experiences.63

It would appear that there are similarities between the ways of knowing in science and art that deserve additional comment. Of especial concern is the notion of the creation and exploitation of categories of possibility. Bruner has indicated this to be a common endeavor to science and art. In science, it may be designated as the generation of a testable hypothesis. However, here the similarity ends. In art, the final outcome is judged by the degree to which it is able to elicit an ordering of subjective experience. This ordering varies across individuals. On the other hand, the testing of a hypothesis is subject

63Ibid., pp. 72-73.
to universally applicable criteria. Each individual who would test the hypothesis would apply the same rules; the ordering process is, hence, consistent across individuals.

Bruner has asserted that the objective of a balanced schooling is to "enable a child to proceed intuitively when necessary and to analyze when appropriate."\(^6^4\) Frequently, the rigorous procedures of proof must be preceded by a hunch or a sense of correctness about the solution. Many times what once was intuitive becomes amenable to rigorous analysis as in the case of scientific hypotheses. "Intuition is an invitation to go further--whether intuitively or analytically."\(^6^5\) Therefore, Bruner suggests that schools capitalize on the intuitive skills of children without destroying them through unnecessarily analytic methodology.\(^6^6\)

The left and right hand, then, do not preside over mutually exclusive domains. From this assumption about the nature of knowing, two major areas of concern derive their being. Bruner is concerned with the varieties of knowing encountered by the left hand. In addition,


\(^6^5\)Ibid., p. 76.

\(^6^6\)Ibid., p. 78.
his concern for the apparent interdependence of both hands has led him to consideration of the means by which the knowledge of the left hand is passed into the domain of the right. 67

Bruner's portrayal of the nature of left-handed knowledge impelled him to explicate his perceptions of knowing in the realm of art. It is characteristic of great works of art that their "metaphoric artifice" and juxapositions have the qualities of "surprise value" as well as an "illuminating honesty." 68 Surprise is that which strikes one with wonder or astonishment. The combining of surprise with the illuminating honesty creates effective surprise.

Three different modes of effectiveness are possible—predictive, formal, and metaphoric. These forms define their potential uses. Predictive effectiveness may be the result either from the "slow accretion" of knowledge or "intuitive insight." They are predictive in that they have prophetic value. Formal surprise is that which allows for the "ordering of events" in such a way as to indicate previously unrecognized relationships. Metaphoric effectiveness refers to the artful connections of domains of formerly dissociated experience. 69

67 On Knowing, pp. 2-3.
69 Ibid., pp. 18-19.
Effective surprise has a quality of providing new ways of organizing the experiences of the world. Hence, man acquires a new tool for dealing with his environment and rendering it more understandable. It is of equal importance to recognize that the combinational acts which result in effective surprise generally succeed through the utilization of technique. 70

The role of the teacher in the discovery process

Crucial to the discovery mode of education, is the teacher. Teachers typically assume one of two roles, only one of which is in keeping with an atmosphere conducive to students' discovery of knowledge. Not infrequently, students merely serve as targets for the deliveries of presentations by teachers. A more palatable situation is one in which students and teachers cooperate in intellectual inquiry. This latter is the necessary condition for discovery.

Teachers must be capable of performing several functions. They must direct the intellectual search in a manner that will lead to the development of concepts which will make the involved operations of the search sensible. As cooperative participants, they should also encourage students to utilize their natural and intuitive ways of thinking. These inherent qualities of students must be nurtured.

70 Ibid., p. 22.
71 Ibid., p. 101.
Teachers may also be viewed as catalytic agents to students' discoveries. If teachers are to serve as catalysts to arouse the curiosity and desire to achieve competence in children, they may, then, not be construed as models to be imitated. Rather, they serve as models in the sense that students will interact with them. Teachers become a part of the "internal dialogue" of students. To interact is to fulfill a fundamental human need to respond to others and to cooperate to attain an objective. This desire for involvement with others defines another intrinsic motive Bruner designates as "reciprocity." The notion of reciprocity makes a goal of identical learning for all students infeasible.72

To the extent that teachers are responsible for the selection of material to be taught, they must apply selection criteria to a range of potential knowledge. Bruner's suggested guidelines are that the intellectual endeavor should give a "sense of delight" and should "bestow a gift of intellectual travel." It may seem that Bruner has neglected the notion of useful knowledge. However, he suggests that generally "useful knowledge looks after itself."73

72Toward A Theory, pp. 124-6.

73On Knowing, p. 109.
The sequencing of materials in a structured approach

A theory of instruction designed to fulfill the objectives of education should explain how what is to be taught may best be learned. It is composed of two elements—the prescriptive and the normative. Rules are established by the prescriptive element while the normative element provides the statements about the criteria and the necessary conditions for learning to transpire. 74 Both the nature of knowledge and the nature of the knower and the process by which knowledge is acquired must be incorporated. 75 Thus, a complete theory of instruction should attend to the identification of those experiences which are most effective in predisposing an individual toward learning. It should also delineate the manner in which a body of knowledge should be structured to facilitate the handling of information, generate of propositions about that information, and facilitate the manipulability of the body of knowledge. From this should emanate the sequencing of materials and appropriate rewards. 76

74 Toward a Theory of Instruction, p. 40.

75 Ibid., p. 72.

76 Ibid., pp. 40-41.
The sequencing of materials depends upon such criteria as speed of learning, resistance to forgetting, transferability, form of representation, economy, and power. Rewards are directly related to the nature of motivation for learning. It is Bruner's belief that rewards inhere in either the successful termination of an activity or in the activity itself. Hence—the motivation to learn is intrinsic in that it does not depend on motivation outside the realm of the activity. Both curiosity and a desire to achieve competence are attributes of children. They may also be defined as intrinsic motivations for learning.

A primary reason for avoiding the use of extrinsic rewards is that they introduce affective links into the acquisition of concepts and ideas. These links tend to be intrusive elements in the learning process in that concepts are not isolated from their affective contexts, in which they were acquired.

The relationship between a structural approach and educational goals

Bruner propounds that structures of knowledge must be evolutionary. That is, they must reflect the expansion of the various

77 Ibid., p. 50.
78 Ibid., p. 114.
79 Ibid., p. 117.
80 Ibid., pp. 22-23.
knowledge fields. Thus, each generation defines the objectives of its education. The effects of the growth of understanding of man as a species, of the nature of individual mental growth, and of the process of education combined with the rapid societal changes require it.\footnote{Ibid., pp. 22-23.}

Over time, man's capacity for making a place for himself in the world has depended less and less on his physical strength and to an ever increasing degree on his ability to "link himself to tool systems."\footnote{Ibid., pp. 24-25.}

These tool systems consist of the aids and dialogues which translate experience into "more powerful systems of notation and ordering."\footnote{Ibid., p. 21.}

Bruner's description of education through discovery, and his emphasis on individualism, might appear to preclude a socially oriented goal for education. Quite to the contrary, Bruner avers that education is the "fundamental method of social change."\footnote{On Knowing, p. 126.} Thus, he is not content to accept an educational ideal of adjustment. A more accurate articulation of his notion of education's general objective would be the development of "competence in the use of one's powers"
to provide "individually defined and socially relevant excellence." To be relevant, the schools must "reflect the changes through which we are living." Both the individual and social development of students must be attended to.

"Man's working image of himself is anchored in his sense of intimacy--in the events and relations that are the fabric of his immediate experience and make up his way of life."

Pervading Bruner's work is a tacit commitment to the American culture. This is exemplified in his statement--

What is striking about the American culture and what is so difficult about summarizing it--is that it exhibits a faith in process rather than in any particular product or attained resultant.

