A PRESENTATION OF FOURTEEN CONCEPTS IN CULTURAL ANTHROPOLOGY FOR THE PRIMARY CHILD

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PREFACE

A series of quotations, synthesized, offers the foreword necessary to introduce the creative effort hereinafter described, for these three quotations, taken together, embody the need and the process whence stemmed the production of Appendix A, "When the World Was Young":

> Fortunately for the science [psychology] there are sources of objective psychological knowledge, which become accessible at the very point where the experimental method fails us. There are certain products of the common life in which we may trace the operation of determinate psychological motives. Chief among them are language, myth, and custom.
>
> Wilhelm Wundt

> The concept of evolution is a tool or instrument of thought and understanding by means of which we can alone see present and past relationships in proper perspective. Not to use this point of view is to see things diverse and separate rather than in relationship, to see details and not to see their organization. It is to see the parts and not to see the unity....Evolution... is a human concept for the organization of human experience and the human understanding thereof. Aside from human thinking, one cannot say that evolution is or is not; the idea is a philosophical tool for the synthesis of experience and has its dynamic and forward-looking as well as its historic and retrospective implications.
>
> One must not see the process of evolution as a preconceived, prearranged plan of organic change and modification, when, as a matter of fact, it is an afterthought in the human sense. Only after

experience of the facts does thought so arrange them that they stand in such relationship [sequentiality] to one another.

Daniel Bell Leary

Those who become enamored of the practice of art without having previously applied themselves to the diligent study of the scientific part of it may be compared to mariners who put out to sea without a rudder or compass; and, therefore, cannot be certain of arriving at the wished for port.

Practice must forever depend on theory.

Leonardo da Vinci

Gratitude for inspiration and completion of the problem must go first to the memory of James Edwin Pearce, primarily a public school educator, who founded the department of anthropology at the University of Texas. He brought the science of anthropology at his own expense and single-handed from his studies in the museums of Europe in the early nineteen hundreds. He trained his anthropology "majors" with care--as philosophers first, with a cosmological outlook on applications of science; as museum technicians; as researchers into the patterns of past and existing civilization; and as teachers with special attention to the place of the "museum method" in the public school field. Like many advanced thinkers, he died before his time, and the writer welcomes with delight the avalanche of interest now descending through many avenues of public communication--magazines, radio scripts, television--into his chosen field of instruction--the interpretive museum exhibit.

The writer is deeply indebted to Doctor John T. Biggers and his staff who brought into play at Texas Southern University the basic principles of art expression long used in educational methodology by Cizek in Vienna as those principles have been expanded by Viktor Lowenfeld at Hampton Institute in Virginia and at Pennsylvania State University in later years. To have been an observer of art education at Texas Southern for three of its first five years, and to have participated, finally, in a workshop under Lowenfeld himself, has been a tremendous experience in progressive education and in methodology based on the experience curriculum.

The writer's committee of four persons, each heavily experienced in an educational field which has made immense contributions to child welfare, has served as a continuous inspiration for completion of the project in hand. Professor Guy Annadale Lackey in the field of human development, Dean J. Andrew Holley in educational organization, Doctor Ida Townsend Smith in integrated subject matter plus human integration with subject matter, and Doctor Solomon Luther Reed in the field of integrated psychologies have each lent generously of their time and counsel in preparing a creative work for presentation as a formal thesis project. Appreciation also is due for personal kindnesses extended by both heads of the graduate department under whom the project was completed, Dean Daniel Cobb McIntosh and Dean Robert MacVicar.

Doctor Richard Ewing Wright, Shell Company research chemist; Robert L. Kite, Humble Company photo-geologist; and Doctor Horace John Sawin, dean of the graduate school, head of the science department, and director of the Museum of Interpretive Science at the University of Houston have been most kind in contributing comparative data and offering criticism in respect to the writer's problem--as is also true of Doctor Esther Marion Nelson, of the education department at the University of Houston. Doctor Andrew Forrest Muir, former chairman of the department of history and government at Daniel Baker College, now engaged in historical research, has given an unstinted amount of time both to criticism of context and to the tedious problem of proofreading and finally dressing the manuscript, until it was taken over by Elizabeth J. Kerby, editor, creative writer, and friend, who can never be sufficiently appreciated for her skill in actually getting it to the gentlemen of the Multilith machine.

Many persons who have contributed to the over-all project are named in the description of its creative history; many others must go unnamed for want of space--among them some children like a nine-year-old neighbor with professional artists in his family who said: "I love Mrs. Atkinson's book--but she should have let me draw those pictures!"

Houston, Texas
May, 1955

Mary Jourdan Atkinson

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CHAPTER I

THE PROBLEM AND ITS METHOD

A. Introduction

The creative approach to a problem is esthetic and, because of the multiplicity of inspirational factors involved, does not readily lend itself to historical description. The exact point and the precise manner when and wherein these factors merge as stimuli to produce the solution of a creative problem is not exactly discernible. It is possible to analyze from any creative experience clusters of impressions and assumptions that did obviously merge, somehow and sometime, to result in the formulation and the solution of any given problem.

B. The Purpose

The purpose of the creative effort hereinafter described was to bring into being a tool which should introduce to the preschool child and the primary child the concept of sequential steps in the evolution of world civilization as that

concept is presented in the curricular field of ethnology or cultural anthropology.[1]

This purpose, in stating the selection of a given cognitive content for presentation to be the point de départ of a given creative effort, inherently establishes itself as an essentialist purpose. By the same token, it predetermines the end product of the effort to be classifiable as a "teaching product," and, insomuch as the term "presentation" presumes a consequent function of receptivity and comprehension, it predetermines this end product to be a "learning product." Thus, as a consequence of the several conditions inherent in and imposed by the stated purpose, it is logical to assume that the end product to be derived as a solution of the problem hereinafter set forth may be correctly termed "a teaching-learning tool."

C. The Problem

The problem evoked by the need hereinafter stated and by the purpose heretofore stated, together with the conditions thus imposed, was to create a teaching-learning tool that would present to children of preschool and primary age fourteen major step concepts recognized by cultural

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[1]Robert Sutherland, Julian L. Woodward, and Milton A. Maxwell, Introductory Sociology (Philadelphia: J. B. Lippincott Company, 1952), pp. 11-94; and Melville Jacobs and Bernhard J. Stern, General Anthropology (New York: Barnes and Noble, Inc., 1952), p. 123.

anthropologists[2] as contributory to the total sequence of world civilization and to create this tool in a form reproducible by the teacher, the parent, and the child.

The fourteen step concepts are:

Domestication of fire

The cave home--origin of family life

Gathering and collecting--the economic base of culture

Invention of the bow and arrow

Hunting--an economic base of culture

- Food getting
- Dressing and tailoring skins

Riparian or bamboo culture--the mother culture

- Development of weaving
- Development of pottery

Domestication of plants

Domestication of animals

Conflict between herding and gardening cultures

Accommodation to climate

Accommodation to the cycle of day and night

Accommodation to the cycle of the seasons

Origin of awe

The primal art--symbolism

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[2]Mary Jourdan Atkinson, "Chart: Abstract Elements Common to All Cultures" (Stillwater, Oklahoma: Education Department, Oklahoma Agricultural and Mechanical College, 1950), see Appendix B.

The problem may be divided conceptually into two parts: conception of a design for a teaching-learning tool, indicated as Tool C, and the execution of this design. Description of the problem then becomes a historical recapitulation of steps involved in conception and execution of this design, including a description of inspirational factors. This division is described in Chapter I. The problem also may be divided, as to its end product, or solution, into two structural design parts: an allegorical story and the pictorial representation of this story. The body of the dissertation: Chapters II, III, and IV, follows as an analysis of these parts, and their inspiration, together with an evaluation of the conceived and executed design.

D. Delimitation of the Problem

Formulation of the stated problem was contained in the conceiving of its solution. This is to say that, as in any creative problem, the impelling factor in creative conceptuality was recognition of a need--in this case the need for a given kind of tool. So also the compelling factor in shaping a tool design to fill the need was the actual nature of the raw material given to be so shaped. In this case, the given raw material was a series of fourteen step concepts from the assumed course of the historical descent of world civilization. Insomuch as these fourteen steps are part of an assumption commonly recognized by cultural

anthropologists as a basic part of their science, the elementary problem of validating the concepts, *per se*, may be excluded from the stated problem.

Webster's New International Dictionary, drawing on anthropological sources, offers the following definitions:

> Culture epoch or period. *Anthropolog.* A unit of time when human cultures were of one general type, as neolithic.
>
> Neolithic age. Designating ... a stage of culture following the paleolithic and preceding the aeneolithic /cultural sequence/ and characterized by the use of polished stone implements: as *neolithic* culture, *Neolithic* age. The Neolithic era was notable for many cultural advances including the art of grinding stone, bone, and ivory tools with sandstone, pottery making, the use of the bow and arrow, domestication of animals, the cultivation of grain and fruit trees, the invention of the wheel, and linen weaving. It marked the beginning of settled village life.
>
> Age II, 7, A particular period of time in the history or in the development of man, esp. with reference to cultural evolution .... In archeology, or prehistory, the chronology is divided into three ages, with numerous subdivision or culture epochs: (1) the Stone Age, divided into the *Eolithic*, *Paleolithic*, and *Neolithic* Periods; (2) the Bronze Age, characterized by the varied use of bronze, and generally recognized as having been preceded by a transition period called the Aeneolithic period or Age of Copper; (3) the Iron Age .... There is much overlapping of the types of material culture represented by these terms; some paleolithic and neolithic implements continued in use through the later periods, and some primitive peoples are found today living in the civilization of the Stone Age.[3]

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[3]See footnotes 1 and 24 in this chapter and 10, 11, 12, and 13 in Chapter II, Part A.

The problem is not in esthetics; neither is it involved with art education, per se. Two recent experiments have been conducted at the doctoral level in the department of art education at Pennsylvania State University: The Relationship of Reading Achievement to the Creativity of Children, by Irene Russell (1953), and The Effect of Coloring and Work Books on the Effectiveness of Children in Grades Two and Three, by Horace Heilman (1954). According to the findings in these experiments, the child's creativity with respect to self-expression through drawings diminishes with any use of stereotyped forms, as, for instance, the geometricized apple frequently used in number demonstrations at the primary level or the geometricized rabbit used in the writer's tool design.

The assumption in the use of the drawings in the writer's tool design is that they symbolize an abstract concept not readily motivated except through museum exhibits, and that the conceptual motivation to be obtained through use of the designed tool will outweigh in the child's own creative imagery any loss that may be suffered with respect to the stereotyping of such readily familiar natural phenomena as the apple and the rabbit. This assumption need not be validated inasmuch as the problem deals only with a conceptual presentation at the recognized level of primary comprehension and not with further esthetic implications, although, in Appendix E, Section 6, a practical suggestion

is offered for teachers or parents wishing to avoid such implications while using the tool design. In respect to these implications in another field than natural and social sciences, compare Section F, Chapter III.

Conception of the problem was stimulated in part by four assumptions that served as inspirational factors, but none of which was involved in the solution of the problem. They are as follows:

1. That the conceptual level of maturity is coincident with the intelligence level of the individual, and that this level can be enhanced or impoverished through the introduction of master concepts during the preliterate level of educational impressionism.[4]
2. That a familiarity with the over-all concept of sequential acculturation, and with some of the major steps in acculturation, at the primary level, lays a basis for integration of the natural sciences with the social sciences by the reader above the third grade.[5]
3. That insomuch as the objective or given material, for which the teaching-learning tool should serve

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[4]George Rex Green, A Survey of Nature (Ithaca: Slingerland and Comstock, 1930), p. 1; and Otto Klineberg, Negro Intelligence and Selective Migration (New York: Columbia University Press, 1935).

[5]Alice Miel, Changing the Curriculum a Social Process (New York: Appleton-Century-Crofts, Inc., 1946), p. 102; and Ruth C. Strickland, The Language Arts in the Elementary School (Boston: D. C. Heath and Company, 1951), p. 38.

symbolically, is of itself abstractly derived, and is usually to be found symbolized by museum exhibits presenting an assumed reconstruction of prehistoric cultures, such a teaching-learning tool would serve as a convenient substitute for such exhibits.[6]

4. That such a teaching-learning tool would serve as a collateral device for comprehension of the abstract conceptuality such museum exhibits are designed to present.[7]

The first two assumptions (1 and 2) relate to values assumed to be inherent in the comprehension of the conceptual content presented, whereas the problem is concerned only with creating a teaching-learning tool to present these concepts. The second two assumptions (3 and 4) relate to values assumed to be inherent in the existence of such a teaching-learning tool, should the problem admit of solution. Hence the problem is limited, in final analysis, to the selection and the arrangement of symbolic factors suitable to (1) presentation of the given fourteen step concepts as a unified series and to (2) presentation of this context at preschool and primary age levels.

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[6] Cf. William Burgs, "Experiences in Planning a Science Exhibition for Traveling," Museum News, vol. 26, November 15, 1946.

[7] Ibid.

E. Definition of Terms

Nursery school age level--two to four years.

Preschool child--any child below the legal age of school entry.

Primary grades--pre-primer, primer, first, second, and third grades.[8]

Cultural anthropology--ethnology, as distinguished from archaeology and physical anthropology.[9]

Ethnology--the abstract science of determining the generalized historical descent of cultural concepts with respect to prehistoric time, and of comparative physical characteristics and culture traits with respect to historic peoples.[10]

Acculturation--the interpenetration of cultural traits and the creation of an essentially new pattern.[11]

Natural history museum--an institution to house, classify, and display, and to encourage the study of natural phenomena in typological form or in sequential arrangement according to form relationships

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[8] Clarence R. Stone, Progress in Primary Reading (St. Louis: Webster Publishing Company, 1950), pp. 107-130.

[9] Webster's New International Dictionary; and Jacobs and Stern, op. cit., p. 305.

[10] Webster's New International Dictionary; and Jacobs and Stern, op. cit., p. 308.

[11] Sutherland, Woodward, and Maxwell, op. cit., p. 494.

(phyla), according to habitat groups, or to contrast groups.[12]

Natural sciences--in historic order, astronomy, geology, botany, zoology, ethnology.[13]

Historical descent--the classification of natural science phenomena in orderly sequence (phyla).[14]

Allegory or allegorical story--a prolonged metaphor or figure of speech in which a series of actions are typical of other actions and the characters are typological characters.[15]

Typological forms--specimen materials for the specific sciences.[16]

Isotype--a concept symbol developed in a system of communication devised by the Isotype Institute in Vienna.[17]

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[12]Charles Russell, Children in the Museums of the Americas (New York: American Museum of Natural History, ca. 1952).

[13]This is the chronology used in setting up the exhibits in the Museum of Interpretive Science at the University of Houston.

[14]See above, fn. 13.

[15]Webster's New International Dictionary.

[16]Ibid.

[17]Launcelot Hogben, From Cave Painting to Comic Strip (New York: The Chanticleer Press, 1949), pp. 224, 225, 273; and Otto Neurath, Modern Man in the Making (New York: Alfred A. Knopf and Company, 1939).

Pictograph--prehistoric Mexican picture sequences to impart cultural concepts.[18]

Zeitgeist--symbolic concept--the culture spirit.[19]

F. Need for Formulation and Solution of the Problem

In 1952 the writer was staff ethnologist at the Houston Museum of Natural History. This museum operates the Houston Museum School of Natural History which functions as an integral part of the public school system of the city of Houston. It functions, also, in cooperation with private schools and other institutions such as the Boy and Girl Scouts of America and the Houston Outdoor Nature Club. Children are admitted to the youngest study groups at five years of age. In offering this formal educational service, the Houston museum is one of more than two hundred in the United States, Canada, Mexico, and the South American countries now maintaining special exhibits, departments, and/or classes for children of primary age. These exhibits, departments, and classes include the five natural history fields: astronomy, geology, botany, zoology, and ethnology.[20]

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[18]Jacobs and Stern, op. cit., p. 320; and Sylvanus G. Morley, The Ancient Maya (Palo Alto, California: Stanford University Press, 1946), pp. 259, 453.

[19]Webster's New International Dictionary.

[20]Russell, op. cit.; and Selected References, XIII. (Washington: Federal Security Agency, Office of Education, 1950).

As staff ethnologist, the writer was called on to edit teacher material for public and private school teachers needing to prepare themselves in order to ready their classes for participation in the Museum School program. William Travis Smith, the Museum School instructor, in discussing this teacher material, remarked that excellent teaching guides and audio-visual aids are available for four of the natural history fields: astronomy, geology, botany, and zoology. The writer's search for teacher material in bookstores, libraries, and film catalogues revealed very little in the field of ethnology. It revealed no abstract scientific guide or audio-visual aid of any sort for presentation of the over-all ethnological concept of sequential steps in civilization at the primary level.[21]

A search of the files of the Museum News, published bimonthly by the American Museum Association, at the Smithsonian Institution, in Washington, D.C., revealed a description of one such device: MAN AND HIS TOOLS--STONE AGE THROUGH BRONZE TO IRON, a traveling exhibit prepared and sent out by the American Museum of Natural History.[22] A series of cased displays, this exhibit was arranged to present "four logical stages" in sequential civilization: the Stone Age, the Bronze Age, the Iron Age, and the Modern Age. It weighed several hundred pounds.

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[21]Cf. Appendix B.

[22]Burgs, op. cit.

According to Charles A. Russell, chairman of the Department of Education of the American Museum of Natural History:

> Interpretive work with the schools is rather rare, partly because there are great pressures when children visit the museums to have materials treated in direct fashion as a part of the specific school curriculum, partly because few museums are so broad in scope as to provide the extraordinary breadth of material needed for interpretive teaching, and partly because direct teaching is easier and teachers are accustomed to it.[23]

It was at this point--the reading of the Russell monograph--that the writer recognized a positive need for creation of a teaching-learning tool which should (1) present the over-all concept of sequentiality in civilization at the primary level and (2) make this presentation in a form less unwieldly and more readily available than a museum exhibit.

G. The Method

1. Creative Conceptuality: The Design

a. Survey of Museum Exhibits and of Related Literature

The series of assumptions that were to merge in the design and the creation of the teaching-learning tool, hereinafter presented as the solution of the problem formulated through the writer's experience with teaching and learning needs at the Houston Museum School of Natural History,

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[23]Russell, op. cit., p. 15.

resulted from (1) laboratory work and studies in museums of the United States and Mexico with respect to displays presenting objective data (artifacts) and objective representations of abstract conceptuality representing steps in the sequentiality of world civilization[24] and (2) a survey of several fields of literature related to (a) ethnological concepts and (b) essentialist uses of symbolism.

An essentialist use of symbolism may be defined in various terms depending upon the school of educators formulating the definition. In Interaction for the Democratic Process, L. Thomas Hopkins traces emphasis on subject matter in the educational process back to the Greek definition of logic as "the essence of man" and the prevalence of formal educational curriculums in modern schools to the Greek effort at pattern-fixing, with respect to child minds, as an essential preservative for Greek civilization. Thus, by derivation, an essentialist use of symbolism might be defined as a classic attempt on the part of an educator to

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[24] Handbook of the Field Museum of Natural History (Chicago), p. 16: In this department (anthropology) the subject of human life is dealt with--all races of mankind in all ages, prehistoric, historic, and modern. Here are revealed the known facts about our primitive ancestors in earliest times when man was just emerging from the level of the animals; about ancient civilizations whose influence still pervades to a greater or lesser extent the foundations of our political, social, and religious organization today; and about contemporary peoples whose development and culture are radically different from our own.

See also "Marvels in Our Museums," Collier's Magazine, February 4, 1955, 60-65.

impart a design to the memory images of the educatee; or it might be defined as a propagandic or even as a disciplinary effort to provide a stimulus which would evoke a preconceived habitual response to that stimulus form or symbol, in keeping with Alice Miel's "Formula for Formalism" in Changing the Curriculum.[25]

In the course of general anthropological research, the writer visited, for study purposes, besides a number of smaller museums and private collections in the southwest, ethnological collections in the American Museum of Natural History and the Metropolitan Museum of Fine Arts in New York City, the Field Museum (now the Chicago Museum of Natural History) in Chicago, the Museo Nacional in Mexico City, the Houston Museum of Fine Arts in Houston, Texas, and the Navajo Museum of Ceremonial Art in Santa Fe, New Mexico.

The writer's general study of museum exhibits must be classified with respect to the designing of Tool C, as an inspirational factor, insomuch as the purpose in designing this tool was (1) to provide a concept-conveyor to serve the primary child in lieu of museum exhibits (as formal symbols of the scientific discipline of cultural anthropology) and (2) to serve as corollary reading for such museum exhibits as were available.

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[25] L. Thomas Hopkins, Interaction: the Democratic Process (Boston: D. C. Heath and Company, 1941), p. 46; Alice Miel, Changing the Curriculum a Social Process (New York: Appleton-Century-Crofts, Inc., 1946), p. 8; and Plato's Theory of Knowledge.

Description of the writer's survey of museum exhibits must include a perusal of the files of the Museum News, published since 1926 by the American Association of Museums. The space in this bi-monthly news sheet is devoted in large part to the methodology of preparing museum exhibits through the selection and arrangement of symbolic materials, as, for instance, "Color and Design in Exhibits," by Hugo G. Redeck, director of the University of Colorado Museum, at Boulder, Colorado.[26] A perusal of museum catalogues and occasional leaflets also must be included, for many museums prepare special and/or temporary exhibits, using unique methods of symbolic representation for given subjects and purposes. Lastly, the writer's over-all museum experience included a study of research at the doctoral level in respect to the "museum method" and the purpose of museum educators in developing this method for teaching the natural sciences.

Closely allied to the study of museum exhibits as concept-conveyors was the writer's study of literature pertaining to the function of drawing and painting in the production of existing symbolic systems other than formal texts. This research included a study of the "Isotype method" of communication developed in Vienna, of the prehistoric pictograph system of recording cultural concepts, of the modern comic book, and of two teaching learning tools previously

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[26] Museum News, vol. 29, April 15, 1951. Cf. Bibliography, Appendix D.

designed and used by the writer. This research, which is historically relevant to an essentialist use of symbolism in the preservation and dissemination of concepts since time immemorial, also is to be classified as an inspirational factor in the creative conceptuality which resulted in the design of Tool C as the allegorical story pictorialized in the form here included as Appendix A.

In particular is this true of Grace Fisher Ramsey's history of the introduction and development of the audio-visual aid as an adjunct to American education. She describes this development as an objective result of the direct use of museum specimens in preparing teachers to present the fields of natural science in the New York City schools--a formal service afforded to teachers by the American Museum of Natural History working in conjunction with Teachers College at Columbia University.[27] Consideration of the origin, development, and use of the audio-visual aid in American education orients the problem in hand, although the peculiar purpose governing its formulation and solution injected a dynamic quality better characterized in description of the end product by the word "tool" than by the word "aid."

Wundt, speaking more in the character of a speculative philosopher than as an experimental scientist, perhaps,

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[27]Grace Fisher Ramsey, Educational Work in the Museums of the United States (New York: H. W. Wilson Company, 1938), pp. 50, 60, 82.

described perceiving as a "passive" form of mentation and apprehending (hence, conceiving) as an "active" form of mentation.[28] By this reckoning, the fine point may be labored that an individual may be "aided" either to perceive (to become aware of) or to conceive (to identify or classify and to relate one perception to another perception); whereas, to "apprehend" is an internalized or personal mental procedure which, when it is the result of untutored association with a given "aid," insures the correctness of terming that "aid" a "teaching-learning tool."

The extent of the writer's survey of literature pertaining to conceptuality as the cause and/or result of symbolism, and of symbolism as the result and/or cause of conceptuality--that is, pertaining to symbolism as the vehicle of conceptuality--is indicated by the appended bibliography. Few books, doctoral dissertations, or published articles deal directly with this subject. Of the doctoral dissertations, some must be excluded because their content applies almost entirely to the field of the fine arts.

Launcelot Hogben, in From Cave Painting to Comic Strip, derives the phenomena of the language arts as an acculturated set of tools to be defined as "symbolic magic." He also

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[28]Richard Muller-Freienfels, Evolution of Modern Psychology (New Haven: Yale University Press, 1935), p. 77. See also fn. 31 in Chapter III.

cites Comenius' Orbis Sensualium Pictus as the initiation of the visual aid in the field of European education.[29] Ladislas Segy, in Buma--African Sculpture Speaks, defines primal art as ideoplastic art, or expressionistic symbolism, and compares it with child art on the basis of this purposive characteristic.[30]

Otto Rank, in Art and the Artist, has as his major thesis the analysis of art (drawing and painting) and artists into ideoplastic and physioplastic symbolism and symbolists; and, in so doing, divides each into two groups, expressionistic and impressionistic. He also defines speech and gesture, when not used as communicatory agents, to be empathetic activities stimulated by visual or auditory perception, and he defines the function of both to be, in their imitative aspect, adjuncts of comprehension. He derives "comprehension" semantically as "to grasp." In further pursuance of his subject, he assumes that "to comprehend" or "to grasp" is a process of apprehending the visual or auditory percept through gesture. He preludes Hogben's assumption that drawing is an ideoplastic method of stabilizing memory images, and he assumes that writing is an abstract

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[29]Hogben, op. cit., pp. 17-19, 198-209, 273. See also Appendix D.

[30]Ledislas Segy, Buma--African Sculpture Speaks (New York: A. A. Wyn and Company, 1952), p. 106.

form of drawing.[31] It is interesting to note, in respect to these assumptions of Rank and Hogben, Adamson's recent observation that "in the larger realm of cerebral dominance we see a correlation in centers of sight, speech, and handedness."[32]

Rank's quoted assumptions with respect to comprehension, to drawing, and to writing, seem to lay a philosophic base for Grace M. Fernald's Remedial Techniques in Basic School Subjects, inasmuch as the described techniques have to do, primarily, with a grasp of the language arts through a process of becoming familiar with conventional symbols by making enlarged tracings--a process that amounts to "drawing" the symbolic characters.[33]

Rank's assumptions have to do, per se, with the internalizing process of apprehension as accomplished through drawing or kinesthetically symbolizing perceptual stimuli,[34] and Fernald turns this process to an essentialist purpose: the presumed apprehending of, and hence conformity with, the

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[31]Otto Rank, Art and the Artist (New York: Alfred A. Knopf and Company, 1932), pp. 253. See also Hogben, op. cit., pp. 71-100; and cf. Frank Hamilton Cushing, "Manual Concepts: A Study of Hand Usage on Culture Growth," American Anthropologist, vol. 5, pp. 289-318.

[32]Claude I. Adamson, "Handedness: Result of Hereditary and Environmental Factors in Cerebral Dominance," Texas Journal of Science, June, 1954.

[33]Grace M. Fernald, Remedial Techniques in Basic School Subjects (New York: McGraw-Hill Book Company, 1945).

[34]Rank, loc. cit.

prevailing conventions of abstract symbolic communication. Thus Fernald's techniques may be classified as "teaching-learning tools."

Alschuler and Hattwick, at the University of Chicago, offer an analysis of "the kind of drawings children make themselves" in support of the conclusion that drawing is "a universal child language."[35] In so doing, they establish anew a theory brought to prominence by Professor Franz Cizek who analyzed child art in his own art school for children in Vienna from 1897 to 1938. "First came Cizek," says Viola, "then followed the psychologists."[36]

Professor Cizek's ranking disciple in the United States, Viktor Lowenfeld, now head of art education at Pennsylvania State University, has devoted parts of two books to a continuation of Cizek's theories and to a parallel of Rank's theories: The Nature of Creative Activity, published in England in 1939, and Creative and Mental Growth, published in New York in 1947, and republished by Pennsylvania State University in 1952. John T. Biggers, Lowenfeld's

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[35]Rose H. Alschuler and La Berta Weiss Hattrick, Painting and Personality (Chicago: University of Chicago Press, 1947), p. 4.