Then, indeed, well roundedness is a goal--never to be achieved, but always to be pursued. Growth involves "a willing cultivation of imbalance, indeed, a delight in its energy." The men of learning, the moralists, the artists, all must attend to the "cultivation of delight in the activity of knowing."

---

85 Ibid., p. 117.
86 Ibid., p. 126.
87 Ibid., p. 160.
88 Learning About Learning, p. 121.
CHAPTER III

A SELECTIVE CONSIDERATION AND ANALYSIS OF CURRICULUM PROJECTS BASED ON THE DISCIPLINE OF HISTORY

Bruner's call for the structuring of knowledge to be presented to learners has had a marked effect on recent curriculum development. This effect has a variety of manifestations. Yet, two characteristics of recent curriculum projects have particular significance in light of Bruner's recommendations. Curriculum developers have made a conscious effort to attend to the scholarly definitions of the knowledge of the various areas of academic enquiry. That is, curriculum developers in the area of mathematics have appealed to the experts in the field of mathematics for the identification of basic mathematical principles. These principles have then become the focus for the structuring of knowledge within the curriculum. Structuring mechanisms vary according to the target audience of the curriculum. Principles of the knowledge domains must be presented in a fashion which the audience may apprehend. Thus, a mathematics curriculum
for elementary students must present correct mathematical propositions in a form which corresponds to the mental development of elementary students.

In the present chapter, selected projects will be discussed in terms of:

1) the definition of history used by the curriculum developers

2) the structuring mechanisms used to transform historical knowledge into appropriate curriculum for the identified classes of students.

Projects have been selected primarily because of their value as illustrative examples of structured curricula in history. Not all of the projects were, strictly speaking, history projects. Several were multi-disciplinary approaches to the social sciences. However, in those multi-disciplinary approaches, history assumed a major role.

The information about the projects was gathered from the curriculum materials analyses provided by the Social Science Education Consortium of Boulder, Colorado.

**American History Study Lessons**

These materials were authored by Jack Abramowitz and published by Follett Publishing Company.
I. Definition of history--Abramowitz views history as a chronology of events. American history is presented as a chronological discussion of events from the colonial period to the present. Concepts based upon events and ideas of this period are not identified.

II. Structuring mechanism--Abramowitz is primarily concerned with students of low-ability. A major objective of the program is to foster the development of improved reading skills among these special students. Abramowitz designates his plan as a "structured skills approach." Continual repetition and daily class discussions are the key ingredients. Various motivational devices and audio-visual aids are used to supplement the reading assignments. Emphasis is placed upon the mastery of organization of reading material, comprehension and general mastery of historical material.

In this project, the author relied on history only for the unfolding story of events between two points in time. No emphasis was placed on divergent interpretation of events; no attempt was made to classify patterns of thought. Materials were structured solely according to students' reading and general comprehension levels.
Contra Costa Social Studies Program

I. Definition of history--Within this multi-disciplinary approach, history is defined as the "record of the whole human experience." This record is, then, chronological. Several classes of generalizations to be derived from a study of history include:

A. those related to chronology, sequence, and change
B. those related to main tendencies in the growth of civilization
C. those related to the interpretation of history.

II. Structuring mechanism--Hilda Taba's theories of curriculum construction have been used extensively in this program. Curriculum organization is designed to facilitate the development of cognitive skills. The acquisition of cognitive skills depends strongly on an ability to formulate categories for thought. Generalizations may be taken to be thought categories. Both inductive and deductive approaches are recommended to develop students' ability to create and utilize generalizations. As broad topics are introduced, teachers pose general questions of the students. These questions are then analyzed and the various aspects of the broad area of study are identified. From an analysis of these components, students are to be encouraged to make their own generalizations.
The definition of history used by this project implies that within the chronological framework of human experience, certain tendencies may be identified and analyzed. These emerge through a study of various historical accounts of events. The curriculum is topically organized to provide a structure for historical knowledge. Such knowledge should be valid, significant, and representative. It should also permit the balancing of the scope and breadth of the curriculum. In order to preserve historical chronology, topics should be sequenced. Sequencing of topics should also be designed to expose students to concepts of progressively greater abstraction and complexity.

From Subject to Citizen

Materials for this unit were developed by the Education Development Center in Cambridge, Massachusetts.

I. Definition of history--History is viewed as a study of causes. As such, it serves as the vehicle by which students may come to grasp the nature of political interaction. Through the study of history as causation, it is hoped that students will recognize the effects of political interactions and also acquire attitudes and intellectual conceptualizations about politics.

II. Structuring mechanism--An assumption is made by the developers of the unit that there are structures and relationships among ideas. The curriculum is organized to:
A. define the structure of material to be taught in terms of fundamental ideas

B. focus on the central ideas of the material

C. awaken and maintain students' interest in the material

In this project, emphasis is placed on students' capacity to recognize and understand generalizations contained within the materials. Students are also to be encouraged to state their own generalizations from their reading. Two major themes of the unit are power and political culture. Political power is defined by the relationships between the governors and the governed. Political culture is the descriptive pattern of the relationship between the governors and the governed. Both political power and political culture affect human society. Through a study of history students will discover the effects of political interactions. They should also develop attitudes and intellectual conceptualizations about politics.

Four World Views

This multi-disciplinary approach to elementary social studies was developed by the Greater Cleveland Social Science Program.

I. Definitions of history--History is viewed as a means by which to understand human life. Through a study of history, students should also acquire an appreciation of the necessary conditions
for the construction of accurate historical records. As students recognize the importance of accuracy in historical accounts they should also develop a capacity for critical, constructive thinking.

II. Structuring mechanism—Materials to be presented to students are to be organized about three categories of problems. These groups of problems were selected because of their potential to elicit in students a sense of curiosity, relevance, and challenge about the nature of social values. These problems are—

A. persisting problems from the human development
B. specifically defined problems from the records of history
C. contemporary social problems

The structuring of materials around problems is designed to provide examples from direct experience in order to transmit social values. Examples are drawn from major concepts or clusters of historical facts and trends. They were selected because of their potential value as illustrations of:

A. the general nature of the human situation
B. their value as illustrations of the application of the basic methodology of the social sciences to real problems
C. actual contemporary ideas and trends
As a multi-disciplinary social studies approach, the unit is designed to encourage the development of judgment among students. Through a study of the circumstances and environments in which institutions and social processes exist, students will be exposed to the social values which impinge upon rational analysis. The tools for analysis of the social climate are diverse. They include logic, intuition, common sense, knowledge, and experience. As students apply these tools to social problems, they should be directed toward the recognitions that:

A. Finite solutions to problems are not necessarily "cut and dried." They are, however, rare in the domain of social problems.

B. Those solutions which are not finite tend to be ambiguous—subject to re-evaluation and new interpretation as additional information is discovered.

AEP Public Issues Series

Within the Harvard Social Studies Project, materials for this unit were developed. Fred Newman and Donald Oliver are co-directors of this interdisciplinary approach to public controversy.

I. Definition of history—Oliver and Shaver do not explicitly define their conception of history as a discipline. In fact, they express disdain for a disciplinary approach to the study of the social
sciences. The authors feel that such an approach tends to invite a narrow, slanted view to the material of the discipline(s). In the case of history, it is believed that the findings of historical inquiry are limited by those factors which impinge upon historians' frames of reference.

While they do not explicate a definition of history, they do make assumptions about the processes by which students should acquire knowledge about the various controversial issues. Both American culture and cultures which have affected American culture should be examined. In studying these cultures, students are to become committed to the ideals of American society. They should also acquire an awareness of the process by which these ideals have emerged from the democratic traditions of Western civilization.

II. Structuring mechanism--An appropriate structure for achieving these objectives is one which focuses on the role of citizens in communities. Social sciences may serve to clarify the nature of value conflicts in society. It is necessary to realize that social sciences are capable only of describing the nature of the conflicts. Scientific methodology is incapable of resolving conflicts between values.