[36]Wilhelm Viola, The Child and his Art (Peoria, Illinois: Charles A. Bennett Company, Inc., 1945), pp. 12-13; see also Graydon La Verne Freeman and Ruth S. Freeman, The Child and His Picture Book (Chicago: Northwestern University Press, 1933), p. 48; and Thomas Munro, Art and Education (Philadelphia: The Barnes Foundation Press, 1929), pp. 311-314.

outstanding disciple in the American southwest, and head of art education at Texas Southern University in Houston, offers in his doctoral dissertation, "The Negro Woman in American Life and Education," a self-analysis of a creative problem and its solution. The solution of his problem was a mural embodying the subject of his thesis and embodying, at the same time, the maturation of Wundt's and Rank's theories with respect to apprehension through drawing. Biggers adds, on his own account, a discussion of essentialist possibilities inherent in (1) the presentation of historical concepts through mural painting and (2) the presumed apprehension of these concepts through association with the mural.[37]

In comparison with Biggers' dissertation, it is well to cite The Brontës' Web of Childhood, by Fannie E. Ratchford. This book is the culmination of twenty years of research into the Bronte juvenilia and is the concluding work in a series of publications devoted to the thesis that the Bronte children, through production of the juvenilia, matured the creative conceptuality that was to result in the future production of Emily's poems and Charlotte's novels.[38]

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[37]John T. Biggers, "The Negro Woman in American Life and Education" (unpublished dissertation in Pennsylvania State University, 1954). The mural which is a subject of this thesis panels the west wall of the reception room in the Blue Triangle Branch of the Young Women's Christian Association at 1320 Rusk Avenue, Houston, Texas.

[38]Fannie E. Ratchford, The Brontës' Web of Childhood (New York: Columbia University Press, 1941).

More purely concerned with symbolism, as a vehicle, than any preceding reference is Otto Neurath's book, Man in the Making, which deals with the work of the Isotype Institute in Vienna in creation of the Isotype as a proposed medium for a universal system of non-language communication. A comparison of symbolic systems reveals that the Isotypes make up a system more inherently compelling, and therefore more inherently of an essentialist design, than either Braille, which is a kinesthetic system of communication peculiarly for the blind, or the set of manual symbols which is a kinesthetic-visual system of communication for the deaf. This modern manual language seemingly was developed to meet the special need of the deaf from a universal non-language system of communication formed of gestures and pantomimed representations common to all tribes and nations among the American Indians at the time of the Spanish conquest.[39]

Midway between the survey of objective symbolization in the museum field and the survey of literature in fields related to symbolism, it is necessary to indicate an examination of prehistoric rock carvings, cave paintings, and Mexican codices. Several codices and some excellent facsimiles, including a facsimile of the Nuttal Codex, are in the

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[39]See Atkinson, The Texas Indians (San Antonio: The Naylor Company, 1953), p. 189; Cushing, op. cit.; and Garick Mallery, "Sign Language of the North American Indians," First Annual Report (Washington: Smithsonian Institution. Bureau of Ethnology, 1879-80), pp. 269-550.

Garcia Library which was purchased by the University of Texas from the widow of the curator of the Museo Nacional, in Mexico City.

Three elephant folios of Penafiel's Monumentos del Arte Mexicano Antiguo, in the public library at Eagle Pass, Texas, afford other facsimiles of the Mexican and the Mayan pictographs that were, like the Viennese Isotypes, essentialist in purpose, insomuch as they were ideographic symbols through which the culture concepts of the Mexican and the Mayan people were culturally conveyed, in the codices, from person to person and from generation to generation. In comparison, as the Isotype can be accompanied by any familiar text type, so the pictograph could be accompanied by a pantomimic commentary.[40]

Following a comparison of the Isotype and the pictograph, a survey of educational research with respect to the comic book falls into place as a further consideration of tool symbolism. Ruth Strickland offers a digest of this research under the heading, "The Ever Present Comics," in The Language Arts in the Elementary School. The conclusion of her digest is that a highly potential teaching-learning factor in the form of cartoon-serially-illustrated-text has been so far overlooked in the educational field.[41]

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[40]Antonio Penafiel, Monumentos del Arte Mexicano Antiguo (Berlin: A. Asher and Company, 1890), portfolios I, II, III.

[41]Strickland, op. cit., pp. 304-307.

At this point, it is possible to divide the symbolic systems that have come into consideration through a survey of symbolism in the museum field, and through the several fields of literature related to formally applied symbolism, into two groups: (1) tool processes and (2) tools proper or actual concept-loaded conveyors. This division will be made without consideration of (1) conventional alphabets and number systems, indicated as "text," except Braille, and (2) educational toys, with the exception of the abacus, brought in, like Braille, by mention only, since it stands midway between (1) collections of toys surveyed in modern toy departments and in museum collections and (2) those hitherto described processes having to do with apprehension through visual perception, as allied with kinesthetic perception, through drawing or through tracing. With the exception of this mention, the survey of educational toys, historic and prehistoric, has been excluded from this dissertation because it served only indirectly as an inspirational factor in creative conceptuality.

The abacus, as one of the oldest known formal educational devices, and Braille, as perhaps the newest--with the possible exception of the Isotype--are mentioned only because both are objective teaching-learning tools that were evolved, the one entirely and the other primarily, for the "haptic child," rather than for the audio-visual child.

In this connection it may be said that Fernald and Lowenfeld have offered the conclusion that twenty-five per cent of the children at any given age level in the primary grades are to be classified as "haptic"--that is, as more receptive to a kinesthetic presentation of concepts than to an auditory or a visual presentation of concepts.[42] Fernald and Lowenfeld are joined in this view by Ramsey in her presentation of the "museum method" as having its base in direct objectivity--the "actual handling of museum specimens" by children's classes in attendance at the American Museum of Natural History in New York City.[43]

The tool processes revealed by a survey of the museum field, and of literature related to symbolic systems, are hereinafter listed as (1) and the loaded tools or concept conveyors are listed as (2).

(1) Fernald's remedial techniques: tracing techniques (kinesthetic-visual)
Braille (kinesthetic)
Manual languages: gesture and pantomime (kinesthetic-visual)

(2) Museum exhibits (visual if untouchable) (visual-kinesthetic if to be handled)

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[42]Fernald, op. cit.; and Viktor Lowenfeld, Creative and Mental Growth (New York: The Macmillan Company, 1947), pp. 16, 31, 61-63, 230, 287.

[43]Ramsey, op. cit., p. 50.

Murals (visual)

Isotypes (visual, unless to be traced, because already colored)

Pictographs (visual, unless to be traced and colored) (visual-kinesthetic if traced and colored)

Cartoon-serially-illustrated-text comic books (visual because already colored)

(1,2) The abacus (kinesthetic-visual)

Text (visual--except Braille)

It is finally necessary to include, with the survey of other teaching-learning tools developed through an essentialist use of symbolism as the vehicle of conceptuality, two specific teaching-learning tools created in rough design by the writer, tools which in their construction held elements possibly transferable to the design of the tool under consideration in the problem. These tools will be hereinafter designated as Tool A and Tool B, and the prospective tool as Tool C.

Tool A. Set of ten picture cards designed to present, at the nursery school level, ten steps in the sequentiality of world civilization.

Tool B. Sixteen-page booklet roughed out in longhand and run off on a Ditto machine for the use of Texas-Mexican children in their mastery of the third grade English vocabulary.

In order to include Tools A and B as "raw materials" which were made use of in the solution of the problem in

hand, it is necessary to develop each as a contributing material factor, although the creation of neither was a part of the problem in hand. It may be said, as an introduction to the development of these tools as contributing material factors, that the creative conceptuality incident to their design and production actually formed an inspirational matrix for the design of Tool C.

Tool A was made up as a set of 8 1/2 x 11 inch biology cards, in accord, as to symbolism, with the art form distinguished by Cizek as "the kind of drawings children make themselves,"[44] and in part accord with the format of Little Black Sambo, recommended by Freeman and Freeman in A Child and His Picture Book as a supreme favorite for nursery school reading.[45] On the back of each card some simple sentences (text) were printed which explained the picture opposite as the cards were turned on notebook rings holding the cards in order. These sentences interconnected the pictured concepts with a thread of story emphasizing the evolution of the concepts. Pictures and story were given a name, "When the World Was Young."

Tool A and Tool B both were designed on the assumption that reception and comprehension of a concept will be enhanced by the number of factors of familiarity present

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[44]Viola, op. cit., p. 196 ff.

[45]Freeman and Freeman, op. cit., p. 22.

that are common to the concept to be presented, to the medium or method of its conveyance for presentation, and to the apperceptive mass to which it is to be presented.[46]

Tool B was made up to be used primarily as an informal supplementary reader, and, secondarily, as a color book. It was designed to aid in effecting a child's change of languages as a part of his adaptation to a total change of cultures. It was made for the use of nearly a hundred Texas-Mexican children between the ages of nine and seventeen years who were either (1) illiterate, (2) literate in Spanish to the extent of being able to write a simple sentence, or (3) literate in English to the extent of being able to glean meanings from the ever-present and ever-popular "funny book" or "comic book."

The unique need of these children was for a text interesting alike to the nine-year-old and to the seventeen-year-old, but a text circumscribed by the formal third grade vocabulary. Confronted with this need, the writer recalled, from a museum apprenticeship, including docentry, in the University of Texas Anthropological Collections, that the interest reaction of a conceptually unprepared child and an equally conceptually unprepared adult were similar when

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[46]See quotation of Wundt in Edna Heidbreder, The Seven Psychologies (New York: The Century Press, 1933), p. 14; Muller-Freienfels, op. cit., p. 77; James Rowland Angell, Psychology (New York: Henry Holt and Company, 1937); and Freeman and Freeman, op. cit., p. 60.

either was confronted with objective data from past and/or from different stages of world civilization.

In the light of this recollection, the writer expanded the text of Tool A into a language arts vehicle that would convey the third grade vocabulary in the form of an allegory. Emphasis of the tool design was not on conceptual content as such. It was on vocabulary and on sentence structure, and the text was particularly composed to afford a ready linguistic "flow" of textual phraseology. The conceptual construction of this text in the form of an allegory, and as a prose and tone poem, derived its own inspiration particularly from John Livingston Lowes' book, The Road to Xanadu, which the writer was fortunate enough to hear Lowes deliver in a series of lectures, prior to publication in 1927.[47]

No color was used in Tool B, and no full-page drawings. On the assumption that the cartoon art form would serve as an association factor common to the improvised supplementary reader, and to the comic book, the full-page drawings in Tool A were reduced, not to a serially-illustrative comic book format, but to individual cartoons, and were sprinkled through the text. Longhand was used as a second associative factor, inasmuch as the language problem children seemed to be more generally familiar with handwriting than with the printed page. It was assumed lastly that the kinesthetic

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[47]John Livingston Lowes, The Road to Xanadu (Boston: Houghton-Mifflin Company, 1927).

use of the improvised supplementary reader as an informal "color book" would implement apprehension of the text which embodied the vocabulary, and hence would increase the facility with which the change in speech habits from the use of Spanish to the use of English could be effected.

The entire survey of the museum field and of the fields of literature related to an essentialist use of ideological symbolism resulted in two sets of assumptions, hereinafter designated as (1) and (2), and in the mergence of these assumptions, designated as (3), to provide a design for the production of Tool C.

b. The Design

(1) The elements which the writer assumed to be transferable from Tool A and Tool B to Tool C, which should be formally designed to present, at the primary level, fourteen step concepts in world civilization, were three in number:

(a) A set of symbols from Tool A which had been designed in accord with "the kind of drawings children make themselves," and to represent human, animal, and property objectivity.

(b) The allegorical story from Tool B which could be expanded to include any specific concept or any number of concepts in the sequentiality of world civilization.

(c) The name, "When the World Was Young."

(2) The assumptions of transferability (1) were derived from two sets of comparisons hereinafter designated as Comparison A and Comparison B.

(a) Comparison A:

i. children's drawings

ii. cartoons

iii. pictographs

(b) Comparison B:

i. dual concept-conveyor--blocked-text-and-picture format (Little Black Sambo)[48]

ii. dual concept conveyor--cartoon-and-text (comic books)

iii. single or dual concept surveyor--pictograph-with-or-without-pantomime (Mexican and Mayan codices)

iv. single or dual concept-conveyor (Isotype-with-or-without-text)[49]

Comparison A revealed an obvious similarity of art forms, insomuch as (i), (ii), and (iii) all expressed an ideological meaning through a closed line drawing with no perspective. Awareness of this similarity led to the assumption that the set of symbols from the pictures in

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[48]Helen Bannerman, Little Black Sambo (Philadelphia: J. B. Lippincott Company, ca. 1952).

[49]Neurath, op. cit.

Tool A could be made to simulate pictographs, and to the further assumption that, through a sequential arrangement similar to cartoons in a comic book, a chain association of familiarity factors would be afforded between pictograph, comic book, and child art, as well as between the serially arranged pictographs and the text.

Comparison B led to the conclusion that the Isotype was more finished in appearance than a child's drawing, and so lacked an important familiarizing factor, and to three assumptions:

1. To be enabled to color a pictograph not only would afford an experiential association with the concept depicted, but also would be to approximate an Isotype.
2. Use of a pictograph to illustrate a story text would afford the dual advantage of comic book and Isotype factors in conceptual comprehension.
3. Blocking of the story text could be so patterned that a variety of shape would in itself serve as an associative factor between text meaning and meaning of the accompanying pictograph, for in this teaching-learning tool emphasis would be on receptivity of the concept <u>per se</u>.

(3) Mergence of (1) and (2) resulted in establishing seven conventions and principles to be followed in the design of a teaching-learning tool (Tool C) hereinafter to be presented under the name, "When the World Was Young," as a solution of the problem in hand:

1. The tool would be shaped through employment of two forms of symbolism:
    a. The allegorical story,
    b. The pictograph.
2. Both forms of symbolism must coincide with the given serial arrangement of fourteen step concepts given as the "objective base" of conceptuality in the initiation of the problem.
3. Use should be made of associative factors commonly possible to the two forms of symbolism, the given content and the primary level.
4. The set of figure symbols from Tool A would be transferred to Tool C.
5. The allegory would be transferred from Tool B to Tool C, expanded, and analyzed, in accord with (6) and (7).
6. The text would be blocked in patterns spatially arranged as to shape and size in accord with the shape, size, and place allotted to the pictographs.

7. The text would finally be analyzed in accord with Kready's Study of Fairy Tales,[50] Strickland's Language Arts in the Elementary School,[51] and Stone's Progress in Primary Reading;[52] and, in the making, the entire format of the projected design would be analyzed in accord with Freeman and Freeman, The Child and His Picture Book,[53] in comparison with Little Black Sambo,[54] which both Freeman and Freeman, in 1933, and May Lamberton Becker,[55] today, advocate as a perennially popular "children's classic"; and in further comparison with the modern comic strip.

2. Creative Productivity: Execution of Design

The problem of creating the design and executing the design to produce Tool C entailed a period of two years which involved consultation with and criticism from artists,

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[50]Laura F. Kready, A Study of Fairy Tales (New York: Houghton-Mifflin Company, 1916).

[51]Strickland, op. cit.

[52]Stone, op. cit.

[53]Freeman and Freeman, op. cit.

[54]Bannerman, op. cit.

[55]May Lamberton Becker, First Adventures in Reading, quoted as preface to Little Black Sambo, loc. cit.

children, parents, and teachers and advice from technicians in the use of reproductive machinery. To correlate text and drawings in respect to symbolic meaning and to place and space on the page in the execution of the design formulated through the mergence of (1) and (2) required the making of three "mock-ups" or "dummies" through the use of tracings, and several cuttings of fifty-two stencils, before the final design was ready to be "put to bed" on a mimeograph machine. Mimeographing was in itself a careful task, inasmuch as each page had to be set for double use, back and front, to make a twenty-six sheet book of fifty-two pages, hereinafter presented as Appendix A--Tool C--"When the World Was Young." Further details of this process are an integral part of Chapters II and III.

H. Summary

In this chapter the problem of creating a teaching-learning tool to present fourteen steps in world civilization, to make the presentation at the primary level of comprehension, and in a form reproducible by the teacher, the parent, and the child, is set up for historical description of the creative process.

Creation of the design and execution of the design to produce a teaching-learning tool designated as Tool C are here described under Method--(1) Creative Conceptuality and (2) Creative Productivity. Discussions of the allegorical

presentation of the given conceptual content, of the text format, text structure, and the vocabulary are hereinafter presented in Chapter II. Justification of the use of the pictograph art form to illustrate and supplement the allegorical text is presented in Chapter III.

The actual teaching-learning tool, Tool C, is presented as Appendix A, followed by a series of appendices to be used as teacher materials in its formal application in the school or in the home. The form of the tool as here presented is such that it can be reproduced by tracing, either for teaching purposes or by the child himself for his own edification.

CHAPTER II

THE ALLEGORICAL STORY

Part A: The Given Concepts

1. Introduction

In his preface to The Little Flowers of Saint Francis, Guido Biagi says:

> The use of traditional forms and practices was not a practice to be condemned by writers of the Middle Ages; it was on the contrary an absolute necessity for imposing with the stamp of truth whatever was to be represented to the mind of the reader.[1]

The little child, says Kready, follows the sequence of a story and gains a sense of order.[2] Since the concept of order, or sequence, was the first requisite to be considered in the presentation of the given content of the problem under consideration, Biagi's and Kready's statements serve, in part, to justify use of the allegory as the textual frame within which to present a serial arrangement of the given steps in accumulative world civilization.

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[1]Guido Biagi, The Little Flowers of Saint Francis (New York: Duffield and Company, 1908), p. ix.

[2]Laura F. Kready, A Study of Fairy Tales (New York: Houghton-Mifflin and Company, Inc., 1916), p. 10.

"An eight-year-old," says Strickland, "is beginning to be interested in primitive peoples, and in the past."[3] Thus she justifies the logic of making this presentation, as to its context, at the primary level. The story itself, "When the World Was Young," follows, as a convenient reference for further allusion:

2. The Story Itself: "When the World Was Young"

One day when the world was young a man brought fire down from a volcano. He had a wife and a dog and a little baby boy. They lived in a cave. Fire made the cave warm and bright and cozy. Below the cave was a river.

An apple tree grew by the river. In spring it had pink blossoms on it. In summer the tree had green apples on it. The green apples were not good to eat. In autumn the apples turned red. Then they were good to eat. The man and his wife and the little baby boy gathered the apples and had a feast.

Sometimes the man waded into the river and caught a fish with his hands. Then the woman cooked the fish for supper.

Sometimes the man and the dog caught a rabbit. Then the woman cooked the rabbit for supper.

At night the man liked to sit in the cave door and look up at the new moon. He thought the new moon looked like a hungry woman. He thought maybe the woman was hunting rabbits to eat. When the moon was round and full he thought the woman had caught and eaten all the rabbits she could hold.

One day the man made a bow and arrow. He said the bow looked like the thin new moon. He could

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[3]Ruth C. Strickland, The Language Arts in the Elementary Schools (Boston: D. C. Heath and Company, 1951), p. 37.

hunt bears with the bow and arrow. When he killed a bear the woman helped him carry it home. Then she cooked bear meat for supper.

The little boy grew up to be a big boy and a new little baby brother was born in the cave. The woman laid the new baby on a bearskin rug.

By and by she made bearskin clothes for everybody in the family. She hung bearskin curtains at the cave door. That made the cave even warmer.

Tall grass grew by the river where the fish were. Sometimes the wind wove the grass stems together. While the man was fishing, the woman watched the wind weave the grass stems together. She called the grass stems "reeds." One day she wove a mat. By and by she wove a basket. It looked like the nests the birds wove in the reeds.

The baby crawled into a basket and went to sleep. The woman hung the basket on her back and carried the baby home. After she found out how easy it was to carry the baby in a basket, she made another basket for the man to carry fish in.

The second baby grew up to be a big boy and a new little baby sister was born in the cave. That made two boys and a girl and the man and the woman and the dog in the cave family.

By and by the man and the dog had begun to hunt wild goats. One day they caught a little goat with a broken leg. They brought it home and its leg got well in the cave. When it was well each boy wanted it for a pet. The man and the dog caught another little goat. Then each boy had a pet of his own.

The first goat grew up to be a papa goat. The second goat grew up to be a mama goat. By and by a new little baby goat made three goats. That was the beginning of a herd.

The third baby grew up to be a big girl and a new little baby sister was born in the cave. A new little goat was born, too. That made two boys and two girls and four goats.

By that time the woman was getting tired of walking down to the river every time the children or the goats wanted a drink. After they had their

drinks the big little girl and the little baby sister played in the mud by the river. They liked to play where the goats' feet had made holes in the mud. They called these holes "tracks." The sun baked the holes as hard and dry as mud pies.

One day after a rain the woman found the mud pie tracks full of water. When she saw the dry tracks holding water she covered some of her baskets with mud and set them to dry in the sun. She called her new mud pie baskets "pots." They held water, too.

She carried water up to the cave in the pots and then the children and the goats could have drinks without going all the way down to the river.

One day the woman was getting a drink out of her smallest pot when the children accidentally knocked her largest pot into the fire. The fire baked the big pot harder and drier than the sun had baked it.

After the big pot cooled the woman put some water in it and set it back on the fire to see what would happen. Then the big boy threw in a piece of bear meat. The meat cooking on the fire smelled so good they ate it for supper!

The fourth baby grew up to be a big girl. By that time the woman had found a new kind of grass growing by the river. One day she watched the birds eat the grass seed. She thought maybe her children would like to eat grass seed, too. She cooked the grass seed in the big pot with the bear meat. The children liked it. They called it "cereal."

One day the man sat in the cave and watched a spider spin its web. Then he watched some insects get caught in the web. Then he watched the spider eat the insects. He was sitting on a bear skin rug.

By and by he cut the bear skin rug into strings and made himself a web. He called his web a "net." He took the net down to the river. When he dragged it through the water they caught fish in it. Then they had plenty of fish to eat.

One day when the woman was coming up to the cave with a pot of water and a basket of grass she dropped the basket.

Another day when she was coming with another pot of water she found some grass growing where she dropped the basket. It was the kind of grass she had dropped. She gathered the seed by the path to make cereal for the children. This made her think how nice it would be to have a lot of cereal growing close to the cave.

By and by the woman learned to plant the seed where she wanted the grass to grow. The children dug holes in the earth with a stick. She dropped the seed in the holes and the children pushed the earth back in for a cover. They called the place where they planted the seed a "field." The man and the woman said the earth was like the cave because it was a home for the seeds. The children said it was like the mother because it gave the children cereal to eat. The children said the sun was like a father to the seeds. It kept the earth warm and bright and cozy like the fire the man brought down from the volcano.

When the rains came they said the sun was pouring down water to give the seeds a drink. When they saw a rainbow in the sky they said the Father Sun was a mighty hunter and the rainbow was his bow. When the lightning flashed in the sky they said the zig-zag lightning flashes were his arrows.

By the time the woman and the girls had a big field of grass the man and the boys had a big herd of goats. In summer they took the herd high up on the mountain to eat wild grass. They made themselves a tent out of bear skins and goat skins. They called the place where the wild grass grew best a "pasture."

The girls stayed at home and shooed the birds away to keep them from eating the grass seed in the field by the river.

When the goats came down to the river to drink they ate the grass seed in the field in spite of everything the boys and girls could do. But the girls liked the goats more than they liked the birds because they liked goats' milk to eat on their cereal.

At last the woman and the girls made their field on the other side of the river. They made themselves a summer house out of little trees. Then the goats could not cross over to eat the grass seed. But every time the girls wanted milk to eat on their cereal they had to swim the river with a pot of milk!

When the leaves on the apple tree turned red and yellow and began to fall to earth, the man and the woman told the boys and the girls they must all go back to the cave. Old Man Winter was coming.

The man and the woman and the girls went first. The man brought back the fire. The woman and the girls brought baskets of grass seed to make cereal and pots of water.

When the leaves were all gone from the apple tree the boys brought the goats back down from the mountain.

When the cold winter nights came the woman liked to sit at the cave door and look up at the moon. When it looked thin and pale and hungry she felt sad. When it was full and round she felt glad. She was glad for having the bow and arrow and for having plenty of meat to eat. She was glad for having a net to catch fish in and for plenty of fish to eat. She was glad for having plenty of water to drink and for having pots to carry it up to the cave. She was glad for having a herd of goats to give milk to go on the cereal. She was glad for having plenty of grass seed to plant to make the cereal. She was glad for having plenty of baskets to carry the grass seed in.

When she went back into the cave the biggest boy was drawing a picture on the cave wall with a charcoal stick. Then she was gladdest of all to be able to keep the cave warm and bright and cozy for the boys and the girls and the dog and the goats with the fire the man brought down from the volcano.

And that is the end of the first story about the man and woman and their children when the world was young.[4]

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[4]See Appendix A.

3. The Master Concept

"The primitive," Alexander A. Goldenweiser says, "lives in close communion with nature, whereas civilized man controls nature."[5] That the control of nature has been, and still is, a process accomplished in stages is the burden of Kirtley Fletcher Mather's Sons of Earth, written from the geologist's point of view;[6] James Edwin Pearce's Tales That Dead Men Tell, written from the cultural anthropologist's point of view;[7] and Albert Galloway Keller's Man's Rough Road, written from the sociologist's point of view.[8] Sutherland, Woodward, and Maxwell sum up the findings of these older researchers of human history in "Man's Cultural Heritage," which is the first chapter in the fourth edition (1952) of their Introduction to Sociology.[9] Thus several scientific fields of thought are integrated in presentation of the process of Man's gaining control over nature as the master concept in the creation of the allegory. "When the

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[5]Alexander A. Goldenweiser, Early Civilization (New York: Alfred A. Knopf Company, 1922), p. 404.

[6]Kirtley Fletcher Mather, Sons of Earth (New York: W. W. Norton Company, 1930).

[7]James Edwin Pearce, The Tales That Dead Men Tell (Austin: The University of Texas Press, 1935).

[8]Albert Galloway Keller, Man's Rough Road (New Haven: Yale University Press, 1930).

[9]Robert L. Sutherland, Julian L. Woodward, and Milton A. Maxwell, Introductory Sociology (Philadelphia: J. B. Lippincott Company, 1952), pp. 13-94.

World Was Young," an allegory based on a serial arrangement of fourteen concepts in the assumed course of this process.