Newman and Oliver do not prescribe a structure to be used to develop students' awareness and understanding of the implication of value conflicts in society. Rather, they suggested that teachers build
their own structures for the presentation of topics. Topics should be issue-oriented. They should also vary in complexity. Appropriate topics may be derived from a consideration of:

1) history and other social sciences
2) the chronological sequence of historical events
3) contemporary problems.

Through a study of such topics, students should be motivated to develop their own positions about controversial issues. They should also acquire a capacity to defend their positions in debates with their peers.

The Shaping of Western Society: An Inquiry Approach

This tenth grade unit was developed by Edwin Fenton for the Carnegie-Mellon Social Studies Curriculum Project.

I. Definition of history--Within this unit, Fenton does not provide a working definition of history. However, in another project, The American Experience, Fenton ascribes a "unifying" position to history when it is considered among the various component members of the social sciences. The discipline of history is seen as systematic search for the answers to a series of questions. These questions define the organization of history. Other disciplines within the social sciences grouping provide the analytical concepts which train students in the conduct of inquiry
in the social sciences. As students use the historical method to examine the values of a pluralistic society, they acquire a set of attitudes, clarify their values, develop their skills of inquiry, and accumulate new knowledge.

Fenton identifies the objective of historical research to be the clarification of students' values. Ideally, values should be consistent with a "democratic creed." This project is designed to foster the development of inquiry skills which include:

1. the recognition of a problem
2. the formulation of hypotheses
3. the recognition of the logical implications of hypotheses
4. the process of collecting data
5. the analysis, evaluation, interpretation of data
6. the evaluation of hypotheses in terms of the collected data.

These skills are to be used by students in a manner similar to that of practicing historians.

II. Structuring mechanism--Analytic questions constitute the structure by Fenton's materials. Fenton is convinced that many curricular materials assign an undue emphasis to authority, superstitution, and prejudice as bases for the search for truth. Procedures should be more scientific, logical. The utilization of
analytic questions should prompt inquiry which will induce students to reflect upon their developing value systems and personal philosophies in a coherent, disciplined manner.

Materials to be used in the project should bear a close relation to the needs of modern American students. Problems which have plagued American society in the past should be introduced to complement the analysis of current problems. Students should also attain a desire to read widely.

Project Future

Joseph O. Loretan, the Deputy Superintendent of Curriculum and Instruction for the Board of Education, City of New York, authored the materials used by this project. It is an E.S.E.A. Title III project in Watsonville, California, designed for the seventh grade.

I. Definition of history--History is suggested to be a continuous process leading to the present. Events of history have multiple causes and effects. Change is always present in history. It is, however, not necessarily progressive. A study of the past heightens the capacity to interpret present events. The general knowledge objective is the development of an understanding of the "chronological relationship between major events in American history." This understanding relies strongly on the utilization of the major documents of American history.
II. Structuring mechanism--Learning activities are to be organized about a group of concepts. These concepts are to be attained via a process of inquiry and discovery. Research skills and techniques are to be taught in concert with the knowledge of history and social sciences. History and the social sciences provide the values, skills, understandings, and knowledge to be presented. As students collect, analyze, and judge the available evidence provided by the various disciplines, they acquire facts to be used to develop understanding of historical events. The responsibility for choosing among possible strategies for presenting materials and historical themes rests with teachers. Possible strategies include:

A. probing discussion questions
B. systematic analysis of primary source materials
C. case studies of concrete social phenomena
D. introduction of contrasting evidence

Summary

From the cited curriculum projects history has been defined as:

A. a chronological sequence of events
B. a record of "human experience"
C. a study of causes
D. a way to understand human life
E. a methodology for inquiry in the social sciences--
a systematic search for answers to questions

F. a process of events.

Structuring mechanisms likewise varied. Suggested foci for
the organization of materials included:

1. students' abilities
2. generalizations taken from the body of knowledge in history
3. problems identified within history
4. controversial issues
5. analytical questions
6. broad concepts within history.

A variety of approaches have been suggested by these recent
curriculum projects. Although there is considerable variance in the
structuring of the materials to be presented to students, in no case
was the acquisition of factual knowledge held to be the primary
objective. In the case of the project authored by Abramowitz,
particularly interesting use was made of a structural approach. By
focusing on the students' skill levels, materials were tailored to suit
their particular capacities and needs. Students' needs assumed the
determinant role in the development of curriculum. Taba addressed
herself to the development of students' capabilities also when she
recommended that curriculum be sequenced from concrete experiences
toward the more abstract. Rather than demanding that students leap
to the level of sophistication of "canned" materials, she implicitly recommends that students should be motivated to go beyond their immediate experiential background. She, too, evinced her concern that curriculum address itself directly to the needs of students. In none of the projects was a singular source of information recommended. All were based on the usage of a variety of types of materials. This multiple approach to the presentation of information indicates an awareness that students do not possess equivalent capacities to absorb information.

The various projects ascribed different purposes to the discipline of history. Taba has defined it as the record of human experience. Another project has characterized it as a study of causality. Several suggested that it is the fundamental mode of inquiry in the social sciences. Among projects indicating history to be a method of resolving social issues, there was no visible consensus about the heuristics of inquiry or the means by which the products of that inquiry may be validated or judged to be appropriate. The Cleveland project made explicit reference to the ambiguities of the solutions reached through an analysis of social problems. This elusiveness prompts a consideration of the nature of the apparent diversity of problems, solutions, and methods of analysis in the area of history and the social sciences.
It is plausible to suggest that the tools of inquiry in the history, as well as in the social sciences, generally, are imprecise. However, it may also be suggested that there is no single method appropriate to the social sciences. The wide diversity of the kind of problems which constitute the objects of inquiry militate against the appropriateness of a single methodological approach. This diversity demands that multiple approaches be developed to analyze the various problems. Thus, the absence of a consensus about the nature of problems or the nature of inquiry which is appropriate may not be viewed as a weakness of the area of history or the general area of the social sciences. It merely reflects the complexity which characterizes the social sciences.
CHAPTER IV

SELECTED EPISTEMOLOGICAL NOTIONS ABOUT STRUCTURES OF DISCIPLINES

It has been suggested earlier that Bruner has been markedly influenced by at least two men in the field of cognitive psychology whose contributions are classified by Bruner as primarily epistemological rather than psychological. It is not surprising, then, that Bruner himself should address himself to the acquisition of knowledge. The results of his study of the problems associated with the manner in which knowing has achieved have taken the form of recommendations for the area of curriculum development. Bruner has suggested that curriculum development should follow the structure of the discipline which is the basis for the curriculum.

Certainly, one way to look at any knowledge domain is through a consideration of structure. Structure is a means by which the constituent elements of a discipline may be rendered into an intelligible form. Yet, it is only a procedure which is devoid of meaning when it is considered apart from that which is being
structured—the knowledge itself. Hence, it is appropriate to entertain notions about the criterial attributes possessed by a discipline which, in turn, affect the structuring mechanisms of that discipline.