4. The Fourteen Step Concepts

The fourteen steps are here listed and are followed by general references from cultural anthropologists with respect to their assumed prehistoric order:

1. Domestication of fire
2. The cave home
3. Scavengering: gathering and collecting--the economic base of culture
4. Invention of the bow and arrow
5. Hunting--an economic base of culture
   a. Food getting
   b. Dressing and tailoring skins
6. Riparian or bamboo culture--the mother culture
   a. Development of weaving
   b. Development of pottery
7. Domestication of plants
8. Domestication of animals
9. Conflict between herding and gardening cultures
10. Accommodation to climate
11. Accommodation to the cycle of day and night
12. Accommodation to the cycle of the seasons
13. Origin of awe
14. The primal art: cave painting--symbolism

Pearce, who founded the department of anthropology at the University of Texas, said in 1935:

> It was during the painfully-long-drawn-out period of prehistory that man mastered the arts of chipping stone; making and using fire; dressing and wearing skins; plaiting and weaving baskets, rugs, and cloth fabrics; shaping and firing pottery; building in earth and stone; modifying and growing domestic plants; taming and utilizing domesticable animals; smelting, molding, and forging metals; counting reckoning, and keeping numbers. In fact the fundamental arts, the essential organization of human society and of human character, as they operate and may be observed today, belong to this long period of prehistory.
>
> ....
>
> With the exception of making, keeping, and using fire, the domestication of plants and animals constitutes man's greatest achievement in seeking the promotion of his own welfare. Both the conquest of fire and of plants and of animals ... belong to the long contemned periods of savagery and barbarism.[10]

Robert J. Braidwood, associate professor of the Oriental Institute and the department of anthropology at the University of Chicago, said in 1952:

> Thus far in human history there have been two principal economic revolutions. One is the Industrial Revolution, which began 175 years ago and which, to judge by the stresses of our period, is still far from complete. The other is the food-producing revolution--the invention of agriculture and animal husbandry--which began in prehistoric times. Although there is no contemporary written record of this earlier revolution, its remains may be read by the prehistoric archaeologist.
>
> For 500,000 years before the food-producing revolution small groups of men lived mostly in

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[10]Pearce, op. cit., pp. 20, 23.

> caves. They were obliged to spend almost all of their time in the quest for food; they hunted, fished, and gathered a few edible wild plants. After the revolution larger groups of men lived in villages. Tilling the soil and tending the animals gave them enough food, and thus enough leisure, to develop specialized skills. It is easiest for the archeologist to comprehend the economic and technological features of such a profound development, but it must have embraced all the other aspects of culture: social, political, moral, and esthetic. To say that the economic and technological aspects came before the others would be rather like asking the conundrum: "Which came first, the chicken or the egg?"[11]

In preparing "When the World Was Young," no effort was made to break the allegory down so as to make the primary mind conscious of fine cultural stages like the Achulian, Mousterian, and Magdalenian--or even of the step between the Old Stone Age and the New Stone Age. Effort was made to present essential inventions and culture complexes in an order which would not contravene accepted culture tables in the "phylum" of over-all acculturation. Domestication of fire was used to begin the story for dramatic effect, and symbolic cave art was used to conclude it for the same reason.[12] Initiating the story with the domestication of fire emphasizes the importance of this step concept in the

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[11]Robert J. Braidwood, "From Cave to Village," Scientific American, vol. 187, October, 1952, pp. 63-66.

[12]For a clearly graphed set of tables paralleling paleolithic and neolithic culture stages with the glacial stages set up by geologists, and also to establish the domestication of fire prior to the assumed development of neolithic arts: weaving, pottery-making, etc., and even prior to paleolithic cave art, see Hallam L. Movius, Jr., "Archeology and Art," Scientific American, vol. 189, August, 1953, pp. 30-35.

sequence of world acculturation. Choice of the volcano as the source of Man's contact rested in part on pictorial effectiveness, and in part because lightning was to be used in a different association--the weather concept.

It should be noted that every effort has been made to treat fire in a manner that will not encourage the child to experiment with it. It is kept entirely in the position of a "natural force" employed by adults for adult purposes, although the children participate in the comforts of warmth, light, and cooked food that fire provides. Pearce says with respect to the "taming" of fire:

> So important has been the use of fire in the life of Man that the history of civilization can very largely be written around this one theme .... It lifted him above the brute more effectively than any other factor of his own creation that has yet come into his life.[13]

Cave art, the last culture concept introduced into the story, is not brought in as a step logically dependent on any preceding step other than the domestication of fire. It is brought in with the "thanksgiving summary" when the mother voices general human gratitude for the process of the control over nature which has been attained within the range of her allegorical experience. But though poetic license, thus invoked, does not fix a relationship to any culture complex other than fire, as warmth and light, pictorial representation suggests an association between cave art and the

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[13]Pearce, op. cit., p. 28.

hunting complex. This is in keeping with the ideological analysis of cave art as commonly given by artists and by anthropologists.[14]

5. The Master Social Concept

If the master ethnological concept of "When the World Was Young" is, as a scientific teaching instrument, the concept of man's increasing control over nature through an increasing acculturation, the master social concept, within this total of conceptual integration, is the concept of a growing organization and cooperation within the family. Shoghi Effendi, Guardian of the Baha'i faith at Shiraz in Iran, says in his brochure, Human Relations for World Entity:

> The good of the general welfare, first conceived of as the purpose and goal of the family unit, is, in truth, an ideal for human relationships that has, through the centuries, acquired expanded significance and produced the results that we call civilization. Around family life there was established the circle of tribal solidarity and cooperative living. The rudiments of interdependence and harmony within the still larger areas of the state were in time introduced and mastered, finally evolving the close-knit unity and integrity of modern nations, which in their complex make-up contain the lesser relationships, also evolved from the past, that modern society knows as family, school, community, organized religion,--racial, class, inter-class, inter-faith, inter-racial and so on.[15]

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[14] Cf. Movius, fn. 12.

[15] Shogi Effendi, Human Relations for World Entity (Wilmette, Illinois: The Baha'i Publishing Company, 1947).

To give family organization a dominant place in the assumed course of prehistory is in keeping with the tenets set forth by Edward F. Haskell in "A Clarification of Social Science" as symbolized by the "coaction compass" or "coaction rose" in the 1949 summer edition of Main Currents in Modern Thought. It is equally in keeping with the most ancient to the most modern dissertations on the evolution of social concepts in Spain where the primal hearthstone is universally cited as the keystone of conceptuality.[16]

Lastly, it is in keeping with the continental or Central European school of anthropological thought represented in part by Allier, Euchen, Levy-Bruhl, Wundt, and in particular by Gerald Heard, author of The Sources of Civilization. In opening his argument for the essential experience, individual or group, as the source of indigenous acculturation, and of diffusion from the source through adaptation and cooperation as the cause of universal acculturation, Heard quotes an ancient Chinese proverb that opposes the philosophical doctrine of individual and group survival through superior brute strength: "Heaven arms with pity those whom it would not see destroyed."[17]

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[16]Cf. Havelock Ellis, The Soul of Spain (New York: Houghton Mifflin Company, 1908); and Martin A. Hume, The Spanish People--Their Origin, Growth, and Influence (New York: D. Appleton and Company, 1901).

[17]Gerald Heard, The Sources of Civilization (New York: Harper and Brothers, 1937), Chapter VII.

To use Heard's philosophy that adaptation and cooperation are the most important social factors in world civilization is to pave the way for the Baha'i educational program expounded by Shoghi Effendi in March, 1953,[18] for the Unitarian program outlined by Sophia Lyon Fahs in A New Ministry to Children,[19] and for the view of progress presented by Le Comte Du Nouy in Human Destiny--namely, that at its best social evolution is a process of continuously synthesizing conceptuality; that is, a process of constant ideological innovation.[20]

In accord with this line of thinking and in accord with Kready's rules for story-telling,[21] killing animals is reduced to a minimum in "When the World Was Young." No attempt is made to have the child identify himself with "savagery," as such. Back of the total concept that the fish, the rabbit, and the bear are killed for necessary sustenance is the recognized concept of primal conservation, and the further concept that the spirit of the animal slain must be propitiated for its sacrifice to man's need.[22]

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[18]Cablegram, March, 1953, announcing an educational program to all outposts of the Baha'i faith.

[19]Sophie Lyon Fahs, A New Ministry to Children (Boston: American Unitarian Association), 1951.

[20]Le Comte Du Nouy, Human Destiny (New York: Longmans-Green, Inc., 1947).

[21]Kready, op. cit., p. 13.

[22]Mary Jourdan Atkinson, The Texas Indians (San Antonio: Naylor Publishing Company, 1953), p. 84.

Lastly, all animals are introduced in keeping with the associative factor signalized by the philosophies of Wundt, of Angell, and of other psychologists concerned with the instigation of learning through attaching the unfamiliar to the familiar; that is, through taking advantage of the apperceptive mass as "preconception" or "mental set." Thus the fish in the pictographs are goldfish, the rabbit is a stuffed white rabbit, the bear is a teddy bear, the intent being that nursery toys shall serve as the perceptual-conceptual "bridge"[23] between the known and the unknown, leading, in this case, from the familiarity of nursery fantasy to the threshold of the real--the actual study of biological natural history.[24]

Presentation of the social concepts allied with the fourteen step concepts in Man's assumed prehistory given as the context of "When the World Was Young" now have been justified through quotations from authorities in socio-anthropological conceptuality, as well as from Kready in the field of the language arts; Wundt, Angell, and James, in the field of psychological association; and a reference to

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[23]Richard Muller-Freienfels, Evolution of Modern Psychology (New Haven: Yale University Press, 1935), p. 77; and James Rowland Angell, Psychology (New York: Henry Holt and Company, 1924).

[24]William James, Talks to Teachers (New York: Henry Holt and Company, 1924), pp. 105-168; and George Rex Green, A Survey of Nature (Ithaca: Slingerland and Comstock, 1930), p. 1.

Green in the field of natural science. The factual aspect of natural science concepts allied with the given fourteen ethnological concepts must likewise be justified. These concepts are the subject of the next section of this chapter.

6. Natural Science Concepts Used in Relation to the Given Ethnological Concepts

"The incorporation of archeological activities and materials in museums of natural history ... is done under the assumption that Man and his works are a part of nature," Pearce says in the Tales That Dead Men Tell.[25] And Michael Demiashkevich says in An Introduction to the Philosophy of Education:

> The effort and ability of man to perceive relationships among the various phenomena of the universe has undoubtedly been among the principal sources of civilization. The power to crystallize and state these observed relationships, be they called scientific laws or lessons of history, is one of the most valuable among human capacities. The urge to search incessantly after unity in multiplicity, after the unchanging, and the ability to capitalize the findings of those who lived before us, is one of the greatest advantages man possesses over the lower animals. Science as well as statesmanship consists in the discovery of relationships in these phenomena.[26]

A fundamental factor in relating natural science percepts and social science concepts--that is, in the

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[25]Pearce, op. cit., p. 92.

[26]Michael Demiashkevich, An Introduction to the Philosophy of Education (New York: The American Book Company, 1935), p. 356.

integration of percept and concept--is cited by Ross Lee Finney, who says in A Sociological History of Education:

> The natural scientist has only to perceive his units, but the mental or social scientist must conceive his; and as that is a different and far more difficult assignment, it requires an analytic-synthetic work of the intellect, involving some creative imagination.[27]

This quotation, which is reminiscent of older writers, will serve to keynote the difference between material objectivity which is always possible in the presentation of other natural history concepts and that interpretive relativity which is required, together with material objectivity, in the presentation of assumed or deduced ethnological concepts--inasmuch as most ethnological concepts are dependent upon common sense interpretations of related ethnic data and/or related archeological phenomena.

It keynotes the difference, psychologically speaking, between the fields of phenomena which are externally objective and the conceptuality which results from internal interpretation of such external objectivity; and it was, presumably, inspired by Wundt's previously quoted observation with respect to the difference between perception and apprehension.[28] In the monograph, Children in the Museums

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[27]Ross Lee Finney, A Sociological History of Education (New York: The Macmillan Company, 1940), p. 17. See also fn. 31, Chapter III.

[28]See page 18, Chapter I.

of the Americas, Russell takes up this difference in an immediate educational aspect under "Programs":

> There are two aspects of the materials [museum specimens] that can be and that are dealt with; namely, on the one hand, the material itself, its character, its properties and so on, [classification], and on the other hand, the meaning of the material in relation to some phase of understanding outside itself, [conceptuality]. The one may be thought of as direct learning, and the other as interpretive. Both forms are directives in program building.[29]

In scientific speech, "objectivity" is sometimes referred to as "brute fact," and, more politely, as "sensory data," meaning the phenomena of nature which have been distinguished in the perceptual field to the point of determination through world symbolism.[30] All words used in "When the World Was Young" which fall into this category will be listed as such in Section 4, Part C of this chapter. The story itself deals with the following percepts and concepts in the fields of astronomy, geology, botany, and zoology:

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[29]Charles Russell, Children in the Museums of the Americas (New York: American Museum of Natural History, 1952), pp. 12-13.

[30]Albert Emmett Betts, Foundations of Reading Instruction (New York: The American Book Company, 1946), p. 80, says: "Language is a means of communication about facts." See also Emile Durkheim, Elementary Forms of Religious Life (Paris, 1912), as cited by Finney, op. cit., p. 151: "Language, and consequently the system of concepts it translates, is the product of collective elaboration. What is expressed is the manner in which society as a whole represents the facts of experience. The ideas which correspond to the diverse elements of language are thus collective representations." Cf. Daniel Bell Leary, Modern Psychology (Philadelphia: J. B. Lippincott Company, Inc., 1928), p. 13.

The volcano--an original source of fire

The cave--an original shelter

The river habitat

The pasture habitat

Plant life cycle--(seed to maturity) grass

Mammal life cycle--goats

The weather--sunshine and rain

The Heavenly bodies--sun and moon

The cycle of the seasons

The cycle of night and day--dark and light

Over-all concept: balance in nature

Harold E. Wallin, assistant curator of education in the Cleveland Museum of Natural History, brings the educational importance of the interpretive and integrative aspects of Natural History up to date in his discussion of "trailside museums" in the Museum News, May 1, 1949:

> The work of the trailside naturalist has increased manyfold. We need people that have a background of educational methods, at least those that have an interest in people as well as in natural history. In a sense, our requirements to do the job, as it has developed over the years, are more exacting than those of the public school system, for our people must have at their fingertips a wealth of information for the multiplicity of questions that come to them from visitors of all ages.
>
> The approach has been an ecological one. We have tried to teach the forest as a community, each part depending on the other. The story was put together to form a completed picture not just of so many trees, so many rocks, so many butterflies, even though for many children this is

> sufficient to hold their interests, but to develop the idea that the forest is a unit.[31]

In this dissertation, Wallin not only pleads for an interpretive and integrative approach to natural history, but also he specifically justifies the over-all natural history concept used in "When the World Was Young," namely, a balance in nature that is presented by the perceptual habitats of river, pasture, and field, and by the indicated conflict between fish, rabbits, bears, goats, birds, and people for the natural resources, including the flesh and skins of the animals, afforded by the three areas. He further justifies presentation of this concept at the primary level by saying: "A firm foundation in the biological and physical sciences is necessary if we are to maintain the goal of popularizing natural history."

Various natural science concepts allied with the ethnological concepts given in the construction of Tool C have now been cited with authoritative references to the need for such over-all scientific integration at the primary level. Part A of this chapter will be hereinafter summarized with respect to this over-all integration.

7. Summary and Conclusions

In Part A of Chapter II the presentation of the integrated natural science concepts and social science concepts

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[31]Harold E. Wallin, "Educational Opportunities in Trailside Museums," Museum News, vol. 27, May 1, 1949.

in "When the World Was Young" has been cited, from Appendix A, and references given with respect to this presentation from (1) authorities in the field of anthropological conceptuality, (2) specific educational programs, and (3) museum authorities working to present these concepts objectively through exhibits.

In conclusion, a word may be said which seems to bring the over-all aspect of the allegorical concept-conveyor, Tool C, as presented in Appendix A, into line with the philosophy of educational idealists. This word is from Herman Harrell Horne, who speaks of the necessity to encourage and to satisfy

> ... the appetite for better cognition which we call curiosity; the impulse to originate mentally, which we call invention; the demand of the esthetic sense for rhythm, form, color, and the perfect manifestations of the perfect types of life.[32]

This quotation from Horne is introduced at this point because it serves well, not only for a conclusion for Part A of this chapter, but also as an introduction for a transition from Part A to Parts B and C. Part B will deal with conceptual creativity in the design of Tool C, with particular reference to the selection of a specific primer type,

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[32]Herman Harrell Horne, The Democratic Philosophy of Education (New York: The Macmillan Company, 1932), p. 174. Horne refers in this discussion to Plato's archetypes, and he appears to be Plato's disciple in the belief that the best in the nature of "forms" is the correct instrumentalization for educational contexts. Cf. Otto Neurath, with respect to Isotypes, in fn. 49, Chapter III, of this thesis.

and a specific art form, the pictograph, as actual objective elements in the construction of this concept-conveyor for use at the primary level.

Part B deals also with a consideration of the change described by language arts experts as taking place between completion of the nursery school years and completion of the primary grades. In the conceptual creativity of the design for Tool C, this consideration was a deciding factor in the selection of objective elements to be used in the construction of a concept-conveyor for the primary level.

Part B: The General Format

1. Introduction

Just as in conceptualizing the design of Tool C, the presentation of the fourteen step concepts in the assumed course of world civilization, given as the conceptual content of Tool C,

(1) had to be integrated with allied social concepts, and with allied concepts from fields of natural science other than ethnology, to form the context of Tool C--an integration set forth in Part A of this chapter--so, also,

(2) the textual structure whereby these concepts were embodied as an allegory--the language arts aspect of Tool C--had to be integrated with (1) and with

the pictorial structure of Tool C--an integration which will be set forth in Part C of this chapter--and, so, also,

(3) the pictorial presentation of (1) had to be integrated with all the allied concepts used in (1), and with (2)--an integration which will be set forth in Chapter III--and so, lastly,

(4) context, text structure, and pictorial representation of context had each to be integrated with the others as elements of construction for the general format by which the design of Tool C actually was to be executed. Thus a tedious and constant repetition is necessary in technically presenting these several integration factors in the creation and execution of the design for Tool C.

2. Elements of Construction

The problem of creating Tool C to present the concept of sequentiality in world civilization at the primary level, and of creating this tool in a form reproducible by parents, teachers, and children themselves, called for a general format, inclusive of text and illustrations, which would differ greatly from Tool A--a non-reproducible pictorial concept-conveyor designed for the nursery school level--and from Tool B--a language arts vehicle especially designed to

fill a need of language-problem children, and designed only for temporary use with one particular group of children.

The crux of the difference in creative conceptuality between Tool C and Tool A lay in the age levels to be accommodated. The crux of the difference between Tool C and Tool B lay in emphasis on learning content and in the time factor for projected use of the two instruments. In creation of Tool B, emphasis was on the need for verbal attainment of the third grade vocabulary. Thus composing of the context of Tool B, as a prose tone poem and as an allegory, was directed toward oral receptivity through "listening to" this context, and towards word vocalization through chorus reading of this context.

The necessary differences between projected Tool C and Tool A coincided, in many practical aspects, to the differences between Tool B and Tool A, inasmuch as the same vocabulary must apply to Tools B and C. Hence the greatest practical difference between projected Tool C and Tool B lay in the over-all format; for in roughing out Tool B, symbolic figures of "the man and the woman and their children" were adapted from Tool A and "cartooned" into a sprinkling of small illustrations for a sixteen-page booklet with the text cut in longhand, both cartoons and text being the merest makeshift elements to get the prose tone poem into verbal circulation as quickly as possible.

In the designing of Tool C, consultation with two professional experts in the field of book selection for the primary levels--Dr. Ida T. Smith, of the education department of the Oklahoma Agricultural and Mechanical College at Stillwater, and Professor Nannie Belle Aycox, in charge of teacher training at Texas Southern University in Houston--fixed attention on the "primary typewriter" as the logical instrument for formal reproduction of the designed context. Selection of a specific primer typewriter to cut the necessary stencils was conditioned by the fact that broadface type will not cut into stencil wax, hence the selection of type shown in Appendix A.

Selection of this lightface roman type afforded an art factor in the integration of text with illustration, inasmuch as any art form selected for illustrating Tool C must, in accord with the conventions set up in Chapter I /G, 1, b, (3)7, be a line drawing. Consultation with two other professional experts in the primary field--Professor Evelyn S. Thompson, chairman of the department of elementary education at the University of Houston, and Mrs. Lula Glass, of the San Angelo, Texas, public school system--followed by criticisms of trial text blocks by Mrs. Glass, and also by Mrs. Ibbie Eliget, a "layout" expert on Foley's Department Store art staff, resulted in the final wording and shaping of the text blocks presented in Appendix A. In this final wording and shaping, phrasing controls the line formation,

paragraphing controls the block formation, and the serial arrangement of the step concepts given as the context of Tool C controls the pagination.

A comparison of possible art symbols, Chapter I, [G, 1, b, (2), (b)] led to selection of the pictograph as the illustrative concept-conveyor to be integrated, after the serial fashion of modern comic strips, with the primer-typed and block-patterned text in Tool C. In itself a tool aid to conceptuality, the pictograph was, at this point, serially accommodated, as an art form, to the varying pattern demands of the text blocks in consultation with sketch artist Patti Abernathy Lefkovits and John T. Biggers, head of the art department of Texas Southern University, Professor Joseph Mack of the same department, and Dr. Antonio Fontellio-Nanton, head of the journalism department of Texas Southern, and Dorothy Glover Nanton, who helped to work out the block patterns as Mrs. Lefkovits helped to work out the pictographic representations and the page patterns.

3. Change of Maturity Levels, A Factor

Selection of the pictograph to illustrate Tool C came about in part through consideration of the findings of Freeman and Freeman in <u>The Child and His Picture Book</u>. For children at the nursery school level, the Freemans make the following assumptions:

1. Small children prefer small books, the favorite size being four by seven inches.

2. Ninety per cent of the children prefer colored pictures to uncolored pictures.

3. The least popular type of illustration is the most realistic, the photograph.

4. Children and animals in action, then adults, are the preferred picture subjects.

5. A border for the picture is non-important.

6. Absence of detail is important.

7. Preferable drawings show the figures in strong outline.[33]

Above the nursery school level, the Freemans remark a positive change in book-and-picture interest. This is a change-over from the audio-visual level of "being read to" and "listening to" the text, while looking at or "reading" only the pictures allied with the text for oneself, to the maturer dual visual level of reading the text, as well as the pictures, for oneself. The change-over process normally occupies the primary years, according to Strickland and other language arts experts; to which the Freemans add that this change embraces the change from the level of "little book" interest to the level of interest in an ordinary size,

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[33]Graydon La Verne Freeman and Ruth S. Freeman, The Child and His Picture Book (Chicago: Northwestern University Press, 1933), pp. 44-74. Cf. A. P. Dalglish, First Experiences with Literature (New York: Charles Scribner's Sons, 1932), p. 22; and Otto Egge, "Art in the Environment of Little Children," Twenty-Eighth Yearbook of the National Society of Education (Bloomington, Illinois, 1920), pp. 719-720.

or even an over size book.[34] They advocate Little Black Sambo as an exemplification of the seven conventions listed above, and, hence, as an especially excellent vehicle for facilitating the change-over from the nursery school book level to the primary book level.[35]

Since Tool C must be accommodated to the primary level, Little Black Sambo could serve in the conceptual creativity that was to produce the design for this tool only as a comparative factor. To be compared with this nursery school picture book, as indicated in Chapter I, [G, 1, b, (2), (b)] Comparison B, were three art forms: the cartoon, the pictograph, and the Isotype. The Isotype was discarded as too finished in appearance to simulate "the kind of drawings children make themselves." As between cartoon and pictograph, each was as elemental in form as the figure symbolism in Tool A and in Little Black Sambo. The distinction lay between the single concept to the page aspect of approved nursery school art books and the multiple concept to the page or serial aspect common to the comic strip and the prehistoric codex.

The prehistoric Mexican codex, as compared with Little Black Sambo, has similar (1) closed outline and (2) flat

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[34]Strickland, op. cit., p. 315, and Freeman and Freeman, op. cit.

[35]Helen Bannerman, Little Black Sambo (Philadelphia: J. B. Lippincott Company, Little Book Series); and Freeman and Freeman, loc. cit.

color washed figure symbolism, but it has more the page format of the modern "flat book." Usually classified as "manuscript chronicles," these ancient recordings of culture complexes are neither books nor scrolls. Usually they are painted on accordion-pleated lengths of animal skin that fold down to flat squares like the chart in Appendix B. A few are painted on maguey paper. Taking each folded-off square as an ideological unit, it can be assumed that the antique study of these units involved pantomimic interpretations.[36] If each chronicle is taken as a unified epic in culture history, the serial arrangement of the ideological units is comparable in general format to the modern comic strip.

Comparison of pictograph and comic strip in the creative conceptuality of Tool C boiled down to the assumption that pictograph-plus-pantomime was to all intents an animated "funny book," inasmuch as the text-plus-serially-illustrative-cartoon in the modern comic strip is but another aspect of the same symbolic phenomenon. In other words, if pantomime were added to the comics, or abstract text were added to the serially arranged pictographs in a prehistoric Mexican codex, the end result, as an over-all device for the communication of concepts from person to person, or from generation to generation, would be the same.

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[36]See Appendix C, Figures III, IV.

Not only did the prehistoric pictograph approximate the familiar "funny book," as revealed by Comparison B, and described in Chapter I, [G, 1, b, (2), (b)], but also the flavor of antiquity inherent in the pictograph as a form symbol coincided with the flavor of antiquity inherent in the allegory as a form symbol. Since this flavor could be maintained in an adaptation of Tool A symbolism to the pictographic art form in a serial arrangement pictorializing the blocked text structure of the allegory which had been phrasically structured to conceptualize the steps in the assumed course of prehistoric civilization given as the subject content of Tool C, it was concluded, at this point, that such an arrangement would afford:

a. a format possible of reproduction, through tracing, by the teacher, the parent, or the child, and

b. a chain association between "the kind of drawings children make themselves" and/or the comic strip with the pictograph, and, lastly,

c. an over-all integration of construction elements in execution of the design for Tool C, which is here presented as Appendix A, "When the World Was Young."

4. Summary and Conclusions

In this part of this chapter are set forth:

a. the objective elements of construction in the over-all format of Tool C, and

b. a consideration of the uses of text and pictorial symbolism in the change from the prereading stage of "listening to" text read while looking at pictures conceptualizing this text to the more mature stage of reading text for oneself, and

c. a comparison of the prehistoric Mexican pictograph with children's drawings as exemplified by the symbolism in Tool A, with nursery school pictures, as exemplified by Little Black Sambo, and with comic book cartoons, and, lastly,

d. the integration of the pictograph, as an art form, with the figure symbolism in Tool A, and with the blocked text of the allegory from Tool B, to form the design of Tool C.

Part C: The Context

1. Introduction

In this third part of Chapter II, the context of Tool C--the allegorical story, "When the World Was Young,"--is analyzed as to its general format, as to its interior structure, and as to its vocabulary--all with respect to the primary level of conceptual receptivity. This analysis is applied to sense phraseology through which meaning is expressed and to integration of the phrased meanings with the general conceptual content of Tool C. No effort is made

to analyze "When the World Was Young" as a tone poem. Such an analysis would belong properly in the field of the fine arts, under the classification of esthetic phonetics, and would depend, in large part, on the intonation used in verbal rendition of the context.

2. Format and Structure

As the over-all text format is presented in Appendix A, the blocks of text are patterned in accord with sense pauses--the phrase controlling the line division, the paragraph controlling the block division, and the concept controlling pagination. The format thus is set up in keeping with customary primary usage whereby the phrase is set to "catch the eye" and not in regular margin-to-margin line formation. Also in keeping with customary preschool and primary usage, punctuation is light. Nine sentences have interior punctuation. Seven of these have each a word in quotation marks: "reeds," "tracks," "pots," "net," "field," "cereal," and "pasture." Each set of quotation marks is used to heighten emphasis on essential steps in acculturation: weaving, pottery-making, milpa agriculture, and herding. One sentence has an apostrophe--"goats'." One sentence has a comma preceding the accumulative idea, "too." Of the one hundred and nine sentences in the instrument, all are in the active voice. This keeps the story moving; but the use of compound sentences prevents the "choppiness" and lack of

timbre common to the average primer text and lends the qualities of rhythm and repetition common to classical nursery literature such as The Great Panjandrum, The House that Jack Built, and Little Black Sambo. In other words, the story is written not only to be read independently, but also to be read aloud and audited in conjunction with the use of the pictures before the would-be reader becomes himself involved with the word symbols in their printed form.

In large part, the repetitive phrases used to compound the sentences refer to time and space and so keep the story oriented. That is, these phrases serve in lieu of an actual stage setting, assuming the story to be a "mental drama." Kready says that repetitive passages are an aid to verbal expression which enable the child to follow the sequence of the story and to catch in its telling "a note of definition" through which he "learns to clarify his own thinking."[37] Strickland adds to this concept of methodology in passing down the cultural heritage through teaching-learning:

> Events take place in time and place setting, and it is through experience with events and the words used in connection with them that the child develops his concepts of time and space. Both native ability and the quality of the child's language environment influence his rate of growth.[38]

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[37]Kready, op. cit., p. 10.

[38]Strickland, op. cit., p. 38.

The seven or eight-year-old, she says, may be able to tell time, season, month, and year.[39]

As for the necessity to audit, she says, "Comprehension precedes speech in most instances," and, "Young children enjoy poetry through listening....Poetry was originally composed for saying and for enjoyment through the ear."[40]

A quotation from Kready sums up the total argument with respect to the use of repetition and rhythm as elements of the young child's language curriculum:

> When the elements combining to produce good oral reading are cared for in the kindergarten and the first grade, in the subjects of which they properly form a part, the child, when beginning to read, no longer will be needlessly diverted. His literature will contribute to his reading without interference, and his growth in language will become an improved, steady accomplishment.[41]

Emile Dalacroze, the Swiss musician, clinches the argument for these elements as the vehicle for conveying comprehension: "The characteristics of rhythm are continuity and repetition. The two fundamental elements of rhythm: space and time, are inseparable."[42]

"When the World Was Young" uses forty phrases expressing time concepts and sequentiality expressed through these

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[39] Ibid., p. 51.

[40] Ibid., pp. 61, 298.

[41] Kready, op. cit., p. 11.

[42] See Herbert Read, Education Through Art (London: Faber and Company, 1945), p. 66.

concepts. The tone of the composition is set with the title phrase itself, which is the opening phrase of the story: "One day when the world was young." The action continues, "...a man brought fire down from a volcano." Six other sentences begin with "one day" and a seventh with "another day." Each time these words serve as a cue for "something to happen"--thus building the suspense that is necessary in successful plot structure.[43] As an alternate phrase, "by and by" is used in four sentences and "by that time" in two others. "While" and "when" give the same cues, and the child is in each case alerted through the rhythm of the phrase structure, for the rhythm is repeatedly the same although the words differ: "When the moon was round and full" and "When the leaves turned red and yellow."

"When the World Was Young" uses sixty-nine phrases expressing space concepts. These include size, content, place, and direction. Lowenfeld says:

> The most important and basic experience of the child's spatial development is the discovery of an orderly and related space concept. Whenever the first common experience of space has occurred, for example, two wading in the sandpile, the child relates himself to others, sees himself as a part of the environment.[44]

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[43]Kready, op. cit., p. 13: "Fairy tales must contain what interests children." "The surprise is a combination of familiar and unfamiliar."

[44]Viktor Lowenfeld, Creative and Mental Growth (New York: The Macmillan Company, 1947), p. 114.

The first usual art development, according to Lowenfeld, is the baseline. "Everything moves along it," though he explains that this line has nothing to do with reality, as for example, the actual skyline. In "When the World Was Young," the cave floor and the river bank are the primary baselines. Only a few pictures are otherwise oriented. Thus emphasis is laid on the cave as Man's primal home and on the river as his original habitat.

The baseline along which everything moves is a haptic reaction, Lowenfeld continues, as is also the use of color as a symbol. "Haptic color relationships are determined by the emotional effects colors have on us."[45] In consequence, when the story was put in use with language problem children on the Texas-Mexican Border, they were permitted to use color undirected. Out of more than forty children, ranging between nine and seventeen years of age, only one or two made any move toward naturalistic coloring, though several reflected clothes consciousness by immediately drawing the same covering on the introductory figures as they found on the figures after the introduction of skin clothing.

The use of Tool B on the Border and the use of Tool A in the Horace Mann School in New York City, where it was tried out by Dr. Carl Gregory, present an interesting comparison. Dr. Gregory noted that the absence of clothes was

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[45] Loc. cit.

promptly commented on by six-year-olds to whom she read the story.[46] The comparison is interesting for the reason that the American extremes of primitive and sophisticated children are presumably here considered.

Dr. Gregory said, also, that the six-year-olds "liked to count how many in the family, as each baby was born: 'now there are two children, two boys; now there are three, two boys and a girl, etc.'" Here the counting technique, the only occasion of its use in the instrument, except for the goats, is designed to emphasize the concept of the family as the basic social unit. The birth of the children is, of course, supplemented by the birth of the goats.[47]

Clarence R. Stone, in Progress in Primary Reading, lists five stages in the historical descent of educational methodology, with respect to modern time. These stages are (1) by letter, (2) by syllable, (3) by word, (4) by sentence, and (5) by story. He classifies the first three stages as mechanical and the last two stages as meaningful.

It seemed logical in creating Tool C to assume that, in emphasizing the phrase, rather than the sentence, for minor conceptuality; in emphasizing the paragraph, through pagination, for the major steps in building the given conceptual

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[46]These notes were sent in a letter from Dr. Gregory to Edward F. Haskell in 1950.

[47]Clarence R. Stone, Progress in Primary Reading (St. Louis, Missouri: Webster Publishing Company, 1950), p. 23.

sequence; and in emphasizing the over-all story with the respect to the two master concepts; that a greater or lesser association would be allowed for with respect to the letter, the syllable, and the word. As the problem of creation was given, this mechanical association could only be incidental to that association which would afford a maximum of contextual comprehension. But, the word being the unit of elemental construction with respect to association factors, it was necessary to scrutinize the vocabulary, and to justify each word used as being specifically related to intellectual maturity at the primary level. This scrutiny and justification is the subject of the next section of this chapter.

3. The Vocabulary

"When the World Was Young" uses a vocabulary of three hundred and forty-nine words. Of these words, thirty-five are on Clarence R. Stone's list of fifty most used words at the pre-primer level.[48] Fifty-nine are in the list of "one hundred most important pre-primer words." One hundred and fifteen are in the list of two hundred and twenty-five most important primer words. One hundred and seventy-nine are in the list of "four hundred and fifty-five most important first-grade words." Two hundred and seventy-one are in the list of "six hundred and one most important second-grade

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[48]Stone, op. cit., pp. 107-130.

words." Two hundred and eighty-five are in the list of "one thousand, nine hundred and sixteen most important third grade words."

Every word used in "When the World Was Young," and every variation of a word, is listed, including a number of "s" plurals. Stone does not distinguish these plurals in his lists. Accounting for this discrepancy, and for certain other like forms--for instance "flashed" and "flashes" which are both counted in with his listing of the one word "flash,"--twenty-one words are left to be accounted for. Of these, six are comparisons of listed primary words: "biggest," "gladdest," "largest," "smallest," "drier," and "cozier." One is an unlisted verb form of a listed second grade word--"carried." The phrase word "awhile" is a compound of two pre-primer words--"a" and "while." One is the possessive form of a first grade word--"goats'." One is an adverb--"accidentally." Stone gives "accident" in the Durrell list of third and fourth grade words. "Rainbow" is compounded of the first grade word "rain" and the second grade word "bow." Gates gives "rainbow," "pupil," and "stems" on the Gates list of primary words as third, first, and second grades, respectively. "Charcoal" is in itself on no list shown in Stone's book, but "coal" is in the Stone list for the second grade. "Mighty," in itself a separate word, is in the second grade list for its first syllable--"might." The word "spite," used in the phrase "in spite

of," does not appear in Stone's book, but Paul McKee shows a similar phrase, "despite," to be in primary usage.[49] This leaves four words that may be definitely beyond the third grade level: "cereal," "shooed," "volcano," and "zig-zag." The aural familiarity of the first and the descriptive values of the other three justify their inclusion as interest-evoking stimuli. For, says Ruth Strickland:

> Language specialists have become convinced that earlier studies greatly underestimated the size of vocabulary of both children and adults. The result of this underestimate has been the reduction of the vocabulary of children's readers to the point where much of the story content, especially in the primary grades, has lacked either interest or challenge.[50]

Strickland's implication here seems to be that the child's auditory word comprehension outruns his visual ability to comprehend words. Stone steps into the breech with this statement on the discovery of the "story method":

> The solution lies in the new intrinsic technique for word learning in simple purposeful reading activities...and in abundant repetition of the same words in easy interesting reading in pre-primers and primers.[51]

Thus an ancient mnemonic device used since "the memory of man runneth not to the contrary" to conserve the cultural heritage--the story--has been rediscovered as an aid in

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[49]Paul McKee, The Teaching of Reading in the Elementary School (New York: Houghton-Mifflin Company, Inc., 1948), p. 85.

[50]Strickland, op. cit., p. 190.

[51]Stone, op. cit., pp. 36-39.

perfecting the tool skill--reading. It is in the light of this "rediscovery" that "When the World Was Young" has been constructed, not only as a readiness instrument for a later integration of the natural science concepts and the social science concepts, but also as an instrument for acquiring facility in the use of the language arts.

A list of words used in "When the World Was Young" follows this section, and is, in turn, followed by a summary and conclusions. This word list is analyzed in accord with Stone's word lists for the primary grades--pre-primer through third grade; and the words also are shown as conceptual groupings with respect to the natural sciences and the social sciences.

4. Words Used in "When the World Was Young"[52]

A (1)
ABLE (5)
ACCIDENTALLY
AFTER (1)
ALL (2)
AN (3)
AND (1)
ANOTHER (3)
APPLE (2)
APPLES
ARROW (4)
ARROWS
AS (3)
ATE (2)
AUTUMN (5)
AWAY (1)
AWHILE

BABY (1)
BACK (2)
BAKE (4)
BAKED
BASKET (3)
BASKETS
BE (2)
BEAR (3)
BEARS
BECAUSE (4)
BEGAN (3)
BEGINNING (4)
BEGUN (5)
BELOW (5)
BEST (3)
BIG (1)
BIGGEST
BIRD (2)
BLOSSOMS (5)
BORN (5)
BOW (4)
BOY (1)
BOYS
BRIGHT (4)
BROKEN (4)
BROTHER (4)
BROUGHT (4)
BUT (2)
BY (2)

CALLED (2)
CAME (1)
CARRY (4)
CARRIED
CAUGHT (4)
CAVE (4)
CEREAL
CHARCOAL (4)
CHILDREN (2)
CLOSE (4)
CLOTHES (4)
COLD (3)
COMING (3)
COOKED (4)
COOKING (4)
COOL (4)
COULD (2)
COVER (4)
COVERED
COZIER
COZY (5)
CROSS (3)
CRAWLED (4)
CURTAIN (5)
CUT (3)

DAY (2)
DO (2)
DOG (1)
DOOR (2)
DOWN (1)
DRAGGED (5)
DRAWING (3)
DRIER
DRINK (3)
DRY (4)
DUG (4)

EACH (4)
EARTH (4)
EAT (2)
EATEN (4)
EASY (4)
END (4)
EVEN (4)
EVERY (2)
EVERYBODY (4)
EVERYTHING (3)

FALL (3)
FATHER (1)
FAMILY (4)
FEAST (3)
FEET (3)
FELT (4)
FIELD (3)
FIRE (3)
FIRST (3)
FISH (3)
FISHING
FLASHED (5)
FLASHES (5)
FOR (1)
FOUND (3)
FROM (2)
FOURTH (5)
FULL (4)

GATHERED (4)
GAVE (4)
GET (1)
GETTING
GIRL (1)
GIRLS
GIVE (2)
GLAD (3)
GLADDEST
GO (1)
GOING
GOAT (3)
GOATS
GOATS'
GONE (3)
GOOD (1)
GOT (2)
GRASS (3)
GREEN (2)
GREW (4)
GROW (3)
GROWING

HAD (1)
HANDS (3)
HAPPEN (4)
HARD (4)
HARDER
HAVE (1)
HAVING
HE (1)
HELPED (4)
HER (2)
HERD (5)
HIGH (3)
HIM (2)
HIMSELF (3)
HIS (2)
HOLD (3)
HOLDING
HOLES (3)
HOME (1)
HOUSE (1)
HOW (2)
HUNG (4)
HUNGRY (3)
HUNT (4)
HUNTER (4)
HUNTING

IN (1)
INSECTS (5)
INTO (1)
IS (1)
IT (1)
ITS (2)

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[52]Numbered in accord with Stone's word list for five levels: (1) pre-primer; (2) primer; (3) first; (4) second; and (5) third grade. See Stone, op. cit., pp. 107-130.

Word List--Continued

KEEP (3)
KEPT (4)
KILLED (4)
KIND (3)
KNOCKED (4)

LAID (4)
LARGEST
LAST (4)
LEARNED (4)
LEAVES (3)
LEG (3)
LIGHTNING (5)
LIKE (1)
LIKED (2)
LITTLE (1)
LIVED (2)
LOOK (1)
LOOKED
LOT (4)
LOVED (4)

MADE (2)
MAKE (1)
MAMA (5)
MAN (1)
MAYBE (4)
MEAT (4)
MIGHTY (4)
MILK (1)
MOON (4)
MORE (3)
MOTHER (1)
MOUNTAIN (4)
MUD (4)
MUST (2)

NET (5)
NEW (2)
NIGHT (2)
NOT (1)

OF (2)
ON (1)
ONE (1)
OTHER (3)
OR (3)
OUT (1)
OVER (2)
OWN (4)

PALE (5)
PAPA
PASTURE (4)
PATH (4)
PET (2)
PICTURE (2)
PIECE (4)
PIES (4)
PINK (4)
PLACE (4)
PLANT (3)
PLANTED
PLAY (1)
PLAYED (2)
PLENTY (4)
POT (4)
POTS
POURING (5)
PUSH (4)
PUT (2)

RABBIT (1)
RABBITS
RAIN (3)
RAINS
RAINBOW
RED (1)
REEDS
RIVER (4)
ROUND (3)
RUG (4)

SAD (4)
SAID (1)
SAW (1)
SCATTERED (5)
SECOND (4)
SEE (1)
SEED (4)
SET (4)
SHE (1)
SHOOED
SIDE (3)
SISTER (4)
SIT (2)
SKIN (4)
SKY (3)
SLEEP (2)
SMALL (4)
SMALLEST
SMELLED (3)
SO (2)
SOME (1)
SOMETIMES (3)
SPIDER (5)
SPIN (5)
SPITE
SPRING (3)
STAYED (3)
STEMS
STICK (3)
STRINGS (4)
STORY (2)
SUMMER (3)
SUN (2)
SUPPER (4)
SWIM (2)

TALL (4)
TENT (4)
THAN (3)
THAT (2)
THE (1)
THEIR (3)
THEN (1)
THEM (2)
THEMSELVES (4)
THESE (4)
THEY (1)
THIN (4)
THIRD (4)
THIS (1)
THREE (4)
THREW (4)
THOUGHT (3)
THOUGH (4)
TIME (2)
TIRED (4)
TO (1)
TOGETHER (3)
TOLD (3)
TOO (1)
TOOK (2)
TRACKS (4)
TREE (2)
TREES
TURNED (3)
TWO (1)

UP (1)

VERY (1)
VOLCANO

WADE (5)
WALKING (3)
WANT (1)
WARM (3)
WARMER
WAS (1)
WATER (2)
WATCHED (3)
WAY (2)
WEAVE (5)
WEB (5)
WELL (3)
WENT (1)
WERE (2)
WHAT (1)
WHEN (2)
WHERE (1)
WHILE (3)
WIFE (4)
WILD (4)
WIND (3)
WINTER (3)
WITH
WITHOUT (4)
WOMAN (4)
WORLD (4)
WOULD (3)
WOVE (5)

YELLOW (2)
YOUNG (4)

ZIG-ZAG

Words not on Stone's list:

ACCIDENTALLY	ACCIDENT is on Durrell's 3rd and 4th grade list.
AWHILE	A is on Stone's pre-primer list and WHILE is on his first grade list.
BIGGEST*	
CARRIED*	
CEREAL	
CHARCOAL*	COAL is on Stone's list, but not CHARCOAL.
COZIER*	
DRIER*	
GLADDEST	
GOAT'S	
LARGEST*	
MIGHTY*	
PAPA#	
RAINBOW#*	
REEDS	
SHOOED	
SMALLEST*	
STEMS#	
VOLCANO	
ZIGZAG	

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*Forms of words on Stone's list.

#Words on Gates' list. See Stone, op. cit., for Gates and Durrell.

Words from the scientific vocabulary in a suggested teachers' aid, Appendix E.[53]

ANT.	STONE.	.Third Grade
FLIES.	STONE.	.First Grade
FLY.	STONE.	.Third Grade
INSECT	STONE.	.Third Grade
MOSQUITO	GATES.	.Third Grade
SPIDER	STONE.	.Third Grade

Words Grouped According to Conceptuality

Numbers--Counting--Order

a	all	one
an	herd	two
another	lot	three
each	more	four
every	plenty	first
everybody	together	second
everything		third
		fourth

Space--Shape--Size--Direction

close	holes	big	away
full	round	biggest	below
in	zig-zag	largest	cross over
into		mighty	down
place		small	high
scattered		smallest	up
side of		piece	
where		tall	

[53]The comment from the librarian at the University of Houston who checked "ant" for the listing was to the effect that it was one of the first words in her child's vocabulary, thus indicating the well-known fact that the child in the warm areas is much more aware of the insect world than the child in more northerly areas; therefore, insect names enter his vocabulary at an earlier level.

Seasons--Weather--Time

moon	cold	apples red
rain	spring	apples green
rains	summer	blossoms
rainbow	autumn	day
sun	winter	night
wind		leaves falling
		leaves turning

Time Sequence

after	began	by and by
awhile	beginning	coming
end	begun	last
gone	born	learned
time	grow	
when	growing	
while	to	

Color

bright	rainbow
green	red
pale	sky
pink	yellow

Kinesthetic Condition

cold	drier	harder
cool	dry	hungry
cozy	full	warm
cozier	hard	warmer

Fire Concept

charcoal	origin
cooked	volcano
drier	warm
light	warmer

Family and Home Concept

father	cave	family	house
man	home	mother	tent
boy		wife	
brother		girl	
		sister	

Domestication of Animals

papa goat	pasture
mama goat	herd
baby goat	milk
dog	skins
pet	

Domestication of Plants

baskets
cereal
field (milpa agriculture)
grass seed
plant
weave
wove

Food Concept

Hunting	Fishing	Collecting	Cooked
feast	fish	apple	cereal
meat	net	apples	eat
			milk
skins	(Allied Concept)		meat
clothes			supper

Water Concept

drink
rain (necessity for plant growth)
river
pots (containers, beginning of domestication of water)

Botanical Terms

apple
earth
grass
plant
reeds
seed
stems
trees

Zoological Terms

all family words

bear
dog
fish
goat
spider
birds
rabbit
rabbits
tracks
web

Geological Terms

earth
mountain
river
volcano

Astronomical Terms

earth
moon
rainbow
sky
sun

5. Summary

In this chapter the text and context of "When the World Was Young" have been analyzed and have been justified as to form, structure, and vocabulary. In Part A presentation of the given context through the literary vehicle of the allegory is scrutinized, as is the integration of social concepts and natural science concepts with the given sequence of fourteen step concepts in world civilization.

In Part B the general format of Tool C, as presented in Appendix A, is scrutinized with respect to objective elements of design, specifically as to the type used and as to the art form used in actual construction, namely lightface and primer size roman type and the pictograph. These constructive elements are considered with respect (1) to over-all integration, with each other and with the context, and (2) as to the use of Tool C at the primary level when the skill of reading is maturing from the nursery school level of "being read to" to the fourth grade level of "reading for oneself."

In Part C the context of "When the World Was Young" has been scrutinized and has been justified as to format, structure, and vocabulary, and as to over-all integration with (1) the conceptual content considered in Part A and with (2) the illustrative design of "When the World Was Young."

6. The Over-all Assumption

The over-all assumption in this chapter is that, inasmuch as poetry preceded prose in the production of oral literature, and oral literature preceded written literature in human experience, the prose poem form of "When the World Was Young" is a natural gradation from "hearing the story read" into "reading the story for oneself."

It is assumed that this natural gradation will in itself form a "mental set" by virtue of the fourteen step concepts, which are logically associated with an accompanying cluster of natural science concepts. It is assumed further that this "mental set" or "apperception" will be the same "readiness" that the child would have attained through association with a series of museum exhibits demonstrating these same steps in habitat settings corresponding to the settings symbolized by the pictographs.

Lastly, it is assumed that the introduction of a subject hitherto largely kept at the college level fills a need expressed by Strickland for a variety of subject matter at a crucial period in the child's reading development. She says, quoting Russell on the "first stage of reading development":

> Between the ages of eight and nine, in the transition stage of the third and fourth grades, the child is reading an increasing variety of types of materials, but his processes and his comprehensions of meanings are immature. His reading may be slow and his comprehension lacking

> in clarity of meaning and mental images. It is almost inevitable that many children at some time during this period become impatient with their skill because they cannot keep up with their interests....Guidance which helps the child to learn to read many types of material for many purposes causes him to leave behind him primary grade habits and to develop ways of reading that are more mature. Growth does not take care of itself but requires careful guidance and teaching.[54]

In Chapter III the selection of the pictograph will be set forth in more detail than in Part B of this chapter which is devoted to the general format of "When the World Was Young"; and the selection of the pictograph will be justified through integration of this art form with (a) the conceptual content given to be presented in the creation of Tool C and with (b) the textual structure and vocabulary of Tool C.

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[54]Strickland, op. cit., p. 315, citing Russell, op. cit., on the "Five Stages in Reading Development."

CHAPTER III

THE FOURTEENTH CONCEPT

A. Introduction

Language is an acculturated set of tools by which knowledge, as the cognitive capital of culture, is both learned and taught. Finney and Leary say this, and Hogben demonstrates that writing, which is one of these tools, developed from drawing.[1] Morley shows that reading developed, per force, with writing.[2] Hogben and Morley both show that, having come into being as the result of communication, reading depends, in its modern form, on an abstract set of symbols that hold within themselves no key to meaning.[3] The child, or for that matter a non-reading adult, confronted with his first page of print, is as helpless to extract its

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[1]Ross Lee Finney, A Sociological History of Education (New York: The Macmillan Company, 1940), p. 150; and Daniel Bell Leary, Modern Psychology - Normal and Abnormal (Philadelphia: J. B. Lippincott Company, 1928), p.119.

[2]Sylvanus G. Morley, The Ancient Maya (Palo Alto, California: Stanford University Press, 1946), pp. 259, 453.

[3]Launcelot Hogben, From Cave Painting to Comic Strip (New York: The Chanticleer Press, 1947), pp. 71-79; and Morley, loc. cit. See also Appendix D.

meaning as prehistoric man would be if called back down the ages to review the works of his modern progeny. But, equally like prehistoric man, where the symbol in anywise characterizes a familiar object, neither the child nor the modern non-reading adult is stricken dumb--as witness the arrow sign pointing a direction.

B. Reformation and Comprehension

The little child, handling an art object, puts his thoughts through the artist's mould, says Kready, and gains a touch of the artist's joys.[4] Kready seems here to echo Wundt, who is quoted by Rank as emphasizing the "unconscious or conscious imitation of purposeful actions," as well as the "pleasant effect" of play and "the reformation of the original aims in imaginary ones."[5]

Rank also quotes Wundt to the effect that

> If there is any adaptation between language and what it expresses, it cannot be in the speaker's adapting the sound, but can only consist in his adapting his articulation movements to the impression or, rather, the ideas and feelings called forth in us by that impression. The essential in original utterance is, therefore, not the sound but the gesture--which is itself, however, only a special form of mimic action.[6]

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[4]Laura F. Kready, A Study of Fairy Tales (New York: Houghton-Mifflin Company, 1916), p. 4.

[5]Otto Rank, Art and the Artist (New York: Alfred A. Knopf and Company, 1932), p. 99.

[6]Ibid., p. 239, citing Wundt, Sprache II, 635.

It would seem that Fernald's technique in remedial reading[7] could have been developed from Wundt's premise of the gesture as parent to the symbolic sound, for this technique can be described in a single phrase as "drawing words." But, with Fernald, it is not his own free expression of the image roused in him by the word that the child draws; instead, he traces and retraces in large character the abstract symbol his society has agreed upon for an image universally recognized; and he repeatedly traces or redraws this symbol until he recognizes it automatically--all to the purpose that a specific medium of communication shall exist between him and the various individuals in that society. Thus it is evident that drawing, as tracing, may become a form of essentialistically directed association--practice through gesture--by which word forming is acquired.

Rank goes further in elaborating the genesis of speech from pantomime or gesture and in conceptualizing this genesis in art:

> We have mentioned that the things which the hand grasps are also carried by it to the mouth, which takes them up and copies them. In this sense the individual sound-formation corresponds more or less to an incorporation of the indicated objects by the mouth, while the collectiving of a language to serve as a medium of understanding is more like a giving-out, or throwing out of what has been previously taken in, as indeed the accompanying hand gesture often shows. This double character of language as a subjective means

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[7]Grace M. Fernald, Remedial Techniques in Basic School Subjects (New York: McGraw-Hill Book Company, 1945).

> of expression and a collective medium of understanding occurs again in the highest form of language and, in fact, is the essence of art work in general.[8]

Rank substantiates this statement by quoting Levy-Bruhl who says, using Gatschet's anthropological research:

> The Klamath language, which may be taken as representative of a very widespread family of Indian languages in North America, obeys a very definite tendency which Gatschet calls pictorial--that is, the need to speak concretely, in pictures, to draw or paint what one needs to express.[9]

Rank carries the gesture to the point of being equal to, and one with, conceptualization in that he gives it the exact meaning of comprehension, "to grasp":

> Now in this when we write there is being expressed a quality of language which so far from being the result of a desire to communicate, implies a directly opposite tendency toward incorporation, the intuition being not only to grasp the objects of the external world--that is--dominate them--but actually to make them part of the ego. This originally possessive character of language is still very clear in the Melanesian and Micronesian groups of languages.[10]

This is comparable to Wundt's statement that association is passive, but apperception is active. To which he adds, "apperception presupposes association."[11]

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[8]Rank, op. cit., p. 253.

[9]Lucian Levy-Bruhl, How Natives Think (London: Allen and Unwin, 1926), p. 460, quoting Albert S. Gatschet, The Klamath Language.

[10]Rank, op. cit., pp. 250-251.

[11]Richard Muller-Freienfels, Evolution of Modern Psychology (New Haven: Yale University Press, 1935), p. 77.

In this consideration of the gesture as a means of comprehension, the writer is moved to remark on having watched a Mexican-Indian father instilling the ritual of the mass in an infant in arms. Clasping the baby's hand around his own finger, the father turned the child's face toward the altar with his other hand, while he held its body in the curve of his arm; then, with their joint gesture, he made the sign of the cross.[12]

From consideration of the gesture as a means of apprehension, it is a natural step to a consideration of drawing as a means of comprehension; and, as has been shown in considering Fernald's techniques, tracing may be considered as a combination of drawing and directed gesture.

C. Drawing, a Form of Language

"Signs and pictures are a language for the child," Viola says, quoting S. Levinstein, a Viennese psychologist; and he explains that "to draw means to describe, not represent."[13] The step processes in children's drawing which child psychologists interested in art, and Viola and other educators interested in teaching through art, attribute to

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[12]Seen in the parish church, Piedras Negras, Coahuila, 1950.