Israel Scheffler has suggested that a discipline may be understood via a consideration of the terms which formulate it. That is, a discipline may be characterized by its reliance on certain terms. There is an assumption that there is a correspondence between the nature of the terms which constitute a discipline and more pervasive nature of that which is constituted. Each discipline then, may be distinguished from the others because of a particular linguistic apparatus. Each of the theoretical disciplines is a body of systematized knowledge.¹ The constituent terms of each discipline are used to formulate scientific principles. It is Scheffler's contention, that in order for a body of knowledge to be considered to be a discipline, it must present evidence of theories or laws—"established scientific principles."²

A somewhat different view of the nature of a discipline is expressed by John Kuethe. He asserts that the uniqueness of a discipline depends upon the existence of certain relations between

¹John Walton and James L. Kuethe, eds., The Discipline of Education (Madison: The University of Wisconsin Press, 1963), pp. 54-55.
²Ibid., pp. 58-59.
facts or principles rather than within the facts or principles themselves. It is the manner in which principles relate to each other that defines their disciplinary home. Thus, history could be viewed as a "chronology of behavior," even though behavior may be considered a principle of psychology. It is then correct to speak of a psychological approach to history. 3

If principles and facts are all interrelated, what is it that defines the parameters of any discipline? Kuethe responds that a tenable position might hold that all knowledge is "continuously related." Such a posture would suggest that the various truths are "interlocking parts of some total pattern." If this is the case, then any classification of knowledge into discrete disciplines tends to be arbitrary. Kuethe suggested that the imposition of classificatory schemes upon knowledge is the forcing of a discontinuous classification on a continuous system-knowledge. The relations within the elements of this continuous system are the appropriate areas for the delineation of related groups of principles. 4

Another writer has evinced his concern about the division of knowledge into various subdivisions or disciplines. John B. Carroll states that "each of the branches of learning studies some sector of

---

3 Ibid., pp. 85-86.

4 Ibid., p. 77.
the total range of phenomena with which men concern themselves." He notes also that within the major branches or defined sectors exist smaller domains—specialties and subspecialties.\(^5\)

These sectors are in some way structured. Then, each discipline has some parts of its subject matter which are characterized by structure, order, and regularity. Furthermore, it is the goal of students of a particular discipline to promote a more exhaustive description of their particular discipline. Disciplines are not equivalent in their ability to state findings in terms of generalized propositions or laws. Some employ logical or quantitative procedures. Others are not amenable to the application of these procedures, but they are highly developed with respect to the competencies and detail of the descriptions of a range of appropriate phenomena.\(^6\)

Not only are disciplines possessive of a means by which to order extant knowledge; they also possess a set of heuristic procedures by which to search for and test the appropriateness of new knowledge. These procedures vary with disciplines. Disciplines of the natural sciences have both experimental and observational methods. Social sciences tend to rely on field methods. The disciplines of the humanities employ historical and bibliographical methods. Over time,

\(^5\)Ibid., p. 102.

\(^6\)Ibid., pp. 103-104.
mathematics has achieved prominence among the kinds of heuristic methods. However, there is a range of valid heuristic methods which includes theory construction, hypothesis-testing, and sheer classification. ⁷

Everett C. Hughes is more rigid in his approach in his definition of disciplines. Hughes propounds that the notion of disciplines implies "a single order of phenomena." As the phenomena are observed and/or manipulated, a consistent theory emerges. ⁸

Joseph J. Schwab suggests that a discipline must demonstrate the presence of two qualifications. First, the substance of a discipline must be judged to be investigators. Secondly, this substance must be capable of encouraging investigations into the nature of the substance, resulting in diverse definitions, doctrines, and emphases.

This latter notion suggests that a discipline is earmarked by an appropriate mode of inquiry. Inquiry originates within a conceptual structure which determines the motivating questions for the inquiry. These questions determine the kinds of data to be sought, as well as

⁷Ibid., p. 104.

⁸Ibid., pp. 148-149.
the nature of the experimentation. The data collected must be viewed in terms of the conceptual structure. So considered, the data take on meaning and interpretation. 9

Schwab postulates that there are two kinds of structure which order knowledge within disciplines—the substantive and the syntactical. The substantive structure is identified through an understanding of the nature of problems which comprise the concerns of a discipline's inquiry. Both the substantive structure and its power and limitations must be attended to. Knowledge produced by inquiry is always incomplete. Different disciplines pursue knowledge via different substantive structures. Thus, major variances may exist among disciplines, depending upon the manner of verification, as well as the extent to which its knowledge may be verified. 10

Another group of problems are related to what Schwab designates as the syntactical structure of a discipline. These problems include the determination of the notion of acceptable proof for a discipline, the criteria to be applied to judge the quality of the data, and the degree of structures of the application of its canons of evidence. Generally, this structure dictates the "pathway" transversed during the


10Ibid., pp. 9-10.
process of inquiry between raw data and final conclusions. The syntactical structure is the means by which the conceptual concerns of a given discipline are operationalized.

An estimate is made in the inquiry process about the nature of the whole organism, or discipline, which is actually involved. This is usually expressed by a catalogue of the capacities which are characteristic of it. Then, having identified the discriminate parts which comprise whole, focus is directed at one of the parts. Having identified the parts, their role and function as they relate to the whole must be ascertained. Adequate formulation of the syntactical structure of this pattern of inquiry provides a basis for commentary about its degree of potency.

Three discipline have been perennially puzzling: mathematics, logic, and history. Logic, because it allegedly gives canons to all other disciplines, raises a question as to what its own canon are. Mathematics, because of its apparently absolutely right or wrong character (as against the merely probable character of knowledge in other disciplines), raises the question of what its objects are and what sort of knowledge it is. History, because it is alleged to deal with the ultimate particular, raises questions as to what such knowledge is for or whether such knowledge is possible at all. And because history often lays claim to being the supreme integrative discipline, it raises questions about the legitimacy of such integrations.

---

11Ibid., p. 11.

12Ibid., p. 29.

13Ibid., p. 22.
Philip H. Phenix has elected to refer to the "architectonics" of knowledge—the principles of ordering knowledge into systematic categories. The ordering of knowledge proceeds on the assumption that knowledge has patterns or structures which may be discerned. It also assumes that these structures may be organized according to some "master plan." The primary function of categorizing is to simplify the understanding of knowledge. Intellectual effort is economized by grouping large numbers of things into categories according to the aspects of those things which are to be grouped. Thus, the elements of the class may be grouped as a unit according to the defined characteristics of the grouping unit. Clearly, it is necessary to define the function that the classification is to assume.\footnote{Ibid., pp. 44-45.}

It is then possible to look at disciplines as grouping units. They are not arrays of "fixed traditional ways of knowing" which have been "ordained at some special creation." Rather, they are the emergence of the continuous epistemological development. In this sense, disciplines possess a dynamic dimension. This notion must be emphasized in order to avoid a misinterpretation of the advocacy for the identification of the structures of disciplines. Without a recognition of this dynamism, such a concern could be interpreted as a plea for return to a standard traditional curriculum. On the contrary,
Phenix asserts that attention to structures identified as "belonging to productive disciplines" is the best basis for "ordered and fruitful progressivism."\(^{15}\)

The disciplines constitute the answer to the need for learnable knowledge because they are defined by the principles and standards that have in fact given rise to the communities of specialized men of knowledge generally recognized as having learned the most that is known in their respective domains of inquiry. The specialized men of knowledge are those who have identified and followed the ways of maximum learning in their disciplines.\(^{16}\)

Phenix provided a suggested group of classifications which might constitute such a curriculum. Within this suggested curriculum he characterizes history as "comprehensive fact." He defines the domain of history as the "study of actuality from a comprehensive standpoint." Both the "singularity of the unique event" and the inter-relationship of events fall within this province. The task of the historian is to describe what actually occurred in such a fashion as to take account of the "existential decisions" of those who lived in the past. The reconstruction of his account relies on knowledge outside the discipline of history. "He is at once synoptic, aesthetic, symbolic, empirical, and ethical." From these various understandings he constructs a "synoptic perspective" of the past.\(^{17}\)

\(^{15}\)Ibid., p. 49.

\(^{16}\)Ibid.