[13]William Viola, The Child and His Art (Peoria, Illinois: Charles A. Bennett Company, Inc., 1945), p. 13, quoting S. Levinstein, Untersuschungen ueber das Zeichnen der Kinder bis zum 14 (1904), tr. Inquiries About the Drawing of Children Until the Fourteenth Year.

the growth of comprehension, are comparable to the step processes similar experts interested in the language arts attribute to the growth of comprehension in speech and to maturity in the art of reading.

According to Eng, to Goodenough, to Griffith, and to Lowenfeld, the scribble process is overcome through interest in shapes, geometrical and abstract; but it is primarily involved with the human figure as to conceptuality.[14] This second, or geometrical phase, Lowenfeld says; is overcome by interest in relating objects to space.

At this point, research into the child's growth in intellectual maturity, as evidenced by a general analysis of "the kind of drawings children make themselves," begins to take on the aspect of the "culture epoch" or cultural recapitulation theory propounded by G. Stanley Hall in his advancement of the "plateau theory" of learning. By Hall's theory, the child is thought to approach the total realm of knowledge as if on a "learning escalator," getting off, so to speak, at each level to explore at will--a theory which

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[14]Helga Eng, Psychology of Children's Drawings (New York: Harcourt, Brace and Company, 1930), pp. 181-182; Florence Goodenough, Measurement of Intelligence by Drawings (Worcester: Clark University Press, 1931), pp. 21-23; Ruth Griffith, "Eleven Drawing Stages," Imagination in Early Childhood (London: Kegan Paul, Trench, Trubner and Company, 1935); and Viktor Lowenfeld, Creative and Mental Growth (New York: The Macmillan Company, 1952), p. 181.

is in keeping with Comenius' theory of "emergent understanding."[15]

Viola relates the theory of growth stages in intellectual maturity to specific culture traits. He says the lack of perspective in children's drawings goes back to a lack of depth experience; and he quotes from Oswald Spengler, not only that the principle of perspective is peculiarly a western (European and Euro-American) trait, of which children are innocently unaware, but also that

> the involuntary and unqualified realization of depth, which dominates the consciousness with the force of an elemental event (simultaneously with the awakening of the inner life) marks the frontier between child and ... Man.[16]

In the experience of horizon as future, Viola continues, people become directly and surely conscious of the identity of time with the "third dimension" of that experienced space which is living self-extension.[17]

All authorities on children's drawing seem to agree that only after the space concept has been conceptually

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[15]G. Stanley Hall, Adolescence (New York: D. Appleton and Company, 1905), pp. iii-xx. Cf. Herman Harrell Horne, The Democratic Philosophy of Education (New York: The Macmillan Company, 1936), pp. 293-94: "I could never understand why he [Dewey] should attack the principles of recapitulation when his own school at Chicago was based on it." For Comenius see Frederick Eby and Charles Flinn Arrowwood, The Development of Modern Education (New York: Prentice-Hall, Inc., 1934), pp. 216-261.

[16]Viola, op. cit., pp. 20-21.

[17]Ibid.

grasped does the child become interested in making his picture sufficiently realistic or "physioplastic" for it to be recognizable, as to its objectivity, for other persons; and only after this stage is reached does drawing become an actual "form of language."[18]

It is a natural step from the consideration of apprehension and comprehension of phenomena through the act of drawing and/or tracing to consideration of a use for the over-all concept of this act. The conceptual synthesis thus evolved can be listed as an inspirational factor in the creative conceptuality that engendered the selection of the pictograph as a construction element in the design of Tool C. A successive and related synthesis of conceptuality is the subject of the next section of this chapter.

D. A Bridge for the Interest Gap

Among speech experts who have sought to determine developmental stages in language formation, Ruch is perhaps the most explicit. He lists the first major stage of speech formation as babbling, comparable to the scribble stage of drawing. The second major speech stage is identification of words with objects--when the child looks at or touches the correct toy if someone says "ball"--comparable to subjective recognition and to expression of objects through "abstract

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[18] Ibid., p. 27.

drawing." The third major stage in speech is actual use of imitated sounds--words--in the presence of the object symbolized, comparable, in drawing, to the spatial concept of placing more than one object in the same picture. Finally, with recognition of the meaning of words in the absence of objects symbolized, the child has arrived at the use of speech as a means of social communication, comparable, in drawing, with placing universally identifiable details of objects in a picture which is consciously a means of social communication.[19]

The average child has acquired a thousand words at the age of three years, Ruch continues. He does not name the words, but Stone supplies a reading vocabulary of only 1716 words for the third grade child.[20] It thus becomes evident that acquisition of the tool skill of reading is a definite "developmental task" of childhood which embraces the conversion of the recognition of words as sounds into the recognition of words as abstract "written" and "printed" symbols. The nine to ten-year-old child in the third grade usually must have acquired many times the number of 1716 words in respect to recognition through sound and in respect

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[19]Floyd L. Ruch, "How We Learn to Use Language," Psychology and Life (Chicago: Scott-Foresman Company, 1937), pp. 393-402.

[20]Clarence R. Stone, "Complete Word List of 1716 Words for Primary Readers," Progress in Primary Reading (St. Louis: The Webster Publishing Company, 1950), 107-130.

to use through speech. This thought brings to mind Strickland's statement heretofore quoted that much of the story content in the primary grades lacks both interest and challenge.[21] Actually, tests have shown that the average vocabulary of a third grade child runs as high, in some American localities, as a basic 18,000 words and a comprehension of 44,000 words.[22]

Rank translates from the German, Fritz Mauthner, a paragraph that seems pertinent at this point:

> This struggle to win a language of one's own which every child to this day passes through, can be traced in discourse from the peculiar elevated language of prayer and poetry, via the secret language of sect and profession, right into the specific language of a people or a nation.[23]

The paragraph seems pertinent here because the child's struggle thus described must include, in any literate culture, an effort to bridge the "interest gap" between his listening and speaking vocabularies and his reading vocabulary. The teaching-learning problem involved would seem to be, in part, to lighten the labor entailed in a sufficient reiteration of the comparison of identity between sound

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[21]Ruth C. Strickland, The Language Arts in the Elementary School (Boston: D. C. Heath and Company, 1951), p. 190.

[22]Mary Catherine Smith, "Measurement of the Size of the General English Vocabulary Through the Elementary Grades and High School," Genetic Psychology Monographs, vol. 24, 311-345.

[23]Fritz Mauthner, Muttersprache und Vaterland, cited by Otto Rank, op. cit., p. 25.

symbol and written or printed symbol for identity to become automatic.

Methodology enters into the problem, first, through the ancient, eternal teaching-learning device of repetition and rhythm--poesy. It enters, second, through the equally ancient teaching-learning device of pictorial art--drawing, represented today by tribal art in non-literate communities. African tribal art, in pattern origin, pursues the same objective as child art, according to Ladislas Segy, but it has become a fine art through generations of ritualistic conventionality; in other words, the handing down of culture concepts through art symbols has perfected its techniques.

Comparing African tribal art with child art, Segy says specifically, echoing Freeman and Freeman:

> We find that children do not draw actual appearances. They reproduce a mental image. A typical children's drawing of a human being is a large head with large eyes, with the body frequently omitted. The child selects what seems to him the significant parts of the things represented. With no concern for realistic appearances, he expresses his symbolized concept.[24]

"Primitive art," Rand adds to this discussion, "is based on a feeling of superiority at being able to control nature"[25] (through symbolic images), a statement which, if

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[24]Ladislas Segy, Buma--African Sculpture Speaks (New York: A. A. Wyn and Company, 1952), p. 106. Cf. Viktor Lowenfeld, The Nature of Creative Activity (Hertford, England: Austin Publishers, 1939), pp. 133-148; and Graydon La Verne Freeman and Ruth S. Freeman, A Child and His Picture Book (Chicago: Northwestern University Press, 1933), p. 46.

[25]Rank, op. cit., p. 92.

inherently valid, adds its weight to the argument that the simulated pictograph, or neo-pictograph, is in itself meaningful for "When the World Was Young." Rank's statement, while related to the subject in hand, is an esthetic assumption, as is partly true of the following quotation from Alschuler and Hattwick:

> The approach through individual children's case studies has revealed that there is a very general, and perhaps even universal tendency to express similar feelings, reactions, and problems in like, or at least comparable fashion. This likeness is expressed sometimes in color and sometimes in similarity of form, line and/or space usage. Apparently, just as creative activity springs from some unexplained universal tendency, so the expression of certain universal experiences frequently takes on comparable form.
>
> Certainly such similarity was observed among the children studied who not only were having widely diverse nursery experiences in five separate nursery schools but came from widely different social and economic levels as well as from varied racial and national backgrounds. In their usage of color, line, form, and space, these children expressed, on the one hand, their individual, highly subjective, experience, and on the other hand, the responses in these paintings were in many respects so basically similar as to suggest that their origin, to some extent at least, lay deep in the history of the human race and in the constitution of the human organism.[26]

Consideration of the Comenius, Hall, Segy, Rank, Alschuler-Hattwick quotations given in this chapter, in the order named, engendered a synthesis in creative conceptuality that can be listed as a second inspirational factor

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[26]Rose H. Alschuler and La Berta Weiss Hattwick, Painting and Personality (Chicago: University of Chicago Press, 1947), p. 4.

leading to selection of the pictograph as the art form to illustrate "When the World Was Young." Also entering into this synthesis was remembered experience as an apprentice teacher in the University of Texas Nursery School when the staff leaned heavily on Goodenough's "Drawing a Man Test" as the only intelligence test applicable to the non-reading group of twenty children below five years of age.[27]

Entering into this synthesis, lastly, was the following quotation from Freeman and Freeman, which describes picture-viewing in essentialist terms:

> The picture book can be used to increase the child's knowledge of the environment and its inter-relations. Children learn to react in an understanding way to the sky, the rains, the wind, the earth, and the various animals which inhabit it. Pictures serve as a connecting link between the immediate environment and that which is more remote. In looking at them, the child sees first the familiar objects; that is, he now appreciates vicariously what he has actually experienced at some former time. If the picture contains new as well as familiar objects, the relation of the new to the old will be unconsciously learned.[28]

The synthesis itself amounted to the conclusion that

(1) in self-impression through picture-viewing and

(2) in self-expression through picture-making, the child seems naturally to bridge between

   (a) perception of natural phenomena and

   (b) comprehension of natural phenomena.

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[27]Goodenough, op. cit., pp. 39, 83-110.

[28]Freeman and Freeman, op. cit., p. 60.

Substituting blocked text in Tool C for (a) and context of the allegory, "When the World Was Young," for (b), and given a pictorial content parallel to the text blocks, and representational of the same context, it appeared that picture-viewing-plus-tracing could result in an act describable as apperception-association-comprehension.[29]

It was a natural step from consideration of the act of pictorially bridging the gap between perception and comprehension of text-and-context through the prereading skills of picture-viewing and picture-making, including tracing, to a consideration of the act of reading as analagous to painting. This consideration is the subject of the next chapter.

E. Reading, a Form of Painting

Morley, in bringing together the language effort of today's child with the ancient generalized effort of mankind, divides the historical descent of written language into three major steps: pictographs, ideographic writing or hieroglyphs, and phonetic writing.[30] Taken together, by his reckoning, writing and reading, or giving and receiving impressions of the phenomenal object through the abstract symbol, becomes an art in which one who writes, in the last

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[29]See Muller-Freienfels, loc. cit; and William James, Talks to Teachers (New York: Henry Holt and Company, 1924), pp. 105-168.

[30]Morley, loc. cit.

analysis, draws and paints with words the pictures in his own mind; and when he reads what someone else writes he reads into or "colors" their written symbols with his own corresponding associations--that is, the actual experiential memories these symbols evoke.[31] The drawing, painting, and coloring process is intimated in semantics by the term "connotation."

In the words of George Rex Green, speaking with respect to real phenomenal experience:

> The eye is a great lens which snaps every object that comes before it but the brain must develop the film before the picture can be realized. So it is that the training which is to impose the observation is the training of the brain back of the eye, and not at all the eye itself.[32]

With many artists and educators in agreement that drawing, which includes tracing, serves today's child, as it served the non-literate prehistoric adult--his ancient father--for a medium of communication, as well as for a medium of subjective reformation and comprehension, it was concluded, as a part of the creative conceptuality that engendered the design of Tool C, that reading, which is concomitant with writing, is a form of word painting. That is,

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[31]Gordon Willard Allport, Personality (New York: Henry Holt and Company, 1937), p. 345, "Imagination is the 'unifying capacity of self blending past with future'....Thus the imagination is in a sense 'active memory.'"

[32]George Rex Green, A Survey of Nature (Ithaca: Slingerland and Comstock, 1930), p. 1.

reading is an act of painting words with experiential imagery.[33] By the same token, filling in the outlined forms in a pictorial series illustrating "When the World Was Young" with water colors, crayolas, or other media, would be analogous to reading--provided always that the child doing the filling in were left free to choose his own colors.[34]

It was with the intent that the apperception of the child should be as fully as possible utilized, in accord with Green's attitude toward readiness for assumed future knowledge, that the allegorical story symbolizing a series of concepts from cultural anthropology had been constructed. It was in accord with this attitude, also, that the pictograph was under consideration for an art form to illustrate Tool C and to be serially arranged as representational of the allegorical context. For it was assumed to be possible that if such a pictorial series should be made to parallel the block-patterned text this series could serve as a conceptual "pony" to bridge the interest gap between a child's limited reading vocabulary and his more extensive listening and speaking vocabularies.[35]

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[33] See fn. 28, Chapter I, and Allport, loc. cit.

[34] Cf. Lowenfeld, Creative and Mental Growth (New York: The Macmillan Company, 1947), p. 287.

[35] See "Delimitations of the Problem," Section 4, Chapter I.

Consideration of drawing, including tracing, and of coloring given tracings as activities natural to the primary level of intellectual maturity, can be listed as an inspirational factor in the creative conceptuality that engendered the design of Tool C, here presented as Appendix A. Consideration of these activities natural to that period of life in which today's child changes, in comparatively short shift, from a non-reading picture-maker to a picture-making reader, led to consideration of two specific forms of symbolism designated by modern educators as useful in facilitating the rate of this intellectual maturation, namely, Little Black Sambo, a perennially popular nursery school level picture book,[36] and the dual visual (text-and-picture-serial) comic book peculiar to the United States.[37]

A comparison of Little Black Sambo and the comic book with each other and with "When the World Was Young," presented as Appendix A, will be the subject of the next section of this chapter.

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[36]Helen Bannerman, Little Black Sambo (Philadelphia: J. B. Lippincott Company, n.d.). See discussion on dust jacket from May Lamberton Becker, First Adventures in Reading.

[37]Hogben, op. cit., p. 215 ff. Cf. John M. Roth, "In Defense of the Comic Book," The School Executive, vol. 68, September, 1948, 48-50.

F. Little Black Sambo--A Comparison of Reading Levels and of Teaching-Learning Tools

In considering Little Black Sambo as a teaching-learning tool, let it be said that nursery school work familiarizes a teacher with "don't's" and "do's" in the structuralism of nursery books that are applicable through the primary grades and beyond. For example, do not ever have a picture showing part of a person or an animal with the missing part vanishing into the margin. The small child has no concept for this sort of symbolism. He will hunt on the other side of the page for the tail and hindlegs of a dog or the head and neck of a giraffe, and he will become distressed and distracted when he cannot locate these parts.

That this disturbance of the concept carries far beyond the nursery school level is evidenced by Mrs. Bertha Schmidt, English teacher for the sixth grade at the Alto Loma High School near Galveston, Texas. Giving a paper on the history of printing to a class the writer taught in world civilization at the University of Houston, in 1954, Mrs. Schmidt said, with respect to the development of the Isotype system of communication in Vienna: "The children in my sixth grade English will argue constantly against a half-figure purporting to show statistics, for instance, the figure 5500 shown by a man per thousand. They say, 'but there can't be half a man!'"

The use of words for which he has as yet no associative concepts is, of course, the most imperative of all "don'ts"

for this results in annihilation of interest. The nursery school child simply slides away from the story world to go about his own more realistic, objective concerns. On the other hand, fancy charms him--as witness Little Black Sambo--if only the words hold a familiar connotation.

Little Black Sambo, in its original form, was created by a mother, Helen Bannerman, who made story and drawings to entertain her own children on a train journey following their residence in India. The characters are Hindu, not Negro, in the American sense. Unfortunately, the book has been changed, in the hands of some publishers, to make it actually picture the American Negro stereotype, and thus it has lost the pure quality of "the kind of drawings children make themselves." In its original form, it is listed by Freeman and Freeman in The Child and His Picture Book as a nursery gem in literary and artistic construction. As of today, twenty years later, Lippincott, advertising the "only authorized American version," quotes May Lamberton Becker, who says, in First Adventures in Reading, "I cannot imagine a childhood without it." On the dust jacket of the current edition, Lippincott continues from Becker:

> Little Black Sambo is a book that speaks the common language of all nations, and has added more to the joy of little children than perhaps any other story. They love to hear it again and again; to read it to themselves; to act it out in their play.[38]

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[38]May Lamberton Becker, First Adventures in Reading (Philadelphia: Frederick A. Stokes Company, 1936).

Careful analysis shows that Little Black Sambo avoids all of the accepted "don'ts" and fulfills all of the accepted "do's" according to Freeman and Freeman's findings in The Child and his Picture Book.[39] It has a picture for every topic sentence, and the pictures, though well beyond the "scribble stage," are line drawings, without perspective, and filled with flat color. In other words, they are "the kind of drawings children make themselves."[40] All in all, the mother-artist could hardly have come nearer fulfilling the limitations set by the Freemans, and also by Otto Egge in "Art in the Environment of Little Children,"[41] had she been a formal researcher in education instead of a hard-beset parent seeking to engage the interest of little children on a transcontinental journey.

Egge says of children's response to art forms:

> Pictures should be selected on the basis of simplicity and intensity of color with elimination of all shading, aerial perspective, and accessories that do not help the story.[42]

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[39]See Chapter II, Part B, Section 3.

[40]Herbert Read, Education Through Art (London: Faber and Faber, 1945), pp. 117-119. Cf. child and primitive art in Appendix C.

[41]Eng, op. cit., pp. 172-184; and Reginald Robert Tomlinson, Picture Making by Children (London: Studio Publications, 1934).

[42]Otto Egge, "Art in the Environment of Little Children," Twenty-Eighth Yearbook of the National Society for the Study of Education (Bloomington, Illinois: Public School Publishing Company), pp. 719-720.

The fullpage, full-color single concept pictures in Tool A were modeled, with certain differences, on the pictures in Little Black Sambo. For reasons having to do with the maturity level of the writer's own child and her personal friends, for whom Tool A was created in the same parental spirit as Little Black Sambo, hard, bright primary colors were positively avoided and shading was employed. More particularly, figure types for the "man and the woman and their children," although created in accord with "the kind of drawings children make themselves," were created in the spirit of collections of Eskimo and Indian child drawings which had been presented in studies made by researchers older than the writer in the American field of child art.[43]

As a research anthropologist engaged at the moment in production of a reference work on Indians of the southwest, the writer felt that the children of these primal peoples must approach closer to the ancient Zeitgeist of prehistoric humanity than the children of her own more complexly acculturated society, ordinarily designated as "western" and "modern." One might use, in regard to this approach, the words of Brameld, "warmed with the esthetic fires of the cultural myth."[44] Twenty years later this same reasoning,

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[43]Louise Maillard, "Notes on Eskimo Drawings," Northwestern Monthly, June 9, 1899, pp. 443-450; and Louise McDermott, "Favorite Drawings of Indian Children," Northwestern Monthly, August, 1897, pp. 134-187.

[44]Theodore Brameld, Patterns of Educational Philosophy (New York: The World Book Company, 1950), p. 530.

as an inspirational factor, influenced the transfer of the set of figure types from Tool A to Tool C, inasmuch as these symbols could be readily adapted to the cartoon-serial-art type common to the pictograph and the comic book.

Consideration of Little Black Sambo as a nursery school level picture book which affords a first step in associating sound symbol, picture symbol, and text symbol, together with consideration of the comic book as affording a practice at the primary level in associating picture and text symbol with a complex context, can be listed as that dual inspirational factor in the creative conceptuality leading to the design of Tool C which fixed attention on the prehistoric Mexican pictograph as containing within itself all the associative factors of picture book and of comic book, plus one distinctive advantage over both as a contextual parallel for the allegory, "When the World Was Young."

This advantage was that, of the several art forms considered to illustrate "When the World Was Young," the pictograph inherently exemplifies the fourteenth concept in the sequential arrangement of ethnological content; thus it represents the vast totality of preliterate time. Hogben illustrates this final assumption:

> When modern man appears on the stage of prehistory [post-Mousterian culture] he is a picture-making animal, the only picture-making animal which has ever lived on this planet. Only the vast educational problems of World War II have

> made us wise to the gigantic implications of this innovation of the evolutionary panorama.[45]

That picture-making is the medium for a universal language of today, as of all past days, is the raison d'etre of the Isotype Institute in Vienna where Otto Neurath has said in the preface to Modern Man in the Making:

> The principle of visualization applied in... my book...shows connexions between facts instead of discussing them. Impressive visual aids do not merely act as illustrations or eye-bait in this book; they are parts of the explanations themselves. The reader may not understand the contents by reading the text only; he must "read" the pictures as carefully as the text. An international language is combined with a word language.[46]

The change to be effected in Tool C from the single concept or nursery school picture to the level of the comic book serial cartoon, together with an expanded series of storied concepts and a more complexly structured text than Tool A's single-shot short sentences, was a change from a "story to be heard while looking at" a pictorial context to a story designed "to be read for oneself." It would be a change wrought in accord with the principle advanced by Strickland, Roth, and others, that the nation-wide popularity of the comic book evinces the intrinsic interest of the primary child in this reading format and that the format

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[45]Hogben, op. cit., p. 16.

[46]Otto Neurath, Modern Man in the Making (New York: Alfred A. Knopf and Company, 1939). See also Hogben, op. cit., p. 224.

needs only to be loaded with a predetermined content to make it an effectual teaching-learning tool or concept-conveyor.[47] It would be a change wrought also in accord with a quotation Viola gives from Herbert Spencer:

> The spreading recognition of drawing as an element of education is one among many signs of the prerational views on mental culture now beginning to prevail.[48]

In recognition of Spencer's statement, it could be assumed, with respect to the projected design of Tool C, that a change from the nursery school single-concept picture page to a page series of outline drawings simulating prehistoric Mexican pictographs would make it possible for a tool format to be derived which could be copied by tracing, and, if so desired, could be reproduced in quantity on the Ditto machine or the mimeograph. It could be assumed, also, that if coloring were omitted from the format, this omission would enable the child to establish even a further familiarity with the concepts presented through hearing the context read, reading it for himself, and bridging the gaps between familiar and unfamiliar context by picture-viewing.

This further familiarity could result because the black line drawings on white paper would automatically suggest the activity of reproduction by tracing and/or the activity of

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[47]Strickland, op. cit., pp. 304-307; and Roth, loc. cit.

[48]Viola, op. cit., p. 13.

coloring either the tool pictures or the pictures traced from the tool. The value inherent in coloring the pictures would rest primarily in the child's being left free to color "naturalistically" if familiarity with the object symbolized should cause him to desire physioplastic self-expression, or to color symbolically, should he be in the mood for ideoplastic self-expression.[49]

G. The Sociological Aspect

Analysis of Little Black Sambo, in comparison with "When the World Was Young" cannot be completed without attention to a vital factor concerning the former's conceptual content. This factor currently threatens to bring about a ban of this beloved "little book" from public library shelves, despite its established excellence in the language arts as a teaching-learning tool.

Professor Nannie Belle Aycox, in charge of teacher training at Texas Southern University, Houston, said, in personal conference with the writer, in 1952, that Negro educators have taken up in their official congresses the question of banning Little Black Sambo, because many Negro leaders, and parents, feel that in its over-all symbolism, its use deprecates the Negro child in his own eyes, as well as in the eyes of non-Negro children, and their parents.

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[49]Lowenfeld, Creative and Mental Growth, loc. cit.

She added that this is entirely an adult attitude, for the book has suffered no diminishment of popularity among Negro children.

Wesley South, of the staff of the Johnson Publishing Company in Chicago which issues Ebony, Jet, Tan, and Hue, in a conference with the writer in March, 1955, affirmed Professor Aycox's statement with respect to the impending ban. In the same conference, Vivian Ayres Allen, a writer of poetry and philosophy, who is bringing up three children of primary age in a mixed residence section in Houston, Texas, refuted the idea that they had in anywise suffered adversely either from their own enthusiastic appreciation of Little Black Sambo or of their "white" neighbors' familiarity with its context.

It is possible to analyze the dichotic attitude evidenced among Negroes, particularly as between Negro adult and Negro child, with respect to Little Black Sambo and to show that, in contrast, "When the World Was Young" is free of any possible taint of contribution to prejudice through "stereotyping," a culture trait under fire by all sociological-minded educators.[50] Donald Young said in a study prepared for Columbia University Teachers College in 1932:

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[50]Robert L. Sutherland, Julian L. Woodward, and Milton A. Maxwell, Introductory Psychology (Philadelphia: J. B. Lippincott Company, 1952), pp. 530-531.

> There is not a minority in the United States of whatever racial or national origin which has not brought with it or acquired group antagonisms or prejudices concerning the capacities of other minorities and of the majority of old American stock. Not a single individual in the United States is permitted by his own beliefs and by the controlling attitudes of his group to regard his fellows as individuals, rather than as members of some class or caste based on social or racial or national ancestry and characterized thereby.[51]

Perhaps the clearest of all treatises in this respect is Lilian Smith's summary of segregation as a sociological factor in American culture, Now is the Time, a book just fresh off Viking's presses which deals with the recent Supreme Court decision on segregation in education.

An analysis of popularized symbolism leading into the attitudes Young described with respect to the American Negro, and which seem to lead directly into the adult Negro's reaction to Little Black Sambo, can be assumptionally based on two points: (1) historical descent of the word Sambo and (2) historical descent of the "Negro minstrel" or "black-face comedian" as a type character in the development of the American theatre.

Webster's New International Dictionary derives "sambo" from zhambo, a native African word for "monkey." The historical descent of the conventional "black-face comedian"--not a Negro usually, though billed as a "Negro minstrel"--was once traced in a paper Viola Fontaine Corley,

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[51]Donald Young, American Minority Peoples (New York: Teachers College, Columbia University, 1933), p. 27.

assistant to Howard Mumford Jones, then chairman of the comparative literature department of the University of Texas, submitted in that department for graduate credit. Its content was familiar to the writer, who proofread the paper for the author. Recommended by the department for publication, the paper, with its references, unfortunately was lost at the death of the author.

According to the Corley findings (ca. 1924) a crippled Negro stablehand at a hostelry in Louisville, Kentucky, was the prototype for the phrase which now connotes segregational distinction on a complexional basis where ever the English language is spoken. The phrase attained its hold on the public imagination because Jim Crow, the stablehand, inspired a blackface skit in 1820 that made his name known from coast to coast and on around the world.

Fascinated by the rhythm of Jim Crow's limp, together with the bit of doggerel fitted to it, chanted and rechanted, in his daily round of chores, an enterprising actor[52] bought the Negro's clothes from off his back. Face blacked, his own person clothed in these fluttering rags, he swung a little Negro boy in a burlap bag over his shoulder in imitation of Jim's customary manner of transporting properties. Thus equipped, the actor limped out from the wings during a performance of Robinson's Rifles as an entr'act.

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[52]Thomas D. Rice, then acting in Rifles by Solon Robinson.

He sang Jim Crow's familiar refrain as he hitched and stumped across the stage:

> Wheel about, turn about,
> Do des so;
> An' ebry time ah turn about,
> It's "Jump, Jim Crow!"

At the high note on "jump" the little boy sprang from the bag to follow across the stage in exaggerated parody of the actor's hitching gait, while shrilly echoing his continued reiteration, "Jump, Jim Crow!"[53]

The Corley paper included a lengthy derivation of theatrical practices and productions engendered by the original "Jim Crow act," none of which is pertinent to the discussion in hand, except that the symbolism thus set up and fostered in popular concept, and its counteraction, may be assumed as the base of adult Negro hostility toward Little Black Sambo. In other words, this "little book" which has been acclaimed a children's classic by experts in the language arts for close on half a century, is now condemned by sociology experts as an aggravator of an unwholesome culture trait, namely, stigmatizing the American Negro by association with a stereotype symbol wherein physical peculiarities are representational factors.

That a teaching-learning tool so adequate to and beloved by children themselves should be lauded by authorities

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[53]William Rose Benet, The Readers' Encyclopedia (New York: Thomas Crowell Publishing Company, 1948), p. 60, substantiates this origin of Jim Crow phraseology.

in one educational field, and so condemned by authorities in another educational field, makes it evident that any teaching-learning tool may be, at one and the same time, both lauded and condemned, unless the several educational fields touched by its context are philosophically coordinated before creative conceptuality is given productive expression. Hence is shown the need for careful consideration of all fields during creativity and before final execution of design.

H. Summary

Quotations in this chapter show that some authorities in the field of child art, of child psychology, and of the language arts, believe that a reformation of associative factors on the child's part amounts to the comprehension of concepts, that the comprehension of concepts amounts to the attainment of intellectual maturity, and that this maturing process is concerned with language facility. In this respect, it is represented by the same authorities that to children, and to primal peoples, "drawing is a form of language in itself."

Quotations in this chapter also show it to be represented by the same authorities that in attaining control of the tools common to the modern language arts, namely, writing and reading, and so, of the mass of concepts making up the complexity of the modern "cognitive capital of

culture," both (1) the personal and internalizing act of drawing, or tracing, and (2) the formal and essentialist external act of presenting pictorial content through pictorial representation, taken together, can serve as a bridge for the interest gap between a child's auditory comprehension of words and his visual comprehension of words--thus lightening the labor of learning, both with respect to grasping the use of the language tools and to grasping the context embodied in abstract text symbolization.

Furthermore, analysis shows that in Tool C use of a simulated prehistoric Mexican pictograph as the art form representational of the allegorical context, "When the World Was Young," would be to make use of two associative factors inherent in this art form: (1) it exemplifies within itself the fourteenth major step in the ethnological sequence given as the context of Tool C and (2) it is essentially the same art form as the serialized cartoon in the American comic strip, which (3) allows for modification, through the omission of color, to produce a dual concept-conveyor in the form of a primary "reader" plus "color book" which will be readily reproducible by teacher, parent, or child.

Lastly, a comparison shows that although the model book, Little Black Sambo, is open to the sociological charge of stereotyping, because it dwells on a distinction of physical characteristics, "When the World Was Young" in totally abstract as a human concept. In consequence, "When

the World Was Young" can be used by any minority group or translated into any language without the risk of "hurt feelings" as that phrase is delineated by Lilian Smith in Now Is the Time.

I. The Pictograph: Conclusions

In conclusion, it may be remarked that, as the last quotation from Hogben implies, the principle of visualization through drawing, however old, has not been fully exploited in the field of education. Confucius, perhaps quoting older philosophers, said: "One picture is worth a thousand words." Comenius enlarged on Confucius' dictum in the preface to his children's encyclopedia, Orbis Sensualium Pictus, loosely translatable as Visual Comprehension Through Pictures: "There is nothing in the intellect which has not first been in the senses."

According to the writer's survey of literature relating to symbolism, many textbook writers have made use of the picture as a contextual parallel to aid the prereader and the primary reader in comprehension of the text symbolism. But only a few psychologists and a few teaching artists seem to have used drawing as an actual, formal tool, involving preconceived tracing, to bridge the interest gap between speech comprehension and reading comprehension of the essential concepts which are a "must" in the child's cultural heritage. More particularly, none was found to have used

this tool in respect to the essential concepts of cultural anthropology.

To exemplify the chain concept that the primitive pictograph, the cartoon in the modern "comics," and "the kind of drawings children make themselves" all have elements in common, namely, (1) closed line figure drawing and (2) an absence of perspective, Figures I - XV have been included in this thesis as Appendix C.

The next and last chapter in the thesis will summarize the two steps of conceiving and executing the design for Tool C and the two structural parts of the design, the allegory and the series of pictographs used to symbolize the allegory.

CHAPTER IV

SUMMARY, EVALUATIONS, AND CONCLUSIONS

A. Summary

The problem of this thesis was to create a teaching-learning tool which should present a sequence of fourteen step concepts in cultural anthropology for the primary child and to create this tool in a form reproducible by the teacher, the parent, and the child. The need arose from a scientific approach to the social sciences inherent in the teaching of the natural sciences--an approach in part incorporated in the school systems of the United States through the integration of museum schools with the other school systems.

As set forth in Chapter I, a survey of museum exhibits presenting the assumed course of man's past history and a survey of fields of literature related to this and other forms of educational symbolism led to the assumption that a dual concept-conveyor for ethnological concepts could be designed for the primary level through the use of the allegory and the pictograph as elements of construction, and that this design could be executed in a form meeting the problem requirements.

In Chapter II, Part A, the dual concept-conveyor designed and presented as Appendix A, "When the World Was Young," is analyzed with respect to integration of social concepts and natural history concepts with the fourteen step concepts given in the assumed sequence of world civilization as the contextual "raw material" of tool construction. This integration, made in allegorical form, is justified through quoted excerpts from authorities in the several allied scientific fields.

In Chapter II, Part B, the general format of "When the World Was Young" is scrutinized and justified as to (1) selection of type for the text, (2) pattern blocking of the context, (3) selection of the pictograph as the art form to illustrate the text, (4) serial arrangement of pictorial representation of the context, and (5) integration of these several elements of construction with each other in a dual concept-conveyor for the primary reading level.

In Chapter II, Part C, the format and internal structure of the allegorical context and the selected vocabulary are analyzed in the light of authoritative references in the field of the language arts, particularly Kready, Strickland, and Stone. The vocabulary is listed in accord with Stone's primary word lists, and the construction of the allegory is justified through quotations from these and other authorities: (1) as a conveyor of the given context, (2) as a concept-conveyor for the primary level, and (3) as an integrative element in the over-all tool design.

In Chapter III selection of the pictograph to be used in serialized arrangement for the illustrative art form of "When the World Was Young" is scrutinized and justified on the score that:

(1) reformation and comprehension of perceptuality into conceptual relationships is thought by some psychologists to be facilitated by drawing, which is held to be, for the child, and to have been for primal man, a form of language in itself, and on the score that:

(2) drawing, including tracing, being a form of language in itself, forms, for the child, a bridge for the interest gap between his verbal power of conceptual expression and his reading power of conceptual expression, which is also dependent on his range of experience, inasmuch as it is his experiential range which governs his comprehension of contextual symbolism, whether verbal or textual.

In this chapter, also, Little Black Sambo, as an exemplary nursery school picture book, is compared and contrasted with "When the World Was Young," which is presented in Appendix A as a teaching-learning tool for use at the primary level; and a comparison also is made with the modern comic book.

Lastly, it is shown in this chapter that the pictograph embodies within itself the fourteenth concept given in the sequential context and that the use of the pictograph as the art form to present this context affords:

(1) a chain sequence of associative factors between (a) "the kind of drawings children make themselves," (b) the already familiar comic strip, and (c) prehistoric paintings and pictographs, and,

(2) an invitation to the child to bridge the interest gap between pictographic representation of the given context and textual presentation of the same concepts by association (a) of the serial pictorialization with the blocked text patterning and (b) by tracing, coloring, or freely redrawing the pictures "as the spirit moves him"; and, lastly,

(3) a means of reproduction of the teaching-learning tool, in whole or in part, by teacher or parent wishing to trace or copy text or design for the Ditto machine or the mimeograph machine, or simply for a single copy to use in the home.

Thus it is set forth in Chapter II and III that the teaching-learning tool presented as Appendix A, "When the World Was Young," is a solution for the stated problem which required the creation of a teaching-learning tool to (a) present a sequence of fourteen sequential steps in cultural anthropology, (b) at the primary level, (c) in a form reproducible by the teacher, the parent, and the child.

B. Evaluations

Recommendations to teachers for putting "When the World Was Young" into use as an integration tool and as a language arts tool are set up in Appendix D. Professor Nannie Belle Aycox, in charge of teacher-training at Texas Southern University, in Houston, said, when she read these recommendations: "I can see how a teacher can use 'When the World Was Young' just to integrate, no end!" Her further comment was:

> "When the World Was Young" has no personalized cultural implications. Its stereotypes are stereotyped children's abstracts which are universal; hence as a teaching-learning tool, it is not subject to such a controversy as that in which the highly popular Little Black Sambo is now involved.

"When the World Was Young" has been used at the Jefferson Davis School of Nursing, in perusal only, with two groups of student nurses in an off-campus course--Sociology 231--for the University of Houston, to give a "quickie" grasp of the concept of acculturation. One young lady's comment was: "Well, you know it could have happened like that!"

In respect to Tool A, and the need for Tool C, Tool A served the writer's daughter and her friends at the University of Texas Nursery School as a picture book. It has since been borrowed many times by parents who said: "We can find nothing else of this kind, and we want our children to have this information about man's past history." The children asked for copies of their own, but Tool A,

with its full-page full-color pictures, is reproducible only by expensive color printing techniques.

In respect to Tool A, and the transfer of figure symbols to Tool C, Earl H. Friend, in the graduate school of education at the Oklahoma Agricultural and Mechanical College, in Stillwater, and an experienced teacher in the Indian schools, says, in a letter to the writer:

> In looking over your anthropological drawings, I was particularly impressed by similarity to many of those made by the Navajo children of Arizona. The Navajo culture, as you know, is closely bound up with primitiveness (original creativity) in thought and action; consequently, the smaller Navajo child's art is an outward expression of all that lies buried deep within him.

In 1950, Dr. Carl Gregory, now chairman of the division of social sciences at Long Beach, California, used Tool A with some children in the Horace Mann School in New York where she was then teaching. This is her comment to Edward F. Haskell of the Foundation of Integrated Education in New York City:

> The subject matter is of interest to children five to ten years old. I feel the art work has special meaning for children, because it's the way they express themselves. I found that the children I read it to were more interested than in the average book. (They were challenged.) One child of eight was so challenged by it that he drew many of the pictures. This was the first time he has ever done this. Most books on this subject are for older children.[1]

Mr. Haskell, who had Tool A with him in New York, in 1950, also lent the book to Vera Peterson, teacher of

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[1]Note from Dr. Gregory to Mr. Haskell.

five-year-olds at the Agnes Russell Center. A letter from him to the writer, enclosing the Gregory note, says, "Miss Peterson, too, showed the picture book to children and got a strongly favorable response."

In 1950, Tool B was made on a Ditto machine and put into use at Eagle Pass, Texas, with nearly a hundred grade school "failees" classifiable as language-problem children. Many of these children had eye difficulties. None had been able to acquire the equivalent of third grade conversational English, much less third grade reading comprehension. They ranged in age from nine to seventeen years. Under existing conditions it was possible only to observe that the story, with a few cartoon-like pictures, held their attention.

One child, nine years old, after he was familiar with Tool B, walked up to a small line drawing of a cave man hunkered before a fire in a corner of a large wall map. He spread his hand over the drawing and said in English: "Teacher, look! When the world was young!" Obviously, in his case, the over-all concept of primal civilization had been acquired, at least as to recognition of pictorial and verbal symbolization.

A second nine-year-old boy from the group brought to class a tracing from a comic book, Figure XV, Appendix C, thus showing that in his mind the concept of a volcano was transferable from one visual aid to another.

An English-speaking preschool child in Houston, 1953, making the pictures in Tool B for herself, asked her mother, "What is it Mrs. Atkinson is?" When the mother said, "An anthropologist," the child said, "Yes, tell her that is what I am--I am an anthropologist."

Editor Nolan Sanford of the Houston Chronicle accepted a copy of "When the World Was Young" for review in the Chronicle. In order to "try it out on the dog" (using newspaper vernacular) he sent the copy to Sister Agatha, librarian of the Incarnate Word Academy, Houston. According to the statement of his children at the Academy, Sister Agatha carried the story from room to room and read it to all Academy classes.

The following review appeared in the Chronicle, August 30, 1953:

NEW CHILD'S BOOK BY LOCAL WOMAN

> A book for small children, "When the World Was Young," has been written by a Houstonian, Mrs. M. Atkinson, ethnologist. It serves well as an introduction to the study of man's progress since the cave days.
>
> Mrs. Atkinson, whose work on the Indian cultures of Texas is considered authoritative, has written this child's book in simple but graphic language. It is fully illustrated with pen-and-ink drawings.

The reviewer of children's books for the Houston Post, until her retirement a children's librarian in the Houston Public Library, has endorsed "When the World Was Young" and has expressed a desire to publish a review so soon as the

book is in full publication. The policy of the Post does not permit reviews of manuscripts or of private publications.

On May 5, 1954, Professor Evelyn S. Thompson, chairman of the department of elementary education at the University of Houston, and the "story lady of KUHT," read "When the World Was Young" over television during the five o'clock story hour. In her opinion the allegory is worked out with qualities that make it at the same time "instructive" and "appealing" to children of primary age. She received expressions of appreciation for the program from both parents and children, including the request of Professor George Lyman Arms, supervisor of KUHT telecourses, to borrow the manuscript for the use of his own children. This manuscript was one of the dummy forms made up for Tool C. Professor Thompson says in part in a letter to the writer:

> It is a good sketch of the way man learned to use his environment. I especially like the way you developed the idea of each step resulting from discovery by observation and experience.

C. Conclusions

The statements of Professor Aycox, Dr. Gregory, Sister Agatha, and Professor Thompson, as teachers, are but the complimentary aspect of the reactions from the Eagle Pass language-problem children and the Houston prereader. Both aspects bear out the assumptions which contributed as

inspirational factors to the designing of "When the World Was Young," first, that the unit of intellectual development is the concept and, second, that, since primitive abstract and symbolic drawing was a form of universal language through which a conceptual consistency of culture was conserved and handed down from generation to generation in the totality of preliterate time, this universal language still can be used to parallel textual information in such a manner as to be itself a translatory medium for the verbal text.

Hence:

(1) the use of this teaching-learning tool to convey the fourteen ethnological concepts basic to the story of "When the World Was Young," and

(2) arrangement of these concepts in the sequential order ordinarily assigned to them by cultural anthropologists working in the production of museum exhibits to demonstrate culture stages from "gathering and collecting" through the "domestication of plants and animals," together with

(3) the contextual formulation of this arrangement as a story allegory,

(4) limited to a vocabulary classified by Clarence I. Stone as basic below the fourth grade reading level, plus

(5) the pattern form: Appendix A, which demonstrates a method of producing "When the World Was Young" on a primer typewriter and a mimeograph machine,

are, taken all together (1 - 5), evidence that a teaching-learning tool to convey this sequence of concepts at the primary level has been created in a form usable and reproducible by the teacher, the parent, and, through hearing, independent reading, tracing, and coloring, by the child himself.

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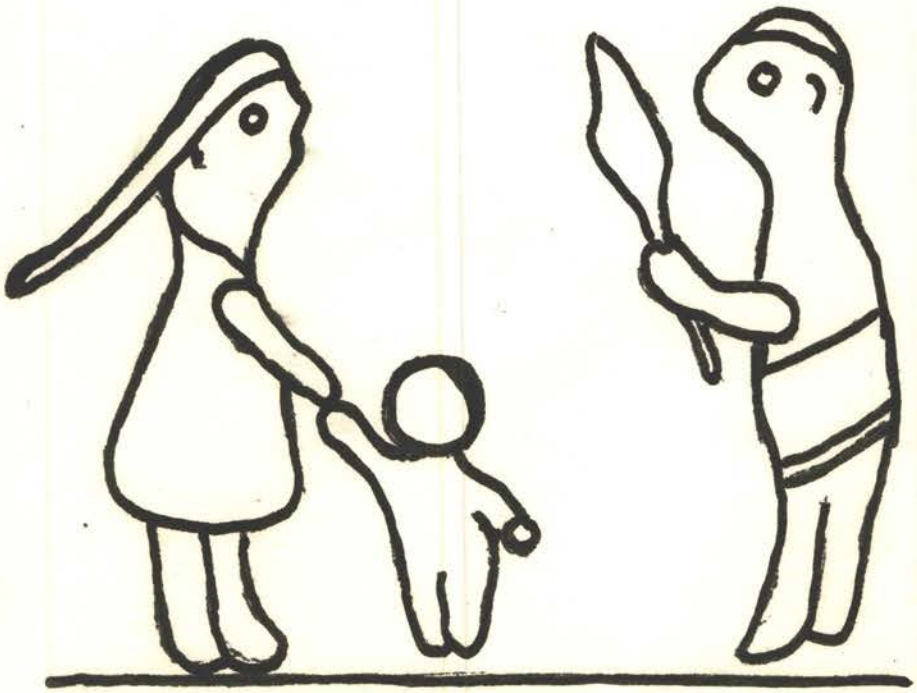
APPENDIX A

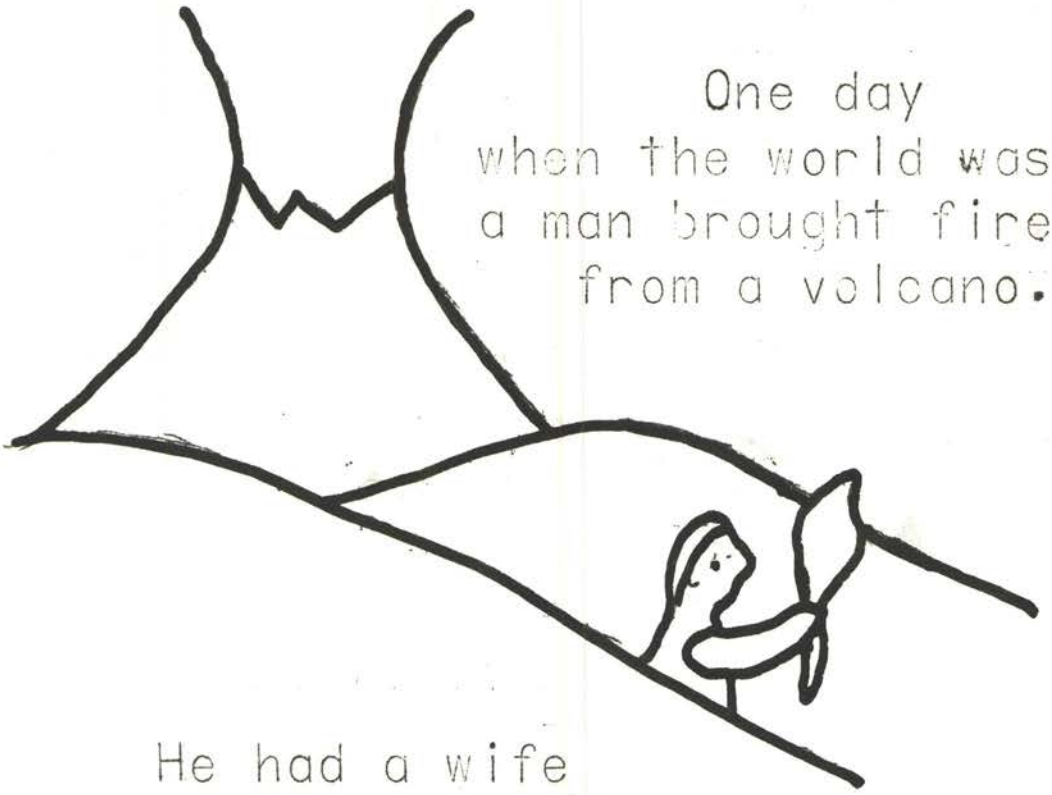
TOOL C

WHEN THE WORLD WAS YOUNG

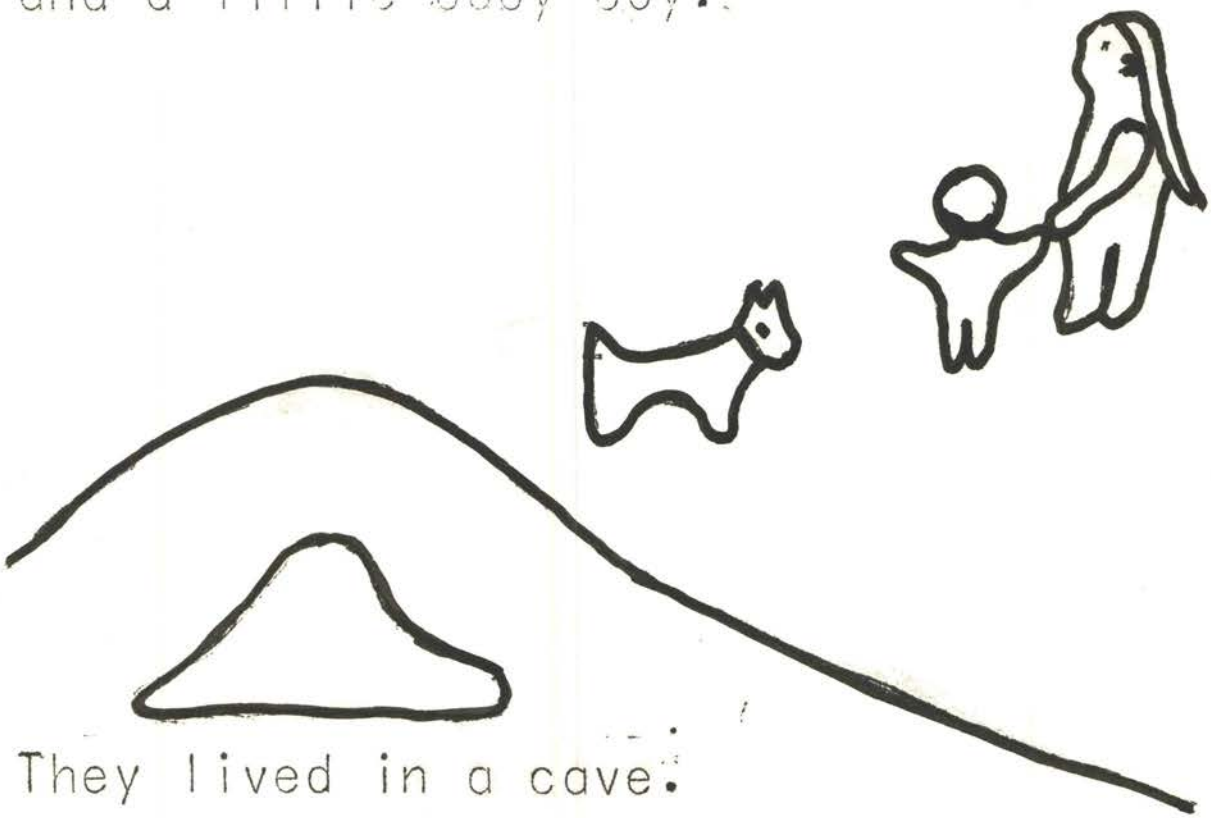
When the World Was Young



One day
when the world was young
a man brought fire down
from a volcano.

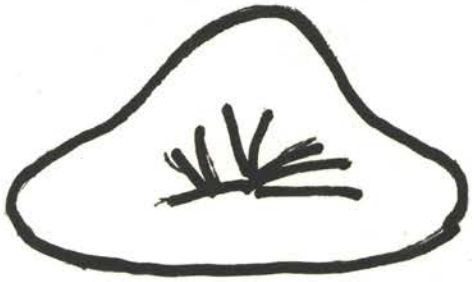


He had a wife
and a dog
and a little baby boy.



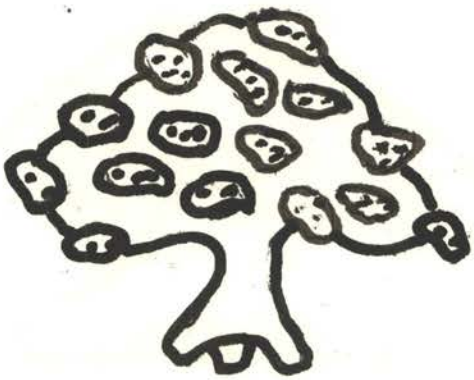
They lived in a cave.

Fire made the cave
warm and bright and cozy.

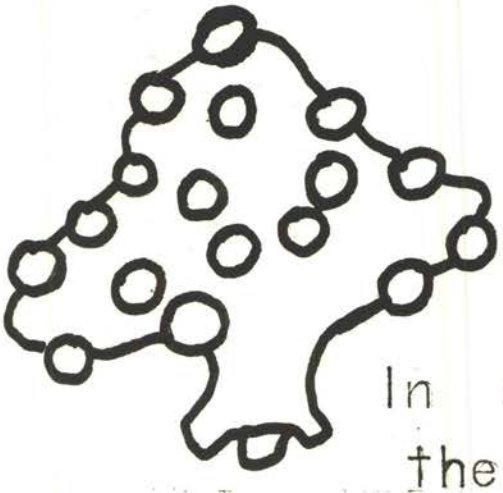


Below the cave was a river.

An apple tree grew by the river.



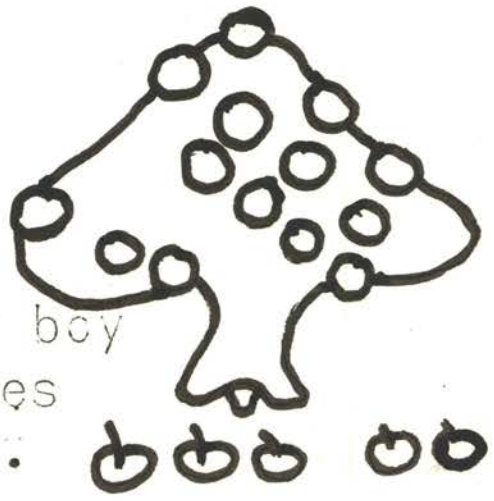
In spring it had pink blossoms on it.



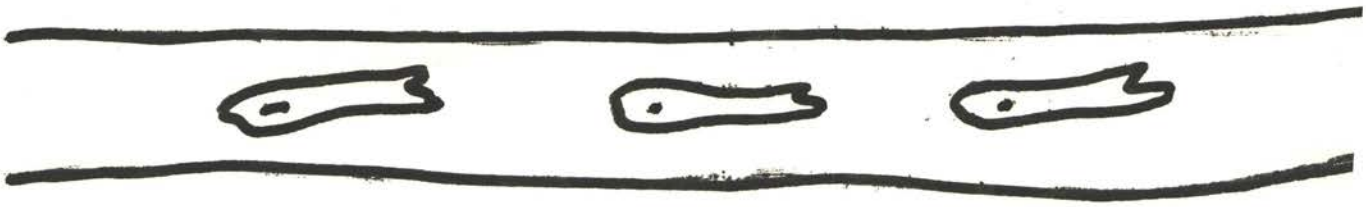
In summer
the tree
had green apples on it.
The green apples were not
good to eat.

In autumn
the apples turned red.
Then they were good to eat.