\(^{17}\)Ibid., p. 59.
The positions described above assign an important role to structure of knowledge within the domain of a discipline. In all cases, the nature of the discipline was dependent upon identifiable characteristics of the elements of knowledge which are encompassed by that discipline. A reasonable conclusion would be that Scheffler, Kuethe, Carroll, Hughes, Schwab, and Phenix all called for systematic ordering of knowledge, according to certain criteria. The suggested criteria varied in their rigidity. Carroll, Schwab, and Phenix postulated that the degree of rigidity of the criteria used to assess the knowledge of a discipline or grouping unit was directly related to the general nature of knowledge of that discipline or grouping unit. This suggestion implies a range of knowledge which admits to different modes of inquiry and different verification mechanisms. In fact, two suggestions were made that disciplines were actually arbitrary groupings imposed upon a continuous entity—knowledge. Kuethe perhaps states this position most directly, although it is also suggested by Phenix. More rigid criteria for grouping were held by Scheffler, Carroll, Hughes, and Schwab. Despite their differing conceptions of the appropriate groupings of knowledge and criteria for grouping and inquiry, there is evidence of an assumption that knowledge is directly perceivable.

A radically opposing view is taken by Michael Polyani. Polyani asserts that there is another kind of knowledge than that usually
discussed by epistemologists. This, he calls "tacit knowledge."

Tacit knowledge inheres in neither the elements of a grouping unit nor in the grouping unit itself. Rather, it is defined by a "functional relationship" between particulars and the whole. The former term he designates as the proximal element; the latter is designated as the distal element. Jointly constituted they comprise a third larger entity which dictates that the proximal entities may be known only by a reliance on their awareness in attending to the distal term. It is Polyani's contention that inquiry, then, consists of "picking out clues as such, with a presumed bearing on the presence of something they appear to indicate." Disciplines such as history, literature, and philosophy are particularly affected by this tacit dimension.

One commentator of Polyani asserts that:

It is one of the paradoxes of modern epistemology that we take science as the paradigm case of knowledge, yet insist upon a conception of wholly explicit truth. For science lives by discovery and ever further discovery; without the itch to solve problems, to follow hunches, to try out new and imprecise ideas, science would cease to exist. Yet discovery cannot be explained in terms of wholly formalizable, wholly explicit knowledge.


\[19\] Ibid., p. 31.

This is particularly relevant in terms of the problem under consideration. Bruner has called for a discovery approach to learning. Students are to be encouraged to transcend their own experiences. The previously mentioned epistemologists have suggested ways of assessing extant knowledge and criteria for the validation of new knowledge. Yet, they have not provided guidelines for understanding that which motivates the search for new knowledge. Polyani does not explicate the pattern to follow, but his assertion that there is more than explicit knowledge suggests a new realm to be considered.
CHAPTER V

A STRUCTURE OF HISTORY BASED UPON

BRUNER'S STRUCTURAL CONCERNS

Bruner's fundamental concerns about structure may be stated in the form of postulates to be taken as guidelines for the structuring of an academic discipline. So stated, these concerns are three:

1. Each discipline may be characterized by a structure which serves to provide coherence for extant knowledge in that discipline.

2. Each discipline is possessive of a means by which it exerts control over the admission of new knowledge into the domain of the discipline.

3. The nature of a given discipline is best demonstrated by the workings of scholars of that discipline.

Thus far, the discussion has been segmented into several major areas. As such, attention has been directed toward a description of structure as derived from Bruner, descriptions of epistemologists' notions about structures, and descriptions and analyses of various
recently developed curricula. The primary objective of this thesis is the development of a structure based upon tenets of Bruner which is appropriate for the discipline of history.

To discuss the appropriateness of any structure for the discipline history, it is necessary to consider the nature of the discipline. Among historians, there is considerable diversity about the purpose of history as a discipline as well as about the way in which historians proceed to serve their varied perceptions of its purpose. In an attempt to understand the nature of the positions taken by historians, several historians' expressed opinions are here presented. It is not an objective of this discussion to analyze the nature of the opinions in order to achieve some kind of consensus about the discipline of history. Rather, the goal of this presentation is to inform one who would deal with a structure of history about the object of his structuring. It is to be hoped that the diversity which inheres in the discipline will be preserved and highlighted. To serve this purpose, a number of historians have been selected. They have been chosen for two reasons. First, they represent a breadth of positions. Secondly, they have attained positions of respect in the historical field. The statements presented here are from the writings of Page Smith, Immanuel Kant, Leopold von Ranke, Hajo Holborn, Fritz Stern, Jacques Barzun, Louis Gottschalk, and R. G. Collingwood.
Page Smith indicates that the "study and writing of history may be said to be one of the principal means by which man has extended his understanding of himself and his strange destiny."¹ It is our sense of history that is a distinguishing feature of Western civilization. Non Western cultures, he asserts, have generally been "deficient" in "historical consciousness."² Smith suggests that the classic search for contemporary times is the quest for identity. However, this search is predicated on Kant's query, "What is Man?"³ Modern man wanders in an "a-historical void" looking for an authentic self.

This searcher is also capable of picturing a world which is better than that which he perceives to be. The discrepancy between the "is" and the "ought to be" is an awesome realization. A faith in reason characterized the eighteenth century; a belief in the upward progress of the evolution process sustained men in the nineteenth century. But the generations of the twentieth century are "painfully aware" that no longer may man rely on the evolutionary process to span the discrepancy between actuality and what should be. Abstract thought of past eras tended to foster the belief that society could be

²Ibid., pp. 1-2.
³Ibid., p. 232.
reconstructed according to some plan which would reveal itself in history. History would tell us of "the risks we have to run, the partial obscurity in which we have to make decisions . . . the state of depossession, insecurity and hardihood which is the climate of all great action."  

Smith refers to Paul Weiss's concept of the historic as "that which objectively happened in the past" as distinguished from that which happens in the mind of the historian. An awareness of this distinction has two effects. It precludes our "being crushed by the weight of the present." Additionally, it functions as a "bulwark against the encroachment of the subjective." An individual is not historic. Rather, the community in which he resides is historic. The community may reform both its constituents and the world of which it is a part. History, then, is that to which we appeal for "life styles"—models and examples—as a means of identification and completion.

---

4Ibid., pp. 235-236.


6Ibid., p. 239.

7Ibid., pp. 240-242.

8Ibid., p. 246.
In a modern fashion, Smith has posed Kant's question—What is man? Kant's commentaries on history are appropriate here. A translator and editor of Kant's works, Lewis White Beck, states that:

Kant's mature interpretation of history is his application of the principal theses of his critical philosophy to the wide spread beliefs of his time. These beliefs included: history as decline from the period of Golden Age, eudemonistic criterion, use of reason, optimism of the eighteenth century, importance ascribed to the acquisition and distribution of knowledge. None of them he originated; most of them he accepted when young and modified when old; all of them he illuminated.⁹

Kant suggested that history's function was to bring men to the present. It was his belief that, despite evidence to the contrary, there was reason to believe that progress would continue. That it would continue, however, was predicated on the faith in "the autarchy of will and free acts" rather than on "settled empirical knowledge of the past extended inductively to the future." For Kant, the future would be the work of men rather than a conclusion "waiting to be drawn from premises already discovered by historians."¹⁰

Beck suggests there are three elements of Kant's critical philosophy which have import for the historian—causal mechanism, the principle of pure practical reason, and the regulative principle of


¹⁰Ibid., p. xxvi.
teleology. Each of these three depends on Kant's conception of the role played by the mind. Kant's causal mechanism assigns a role to the mind indicated in the following statement.