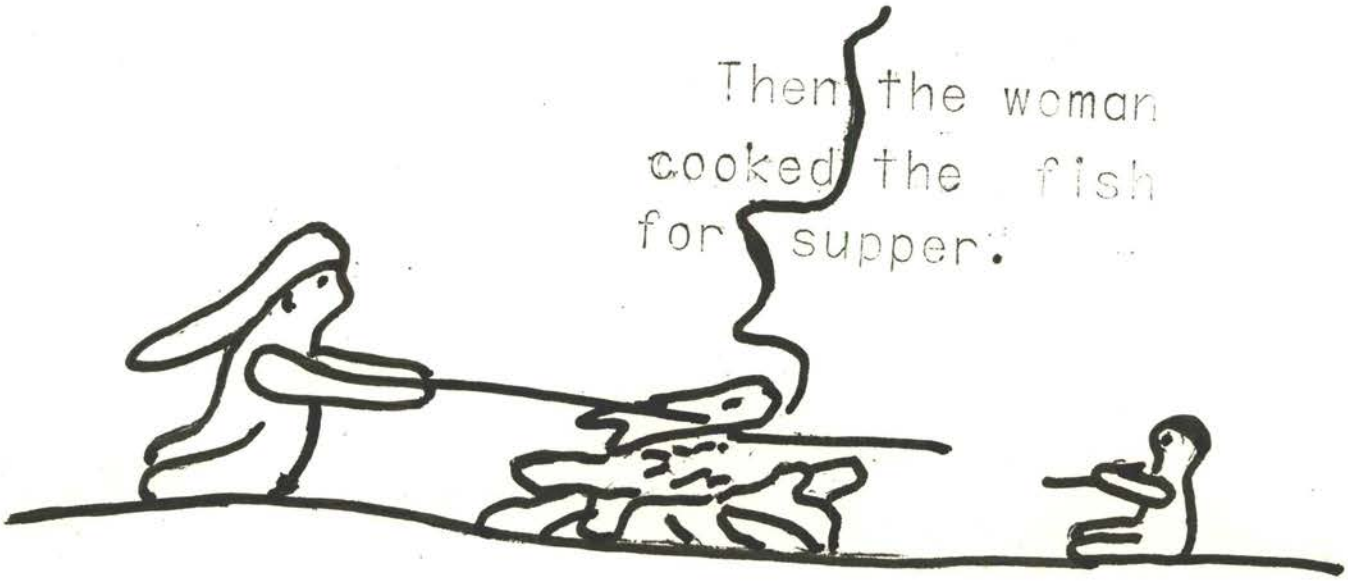
The man
and the woman
and the little baby boy
gathered the apples
and had a feast.

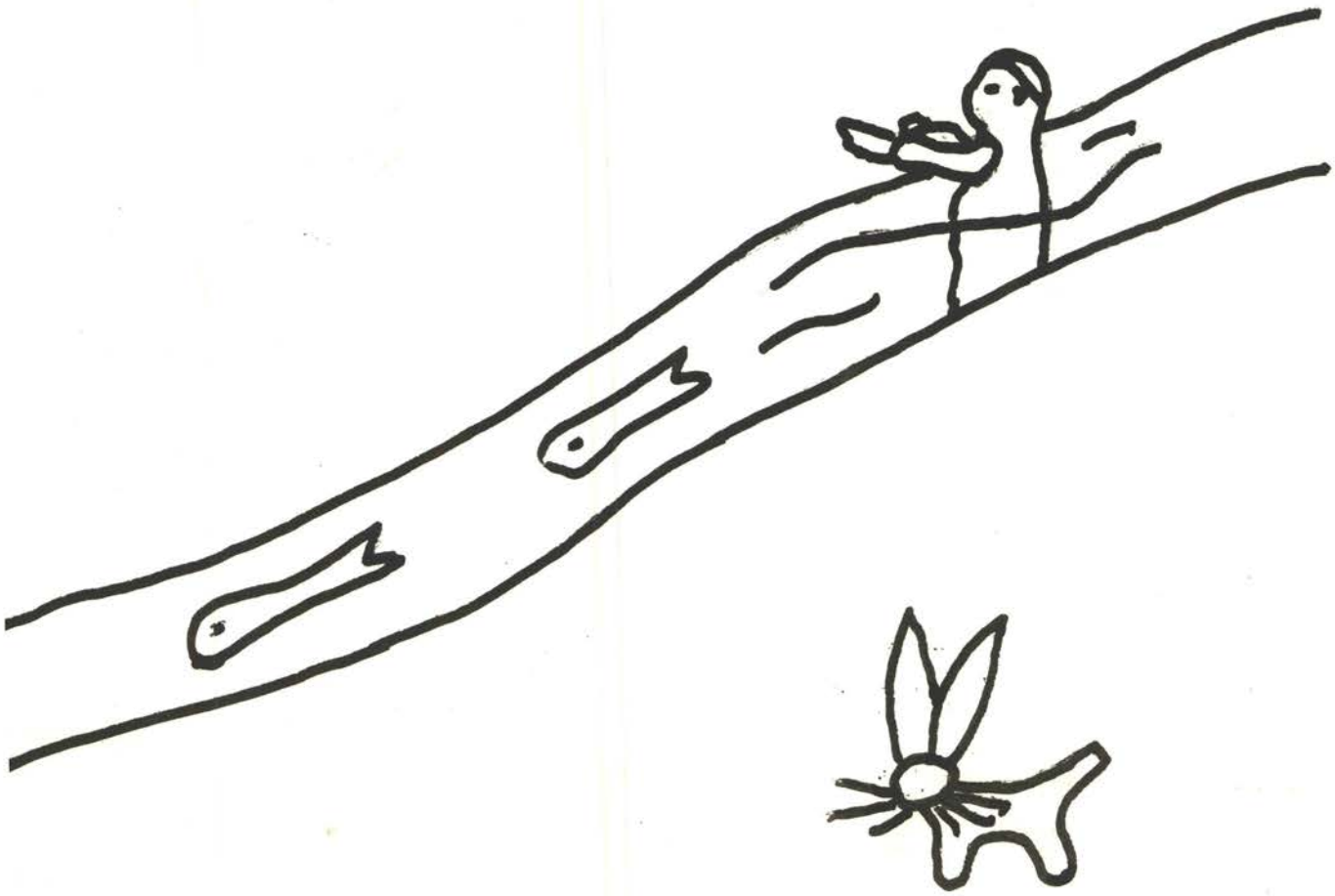


Sometimes
the man waded
into the river
and caught a fish
with his hands.



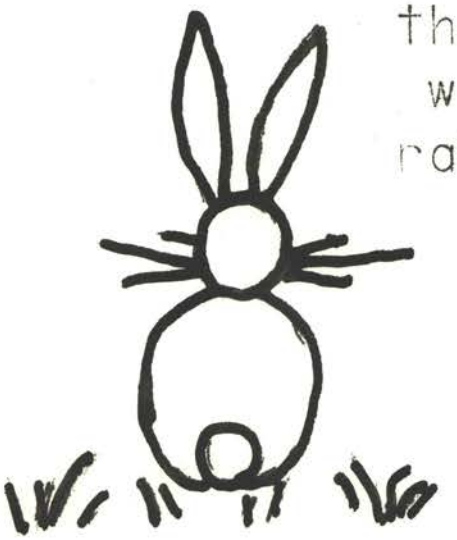
Then the woman
cooked the fish
for supper.





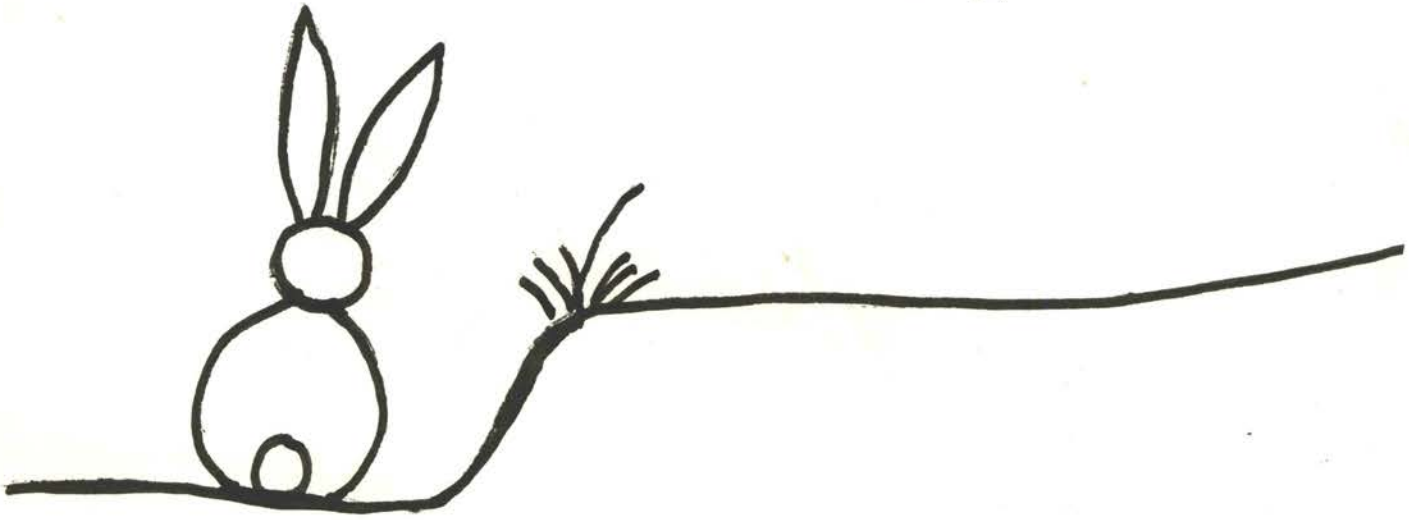
Sometimes
the man and the dog
caught a rabbit.
Then the woman
cooked the rabbit
for supper.

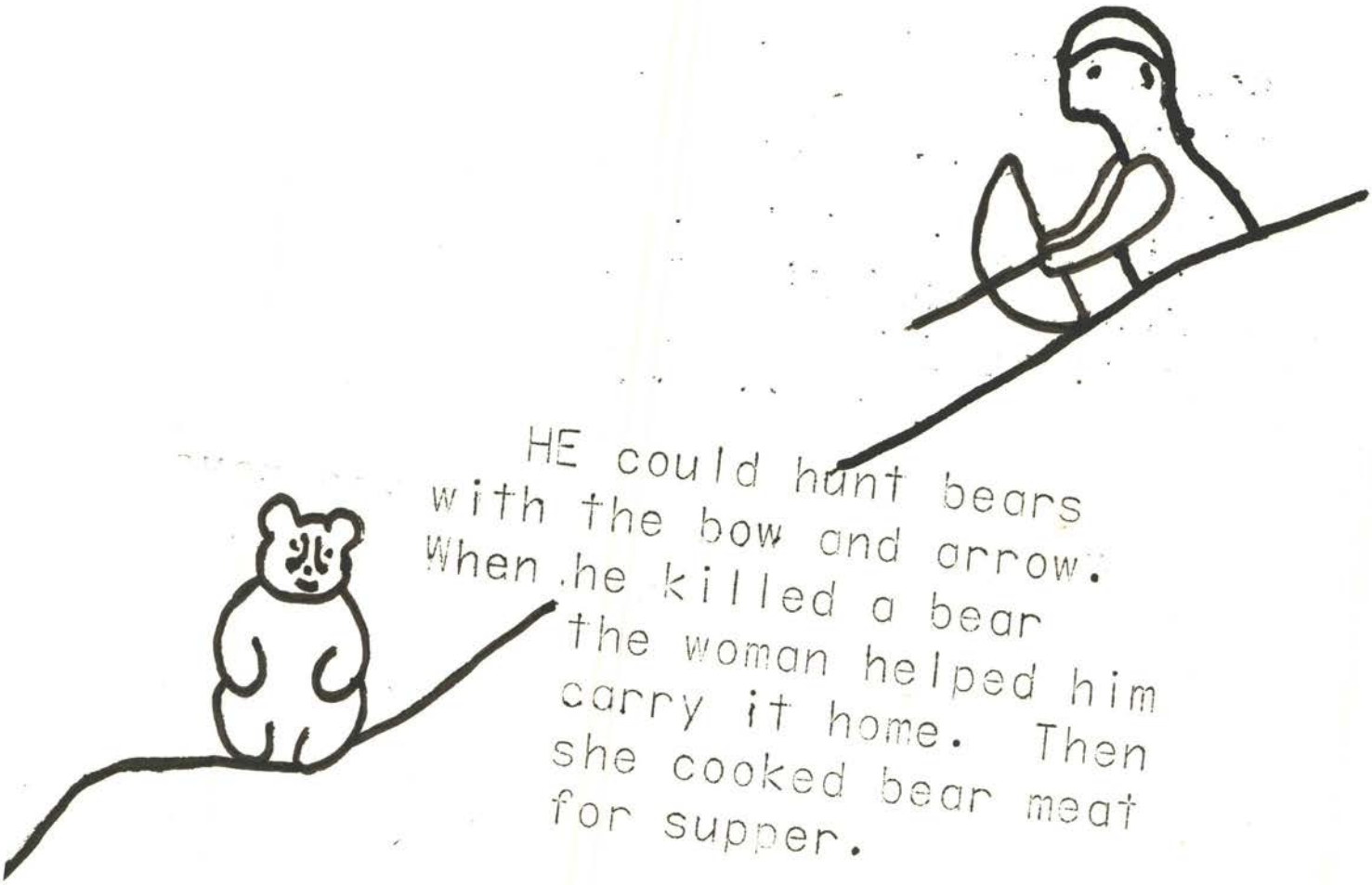
At night
the man liked to sit
in the cave door
and look up at the new moon.
He thought the thin new moon
looked like a hungry woman.
He thought maybe
the moon woman
was hunting
rabbits to eat.



When the moon
was round and full
he thought the woman
had caught and eaten
all the rabbits
she could hold.

One day
the man
made a bow
and arrow.
He said the bow
looked like
the thin
new moon.





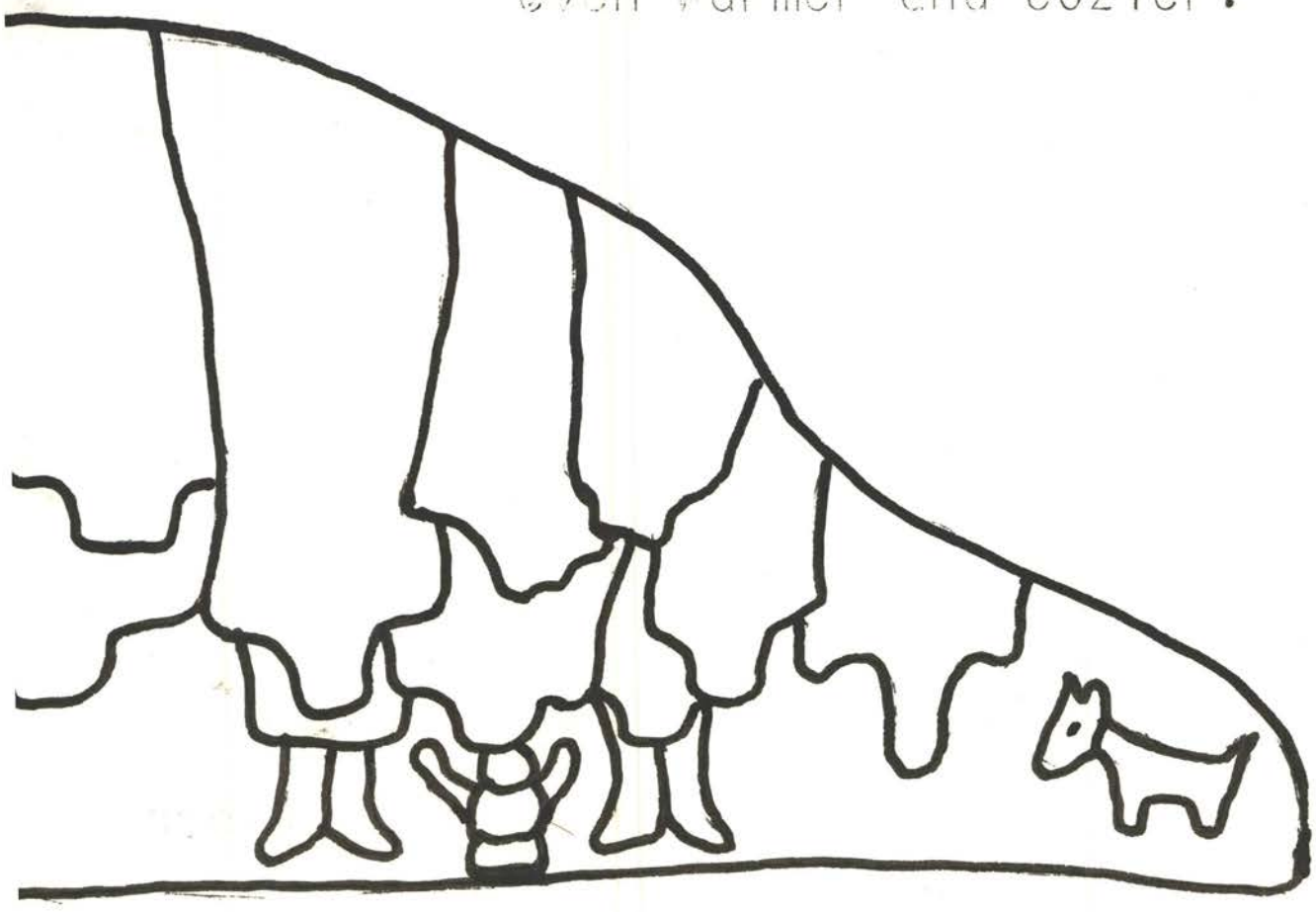
HE could hunt bears with the bow and arrow. When he killed a bear the woman helped him carry it home. Then she cooked bear meat for supper.

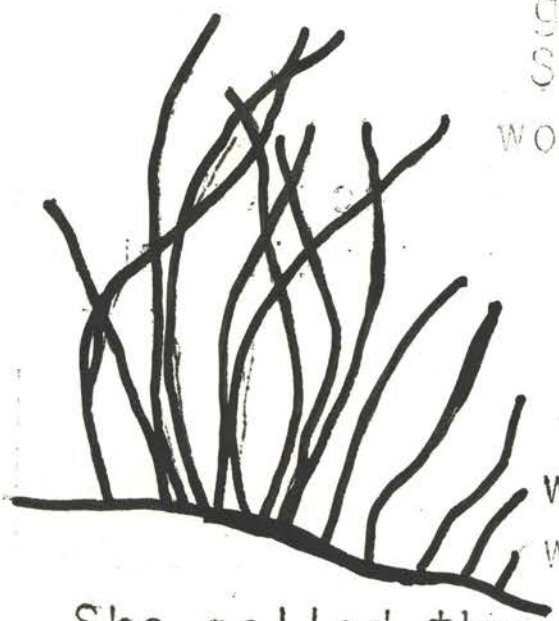
The little boy
grew up to be a big boy
and a new little baby brother
was born in the cave.

The woman laid the new baby
on a bear skin rug.

By and by
she made bear skin clothes
for every body in the family.
She hung bear skin curtains
at the cave door.

That made the cave
even warmer and cozier.





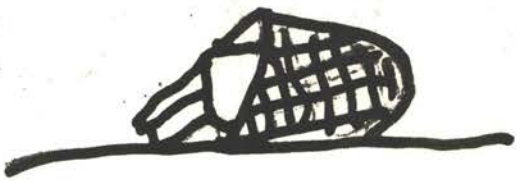
Tall grass
grew by the river.
Sometimes the wind
wove the grass stems
together.

While the man
was fishing
the woman
watched the wind
weave the grass.
She called the grass stems "reeds."

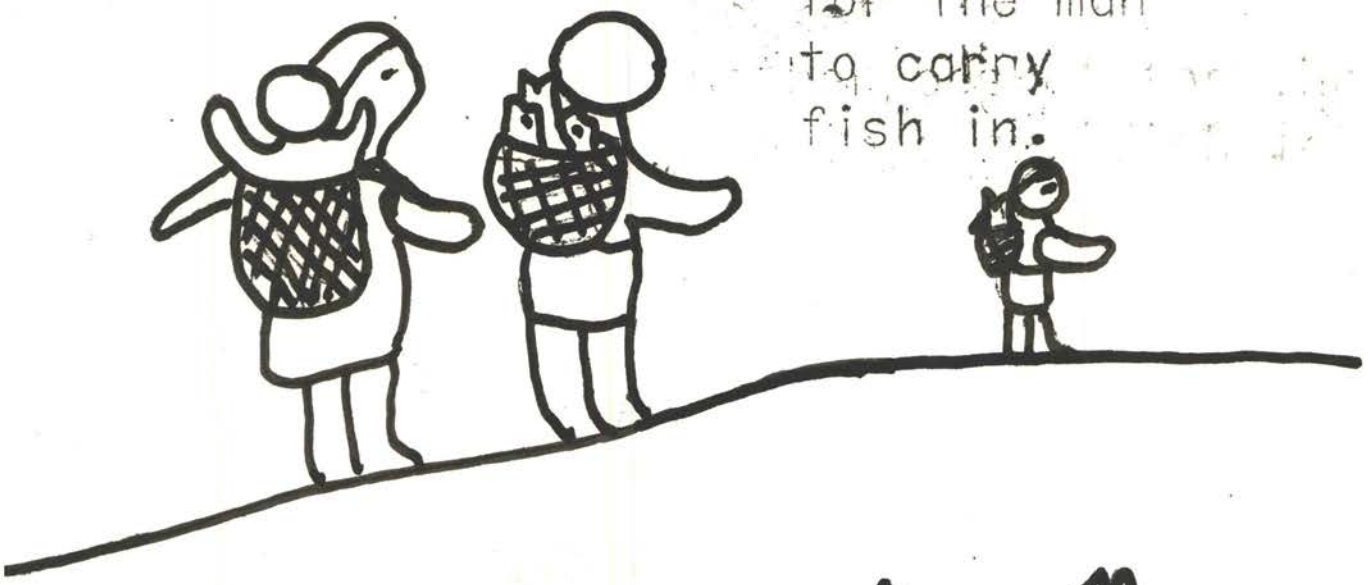
One day she wove a mat.
By and by she wove a basket.
The basket looked
like the nests
the birds wove
in the reeds.

The baby
crawled into a basket
and went to sleep.

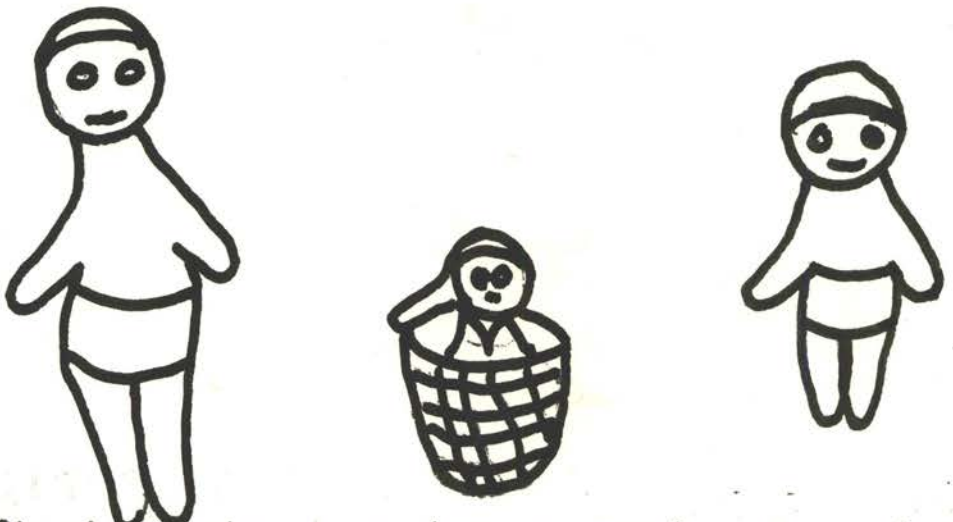
The woman
hung the basket
on her back
and carried
the baby home.



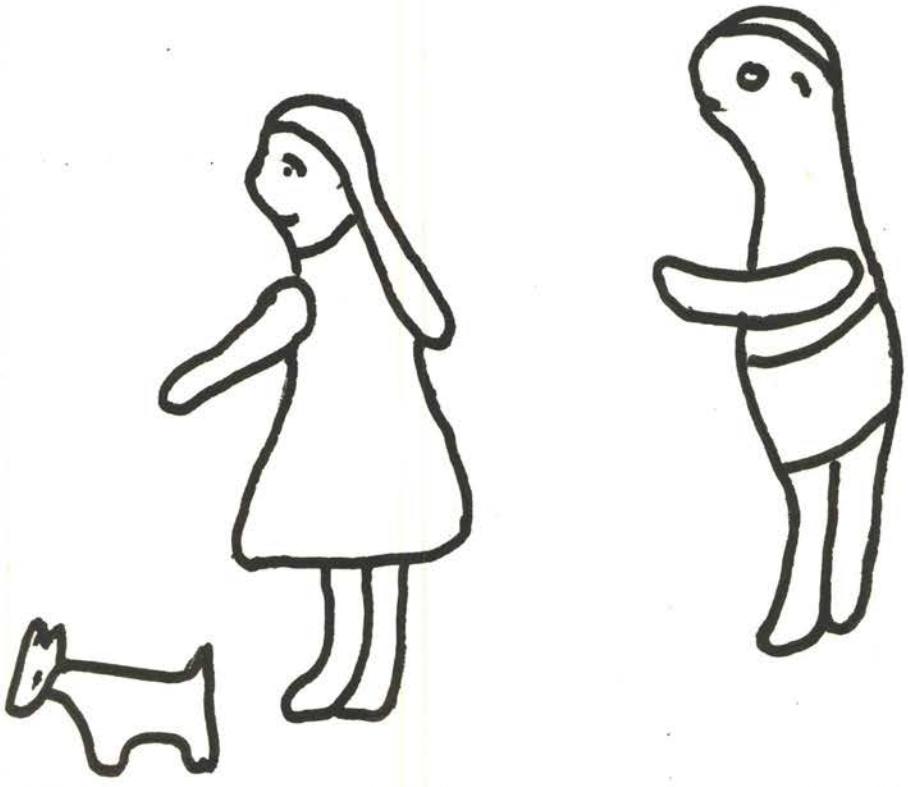
After she found out
how easy it was
to carry the baby in a basket
she made another basket
for the man
to carry
fish in.



The second baby
grew up
to be a big boy
and a new
little baby sister
was born in the cave.



That made two boys and one girl
in the cave



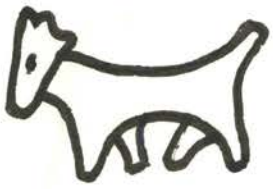
and the man and the woman and the dog family.

By and by
the man and the dog
began to hunt wild goats.

One day
they caught a little goat
with a broken leg.
They brought it home
and its leg got well
in the cave.

When it was well
each boy wanted it
for a pet.

The man and the dog
caught another little goat.



Then each boy had a pet of his own.

The first goat
grew up
to be
a papa goat.

The second goat
grew up
to be
a mama goat.