We understand the world of phenomena because the mind gives laws to the appearances of the senses, converting the rhapsody of sensations into the orderly conception of a world of atoms, star, sticks and stones and human events.\textsuperscript{11}

The principle of pure practical reason suggests the potentiality of man. Despite appearances, man can do what he ought to do. The mind is capable of determining what ought to be done. The weakness of man and his disposition toward evil keep him from acting in accord with the dictates of his mind. The world of nature, in Kant's philosophy, is a construction laid upon appearances. Reality may not be apprehended by man. Thus, that which is the world of nature represents an artifact of man's experience and perceptions.

Kant's conception of teleology declares that the final purpose of the world is found in man himself--"rational man, legislating and obeying moral law in an otherwise meaningless world." Thus, the world is merely "the stage for moral evolution and human action."\textsuperscript{12}

Kant's writings antedate what is taken to be the period of modern history. An early contributor to modern history is Leopold von Ranke. He has been portrayed as both the father and master of

\textsuperscript{11}Ibid., p. xvi.

\textsuperscript{12}Ibid., pp. xvi-xvii.
modern historical scholarship. Ranke taught that history should be written from eyewitness reports and the "purest, most immediate documents." It was his objective to establish the autonomy of history as a discipline. His conception of history and its procedures came to be called historicism. 13 In the preface to Histories of the Latin and Germanic Nations from 1494-1514, Ranke states that the purpose of the historian depends upon the point of view he holds. Ranke indicates his particular viewpoint in the following comments.

To history has been assigned the office of judging the past, of instructing the present for the benefit of future ages. To such high offices this work does not aspire: It wants only to show what actually happened (wie es eigentlich gewesen). 14

In this same preface, Ranke enumerated his rigid criterion for the documentation of the work. Acceptable sources included memoirs, diaries, letters, diplomatic reports, original narratives of eyewitnesses, and other writings (if derived from the previously mentioned or were apparently equivalent). These were to be identified on every page. A second volume, separate from the substance of his inquiry, would present the methodology of investigation and critical


14 Ibid., p. 57.
conclusions. A strict presentation of facts was the major goal of the historian. The exposition of the unity and progress of events follows directly from the factual statements. 15

According to Ranke, the discipline of history is capable of raising itself from "the investigation and observation of particulars to a universal view of events." The historian's reflection on the particulars should be the basis on which "the development of the world in general will become apparent to him." 16 Hence, a concern for universal history which comprehends the past life of mankind in both its fullness and its totality. Specialized research is subsumed under the broad goal of universal history.

The discipline of universal differs from specialized research in that universal history, while investigating the particular never loses sight of the complete whole, on which it is working. 17

The conception and composition of a history of mankind, then, is the ultimate goal of history. 18

15 Ibid.
16 Ibid., p. 59.
17 Ibid., p. 61.
18 Ibid.
Ranke was the first and remained one of the staunchest advocates of scientific history. Another historian, Hajo Holborn, suggests that the science of history has been characterized by confusion. He indicates that there are those who make the incorrect supposition that history yields laws, by which to classify the historical process. He comments:

But such a definition of the science of history is nothing but a reflection of the exaggerated significance which was at times assigned by historians to the natural sciences outside their own field. To talk about a science of history means nothing but an affirmation of the critical and systematic approach to history, and the validity of the results achieved in this way.\(^9\)

Holborn, thus, emphasizes that the science of history is merely a description of a kind of history which rests on a borrowed methodology. He avers that the significant function of history is to serve as a reminder to men of the role assumed by human nature in time and history. It is appropriately "the critical consciousness of civilization about its own past." A progressive understanding of the processes of human civilization is necessary for history to assume this function.\(^{20}\)

---


\(^{20}\) Ibid., p. 82.
A more recent writer, Fritz Stern, has suggested that there are two tendencies which have affected modern historians. These are the transformation of history into an academic discipline and society's increasing demands for history. Stern contends there is a difference between the acquisition of the techniques of historical scholarship and the development of the artful quality of history. Practice will ensure the acquisition of the technical skills. But, the development of the artful element "involves so much that is individual . . . that the writing of history must always be changing and varying." History requires both aspects. Hence, history is the "cognitive expression of the deep-rooted human desire to know the past which . . . is born afresh with every child that searches the mystery of its being.

A similar theme is struck by Louis Gottschalk who describes history as possessive of three dimensions--science, art, and philosophy. Methodologically, it adheres to scientific rules. As an artistic narrative it demands a sense of imagination. And, as interpretation, it seeks the insights and judgments of the philosopher.

---

21 Stern, Varieties, p. 11.
23 Ibid., p. 24.
. . . a history is a deliberate effort to give an account of some past event or combination of events; it is what is sometimes referred to as written history, as distinguished from history-as-actuality (or the total past of mankind whether known or not); and from recorded history (or that part of history-as-actuality which has somehow been placed on discover (able record, whether discovered yet or not). 25

Another historian, R. G. Collingwood, asserts that the value of history rests on its ability to define the nature of man. History deals with past "actions of human beings." Its teachings about man's accomplishments serve as a basis for determining what man is. Documentations of past events are the sources of historical knowledge. History proceeds by the interpretation of evidence: where evidence is a collective name for things which singly are called documents, and a document is a thing existing here and now, of such a kind that the historian, by thinking about it, can get answers to the questions he asks about past events. 26

The search, analysis and subsequent interpretation of historical documents constitute historical inquiry. As such, history belongs to what are called sciences or the forms of thought which attempt to respond to questions to be answered through inquiry. In science, this

25Ibid., pp. 205-206.

inquiry is prompted by recognition of ignorance about some definite thing. Thus it is that this awareness motivates a search to investigate the nature of the unknown.27

According to Jacques Barzun, man has a sense of continuity. It is this quality of man from which is derived history's origin.

Or to put it differently, man has a sense of Time. Our minds need categories--imaginary boxes or abstract containers--in which to group the multitude of sensations and memories we experience. Time--and, later, Time recorded, which is History--provides one such container. Ideas and objects find their place in it with the aid of Before and After. This is why dates matter so much in history, though for reasons different from those parroted in school children. By generalizing our private sense of time, we come to see it as part of a seamless fabric extending backward and forward which we call Time.28

Historical periods are creations of the historian which are imposed to meet the demands of expediency. Man's sense of time has been responsible for the cultural phenomenon of established history. This object of the historian's efforts is artful in its inventiveness.29

The creator of history possesses the virtues of accuracy, love of order, logic, honesty, self-awareness, and imagination.30 At its simplest, history is the story of past facts.

27Ibid., p. 9.
29Ibid., p. 45.
30Ibid., pp. 56-60.
We could say that a history (with a small h) deserves its name when it truly represents a portion of History (with a big H). The aim of written history is realized when it achieves what an ancient critic said in praise of Herodotus: 'He takes you along and turns hearing into sight.'

Clearly, there is a range of views from Kant's emphasis on the role of mind in shaping the events of the world to Ranke's assertion that the factual recordings of actual occurrences provide the only basis for a universal history. It is unlikely that historians will come to agree on the purpose of history. The failure to assign a purpose to history, of necessity defines the existence of diverse procedures to achieve its multiple purposes. The recognition of the diversity within history demands that some attempt be made to at once preserve this diversity while concurrently attempting to understand its presence. Thus, a structure which may serve these two goals has a great appeal in its potential benefit to those who would teach history.

Epistemologists have directed their efforts toward defining the nature of structuring mechanisms for fields of knowledge. They have devoted especial effort to defining the unique elements of the various disciplines. Thus they have tacitly indicated their willingness to accept the extant groupings of knowledge subsumed under the familiar categorical headings such as mathematics, history, literature, etc. Their concerns were directed toward the means by which elements are

\[31\text{Ibid., p. 47.}\]
identified as belonging to a given category. Kuethe has characterized the disciplines as arbitrary classifications of knowledge. Carroll's concern was the manner by which phenomena were judged appropriate to various sectors of the total range of knowledge. Applying Bruner's terminology, the epistemologists could be said to have been concerned with the processes appropriate to nominal groupings or categories. Names applied to such groupings have no meaning independent of that derived from kinds of interactions or relationships occurring within the categories. The attributes of the nominal categories, then, result from the nature of the internal relationships or interactions.

One way of studying these interactions is through a consideration of a structure which seems to be appropriate to the phenomena of a discipline. The epistemologists considered asserted that, in fact, one characteristic of a discipline was that its phenomena could be ordered by the imposition of a structure. Through structure, isolated phenomena become meaningful as the relationships among phenomena are illuminated by the ordered configurations. Hence, it is necessary to understand the nature of structure which is appropriate for a field of knowledge. Such understanding is predicated upon an awareness of the phenomena which the structure orders into patterns.

Two aspects of a discipline must be apprehended---its phenomena and the appropriate structuring mechanisms for these phenomena. Schwab has suggested that the phenomena of a discipline may be
considered to be the substantive structure of a discipline. This is the same dimension of structure alluded to by Carroll. Carroll has suggested that various branches of learning may be said to be more structured than others. That is, it is possible to say that mathematics is more structured than literature or history. The phenomena of mathematics may be more facilely ordered into more cohesive configurations than the phenomena or elements of the discipline of literature. Carroll's imposition of the notion of degrees of structures appears to imply that he views the range of structures according to an assessment of the degree to which strictures of logic are operant in the structuring activity. He has suggested that it is possible to assess concepts of a discipline according to the degree to which they exist in an interdependent fashion. These considerations of structure are notably more singularly focused than those of Phenix who postulates a range of bases for describing potential structures:

If one has a score of precedence for knowledge derived from senses, reason, intuition, revelation, then judgments concerning what knowledge is of most worth and how study resources should be allocated require a taxonomy of knowledge based upon these modes of acquisition. 32

32Elam, p. 47.
Phenix avers that there are several modes of the acquisition of knowledge. One way by which to characterize the disciplines, then, is dependent upon the manner(s) in which their knowledge be perceived. Appropriate modes of perception are related to the substance of the discipline. The substance of the object directly affects the perceptual process.

An understanding of the substantive element of a discipline is necessary to assess the relevance of the imposed structure. Schwab has asserted that the relationships which inhere in the substance of a given discipline provide the basis for considering mechanical structures. Schwab refers to the mechanical structural component as the syntactical structure. It determines what criteria may appropriately be accepted as proof, the quality of the data, and the degree of structures with which canons of evidence are applied for the various disciplines. Kuethe has defined the appropriate concern for one who would define the uniqueness of a discipline to be an attention to "certain relations between facts." It is the nature of relationships among facts that distinguishes one discipline from another. Similar facts may be produced by several disciplines. Such statements of facts would not be specific to any one of these disciplines unless they constitute a relationship among facts may be assessed to be appropriate to a given discipline.
The systematic process of organizing factual statements into disciplinary relationships may be construed as equivalent to defining the heuristic procedures of a discipline. Amassed data is worthless apart from the relationships constituted by the data. These relationships govern the nature of inquiry in the discipline. If these relationships are the basis for the structure of knowledge in a discipline, it is possible to embrace Bruner's postulate that a consideration of a discipline's structure will reveal the necessary conditions for the verification of knowledge for that discipline. A structure for a discipline must describe the substance of that being structured and define appropriate syntactical relations for the discipline's substance.

The third postulate derived from Bruner suggests that scholars of the disciplines are models of appropriate behavior within a discipline. The breadth of the substantive dimension of history was implied in the comments of historians previously cited. They also demonstrated that the substance of history is less amenable to organizational patterns derived from such systematic concerns as the laws of logic. The historian ultimately relies on his intuition that a particular relationship is historical. Thus, Carroll suggested that the discipline of history is characterized by weaker structure. Despite the absence of stringent structured rules, Carroll asserts that scholars in such a discipline should become more "exhaustive" in their ability to describe the structure, order, and regularity of their subject matter.
It is here suggested that Bruner's theory may be interpreted to describe history in the following manner. History is a nominal category of historical relationships among factual statements. The sum total of historical relationships constitutes history.

The essence of history inheres in the relationships among its factual statements. Historical relationships are created and judged to be historical by an appeal to certain criteria for acceptance into the nominal category history. Within the discipline of history, there are relationships which may be grouped together. These subgroupings constitute areas of specialty within history. Subgroupings or areas of specialties assume the form of contextual settings. They are nominal classifications which serve as a basis for the consideration of relationships derived from factual statements about events of history.

The syntactical element of history provides the means of identifying relations between facts as historical relations. More specifically, it provides the criteria by which certain established relationships may be said to be historical. Schwab has suggested that the syntactical dimension of structure has tended to be overlooked in history. The discussion of curriculum projects would seem to

---

33 Walton, p. 102.

34 Elam, p. 23.
substantiate this assertion. Little evidence was given of the nature of authority to which an appeal was made to determine the correctness of relationships in history. The means by which the structure was developed for historical knowledge was not explicated. Fenton's list of questions may well provide a means for arriving at a substance which may, in fact, be appropriately called history. But he fails to indicate the reason these questions were selected instead of others. In this failing, he neglects to identify the authority to which an appeal is made by which to judge their relevance.

Here it is useful to incorporate a notion suggested by Michael Polyani who propounds that meticulous detailing has the effect of obscuring an area of inquiry such as history, philosophy, or literature. Polyani asserts that inquiry consists of "picking out clues as such, with a presumed bearing on the presence of something they appear to indicate" within inquiry exist "functional relationships" between the particulars and the whole. The former term he defines as the proximal element; the latter is designated as the distal element. Jointly constituted, these two elements comprise a third larger entity which dictates that the proximal entities may be known only by a reliance on their awareness in attending to the distal term.  

It is suggested by Polyani that that which serves to regulate the interactions which transpire within history is "tradition." It is the authority to which appeal may be made to determine whether to accept or reject new hypotheses about history. It serves a dual function. It serves as a motivation for the search for historical knowledge and as a means by which to verify new knowledge. The first function is one of rendering cohesiveness to extant knowledge while the second tends to preclude the establishment of erroneous knowledge. So defined, tradition operates in such a manner as to foster the unveiling of unknown truths which may have the ultimate effect of reordering knowledge in such a way as to redefine the tradition which motivated the search.

This tradition or structural element is both incomplete and insufficient in its generality. Thus, it is useful to examine it as it affects the substance of history and as a basis for defining the syntactical structure of history. The nominal category of history is comprised of subsets or nominal groupings. These nominal groupings of substance may be suggested to be the broad contextual settings which have evolved such as ancient history, medieval history, etc. Such groups may be taken to be the focusing elements for the establishment of the substantive nature of history. They are mechanisms whereby an historian may deal with historical knowledge. As mechanisms, they tend to reduce the tension created by the interplay of what may be disjunctive elements. The elements may be said to be disjunctive in
that their meaning is derived by their relationship to the categorized grouping rather than from the nature of the relationship they bear to each other. Historical categories, then, may not be identified because of the similarity of their elements. Rather, categories must be created because of a relationship which appears to exist between the grouping concept and the elements. This inability to identify categories because of the interrelatedness of constituent elements defines the weakness of structure in history.

To tend to the relationships between the nominal categories and the comprised elements which constitute them is to tend to the syntactical structure of history. Thus, an awareness or sense of what has come to comprise historical knowledge serves as a means by which to determine that knowledge is, in fact, historical. The heuristics involved in creating an historical interpretation or an historical tradition are the mechanical procedures followed by the historian as he selects his problem, collects his data or information, defines possible hypotheses, and creates interpretation. These procedures are not unique to history. Knowledge obtained in this heuristic fashion is appropriately historical only when it may be demonstrated that the conceptual setting may be judged to be historical by appealing to an awareness of broad historical tradition--thus the conceptualization must define an historical substance. The appropriateness of historical interpretation is also defined by an appeal to intuition which is tooled
in an awareness of historical tradition for judgment. This is the syntactical function of historical tradition. Together both elements constitute an appropriate structure for history which preserves the integrity of extant knowledge and yet encourages the continued evaluation of that extant knowledge as well as providing a catalyst for the search for new knowledge.

The following figure serves to portray visually the nature of the structuring effect of historical tradition. The domain of historical domain is distinguished from other areas of knowledge through an awareness of what has been defined as historical tradition. (arrow 1.) Broad contextual groupings have evolved within the breadth of historical knowledge (arrow 2). As historians choose to work in specialized areas they appeal to a sense of historical tradition to define a context for their inquiry (arrow 3). The appropriate mechanical operations have evolved within the discipline of history. Interpretations which result from inquiry are judged to be historical by an appeal to historical tradition (arrow 4). The result of inquiry--an historical tradition--becomes a part of the total tradition of history after its appropriateness has been determined (arrow 5).
Figure 1. A PORTRAYAL OF THE STRUCTURING EFFECT OF HISTORICAL TRADITION.
The following statements may now be made about a structure of historical knowledge.

1. Tradition may be postulated to assume both the substantive and syntactical structuring roles within the domain of historical knowledge.

2. Tradition is substantively defined by the relationships among its factual statements.

3. Tradition also provides a source to which the historian may appeal for judgment about the correctness of his procedures.

4. Historical inquiry in specialized contexts produces an historical tradition which becomes a part of the total historical tradition.
CHAPTER VI

AN OVERVIEW OF BRUNER'S STRUCTURAL RECOMMENDATIONS

Bruner's recommendations for structure in the development of curriculum are broad and invite wide interpretation. It is not to be assumed, however, that Bruner suggests that there are not specific guidelines for the development of curriculum. Indeed, Bruner has recommended an approach which makes stringent demands of a community of scholars.

a. Scholars within the various disciplines must grapple with the nature of their disciplines and the evaluation of knowledge contained by that discipline. Within history, the guidelines there is no absolute authority to which historians may appeal for the validation of knowledge.

b. Scholars in areas such as psychology must set expectation levels for student performance at various stages of intellectual development. Expectation levels for student performance in curriculum in which history plays a major part must focus primarily on student reading abilities and perceptual capacities.
c. Those in the educational community must transform knowledge of the disciplines into curriculum which is appropriate for students. Curriculum within history should reflect the role of judgment in the establishment of historical knowledge.

d. Those in the educational community who train prospective teachers are ultimately responsible for the success or failure of any curriculum. Teachers of history must be very familiar with those aspects of history they are to teach as well as the process by which this historical knowledge has come to be established.

A review of statements made by historians and curriculum projects personnel reveals that the discipline of history is constituted by a number of diverse elements and is variously interpreted. Both the necessity for and the complexity of a structural description of history are apparent. In an effort to describe the nature of an appropriate structural mechanism for organizing historical knowledge, especial care must be taken to preserve the integrity of the knowledge included in the discipline. The substance of history does not tend toward interrelatedness. It is more accurately characterized as being disjunctive.

Bruner's postulation that each discipline is noted by the presence of an identifiable structure is valid for history only if it is possible to accept the weakness of a discipline variously defined as a study of human experience, a study of causality or as some compromise between art and enlightened search for appropriate explanations. Although the structure is tenuously defined, history continues to exist
as a discipline--an area in which inquiry persists. It is a good example of Bruner's new nominalism. Scholars, in assuming that it is appropriate to define a realm of knowledge called history, have generated the evidence which is used to support their contention. Despite the attempt to reduce the effect of history as a separate discipline by developers of curriculum along interdisciplinary frameworks, the material for either history curriculum or interdisciplinary curriculum in the social sciences is obtained through an appeal to this elusive discipline.

Bruner suggested that disciplines exert control over the acceptance of new knowledge into the domain of the discipline. This merely indicates that scholars of a discipline define the content appropriate to it. An appeal to the arguments of epistemologists would tend to support this notion. However, the bases for judgment in history are not definitive. A set of criteria to be used to judge the validity of knowledge are only as effective as that to which they are applied is amenable to such judgment. The problems which motivate historical inquiry elude absolute explanation or interpretation. History is continuously reexamined and subject to new interpretation. The formulation of hypotheses to be studied is particularly crucial since the criteria themselves are vague and impotent in their capacity to preclude the establishment of weak or even false interpretation.
Because of the apparent diversity in generating a uniform set of guidelines for the acceptance of historical knowledge—even among historians—it would seem to be an impossible task for one outside the discipline. Thus, Bruner's demand that the scholars working in the disciplines define the discipline is particularly important for history. Various historical interpretations have come to be accepted. This acceptance is never permanent; interpretations remain subject to modification or rejection.

The proposals of Bruner may be viewed as over-arching statements which appear almost simplistic and self-evident. It is not to be assumed, however, that the freedom allowed and demanded by the discipline permits randomized treatment. The failure of the discipline of history to embrace an heuristic structure of knowledge elevates the judgments of individual historians who independently follow canons of historical accuracy to a higher level of authority than is typical in other disciplines. Tradition, as established by historians, serves as the only regulatory device over new knowledge.

Polyani describes the entity which emerges from the concurrent consideration of the elements of knowledge for a discipline and the discipline in its generality. This writer is struck by the degree to which this description parallels Bruner's definition of disjunctive categories. Both Polyani and Bruner entertain the possibility that disparate elements of knowledge, seemingly unrelated to each other,
may be considered appropriate to a single knowledge grouping. The ability to embrace conflicting evidence is crucial for a discipline which is incapable of producing and applying absolute criteria for the judgment of the validity of its knowledge.

At best, Bruner's proposals serve as descriptors of a process to be followed in the development of curriculum for history. They must be considered in conjunction with the area of historical knowledge to be included in the curriculum. Bruner has also suggested that there is a range of complexity in knowledges of a discipline. Certainly, in the area of history, it is simpler to describe the American Civil War as the result of Northern demands to end slavery than it is to present the conflict as the outgrowth of a variety of contributing factors. The degree to which simplistic statements may be made about historical knowledge depends upon the effect made on the truth validity of the statement. It may not be incorrect to present the Civil War simply as a Northern desire to end slavery. Such a statement is more comprehensible to a young child. The questions to be posed, however, is whether such a statement will create an impression which may not be expanded to embrace a more sophisticated explanation when the student is capable of understanding more complex material.

An appeal to the discipline of history--its tradition--may inform a curriculum developer of the potential hazards of oversimplifying the content of history. It will not inform him about the
appropriate level of complexity for the developmental stages of various students. At this juncture, the developer must appeal to the area of psychology. Piaget's stages of intellectual development are an example of such information.

The construction of historical curriculum or curriculum in which history assumes a major role is beset with obstacles resulting from the elusive quality of historical knowledge. Students should not fail to grasp this dimension of history. They should also be presented with something other than random bits of unrelated historical facts and explanations. The avoidance of this depends on the teacher as much as it does on the curriculum and its materials. Teachers in the area of history must be presented with carefully developed materials. But, a teacher who has not studied history directly will be unable to create learning situations in which students may discover both the relationships within history as well as its enigmatic quality.
BIBLIOGRAPHY

Books


Articles and Periodicals


Reports


Occasional Papers


Unpublished Materials


Analyses Included:
AEP Public Issues Series
American History Study Lessons
Contra Costa Social Studies Program
Four World Views
From Subject to Citizen
Project Future
The Shaping of Western Society: An Inquiry Approach