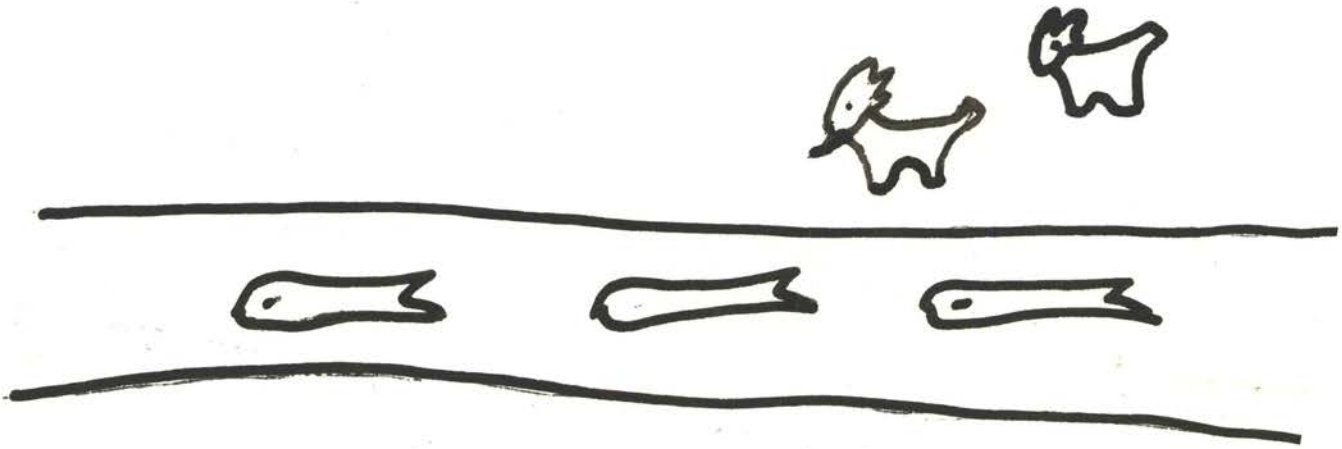
A new little baby goat
made three goats.

That was
the beginning
of a herd.

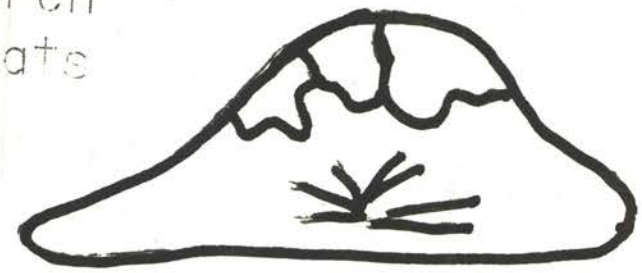
The third baby
grew up to be a big girl
and a new little baby sister
was born in the cave.

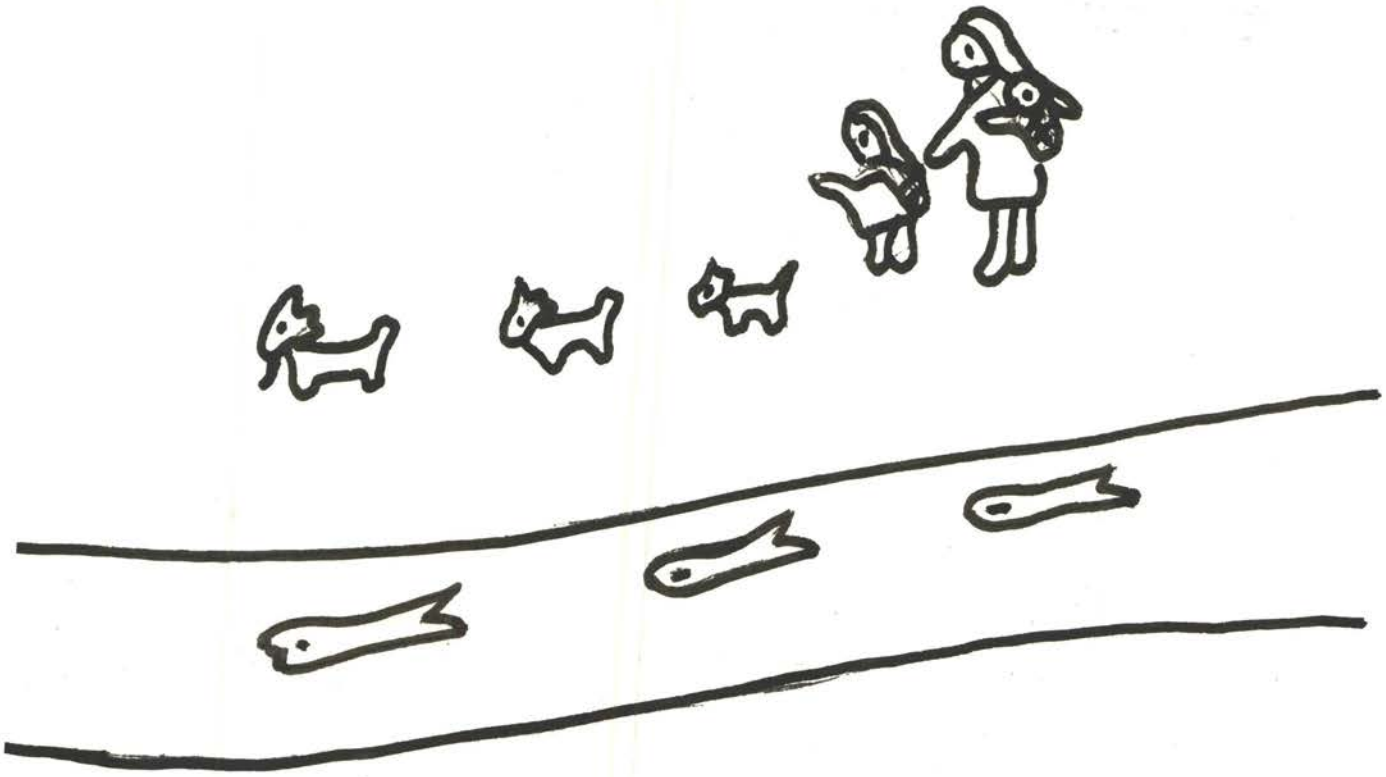
A new little baby goat
was born, too.

That made two boys
and two girls
and four goats.

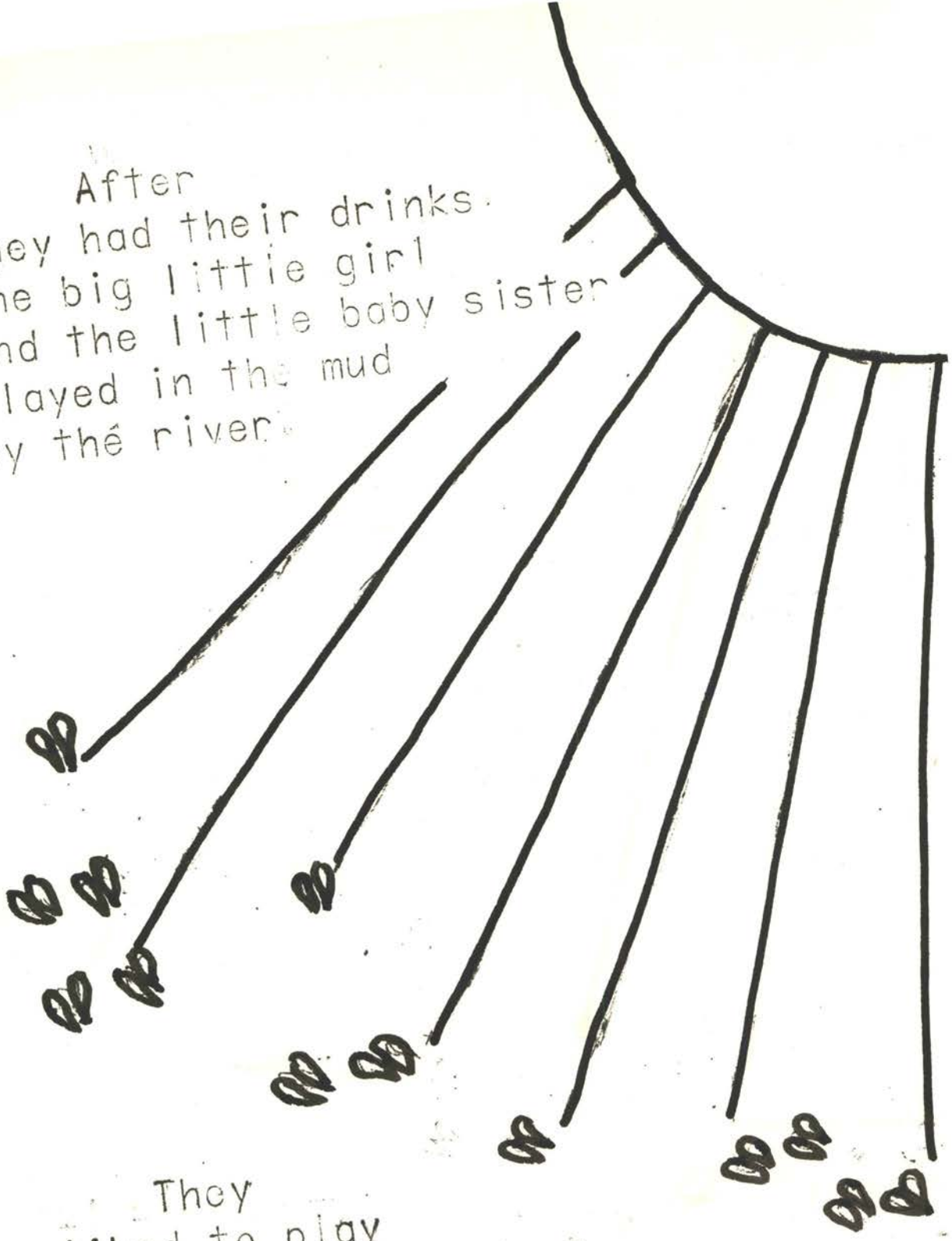


By that time
the woman was getting tired
of walking down to the river
every time
the children
or the goats
wanted
a drink.



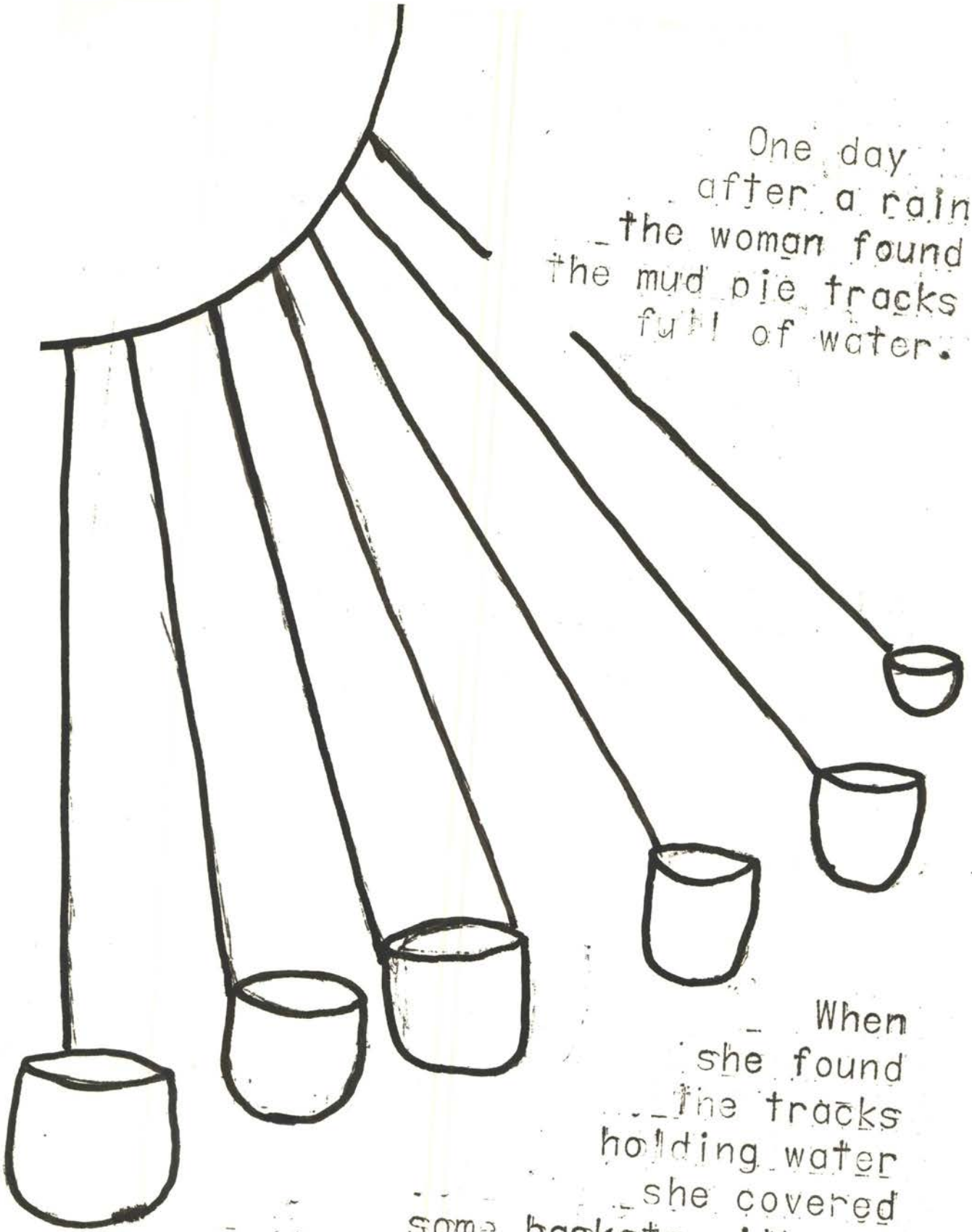


After
they had their drinks.
the big little girl
and the little baby sister
played in the mud
by the river.



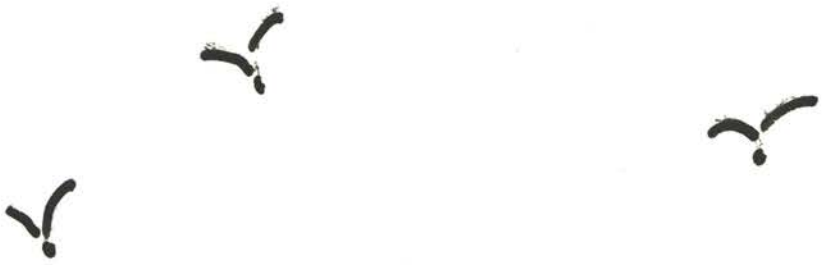
They
liked to play
where the goats' feet
had made holes in the mud.
They called these holes "tracks."

The sun baked the tracks
as hard and dry as mud pies.

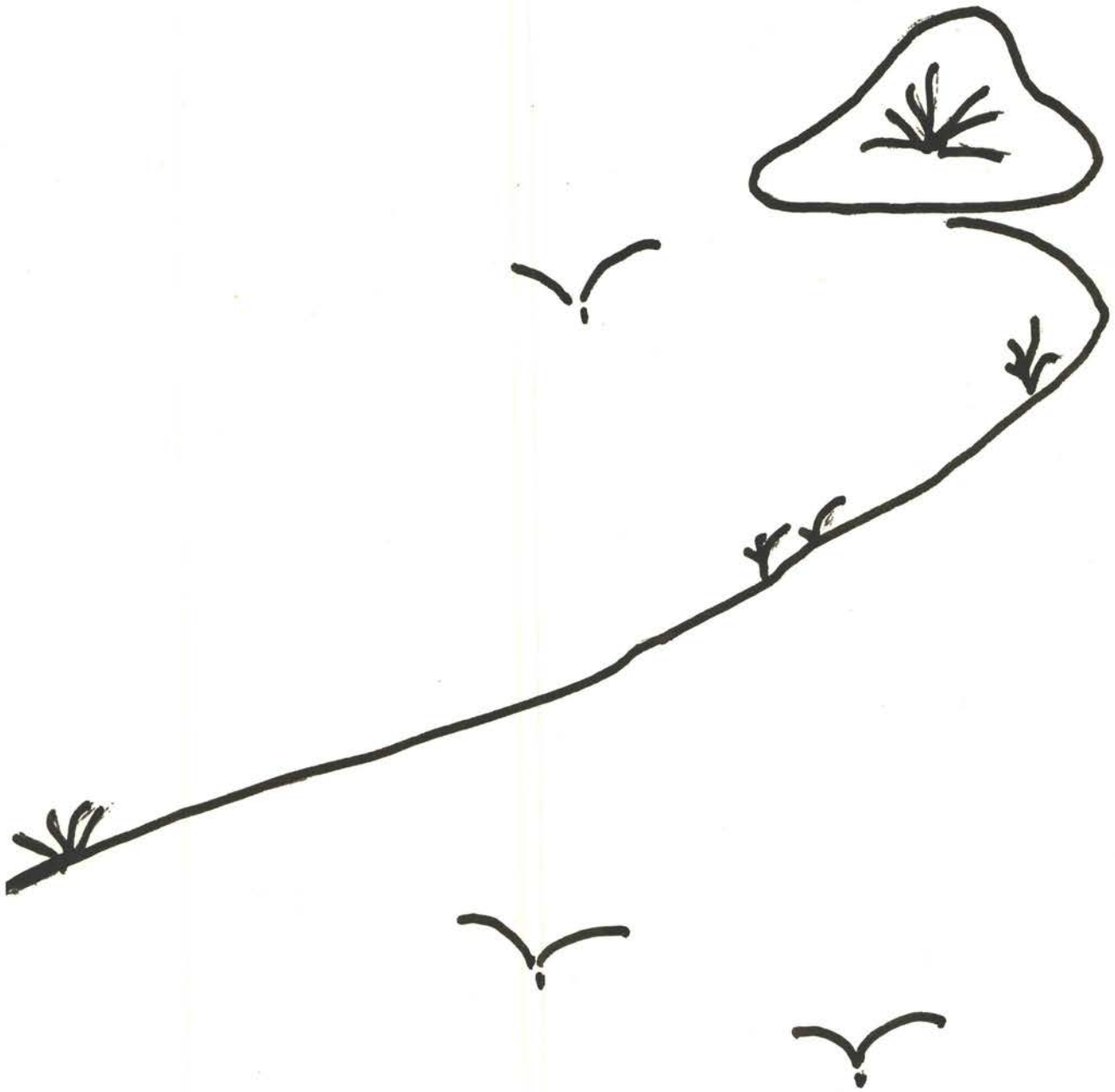


One day after a rain the woman found the mud pie tracks full of water.

When she found the tracks holding water she covered some baskets with mud and set them to dry in the sun. They held water, too. She called her new mud pie baskets "pots."



She carried water up to the cave
in the pots
and then the children and the goats
could have drinks
without going
all the way
down to
the
river.

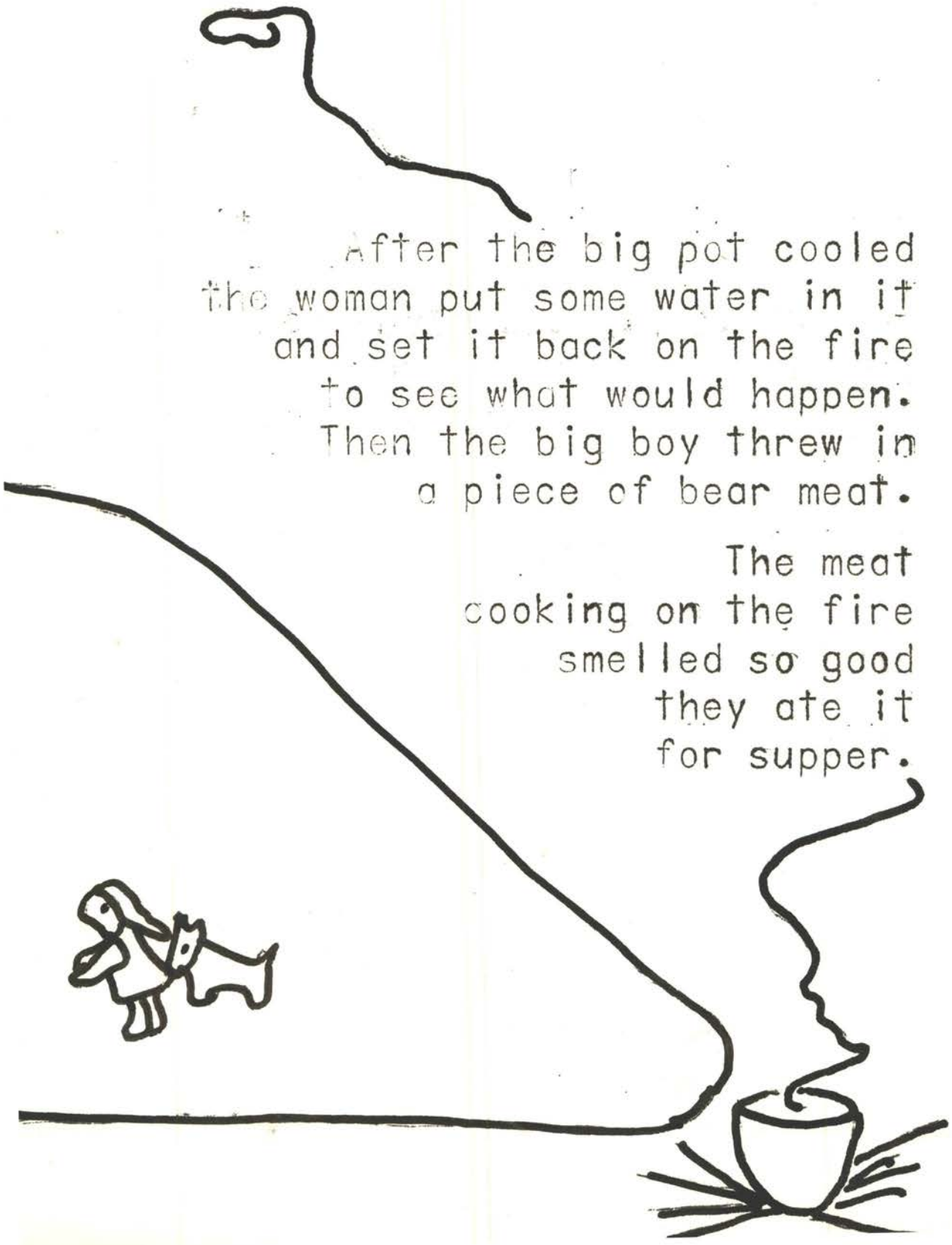


One day
the woman was getting a drink
out of her smallest pot
when the children
accidentally
knocked her largest pot
into the fire.

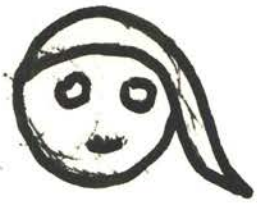
The fire baked
the pot
harder and drier
than the sun
had baked it.

After the big pot cooled
the woman put some water in it
and set it back on the fire
to see what would happen.
Then the big boy threw in
a piece of bear meat.

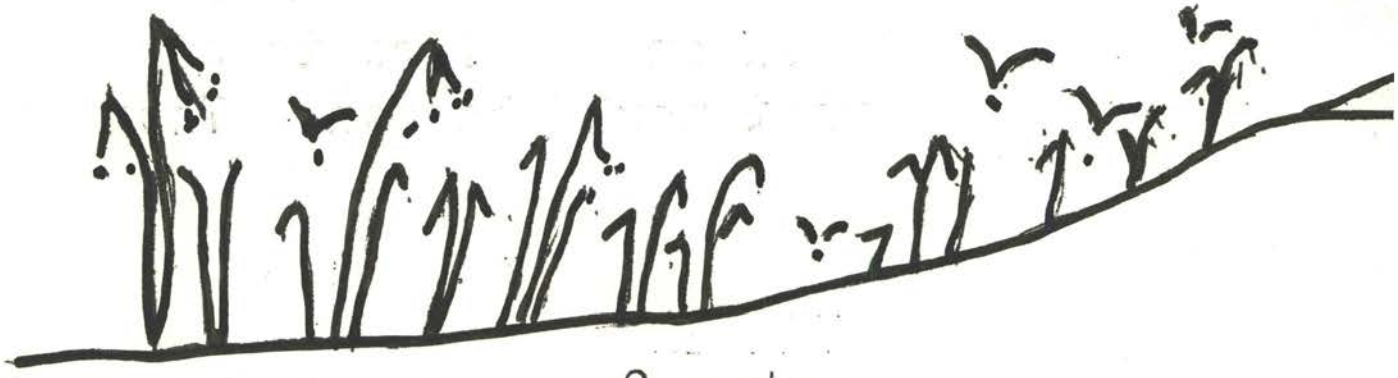
The meat
cooking on the fire
smelled so good
they ate it
for supper.



The fourth baby
grew up to be
a big girl.



By that time
the woman had found
a new kind of grass
growing by the river.

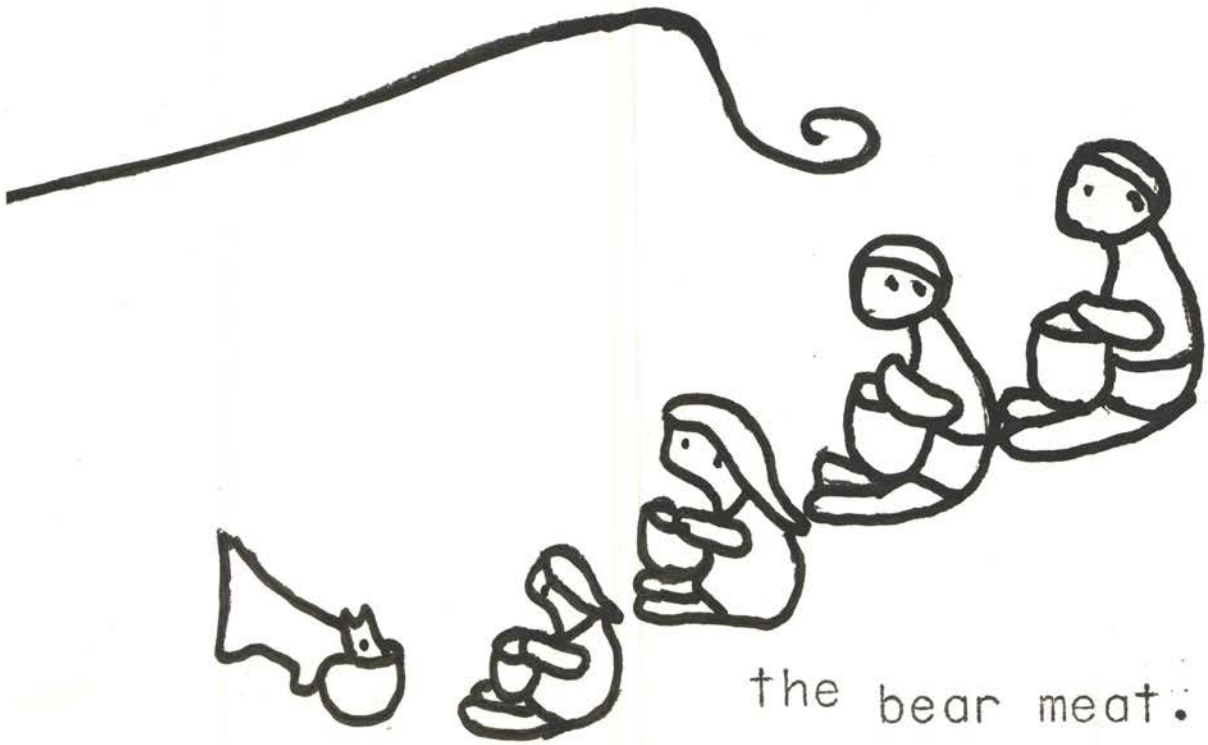


One day
she watched the birds
eat the grass seed
and she thought
maybe her children
would like to eat grass seed, too.

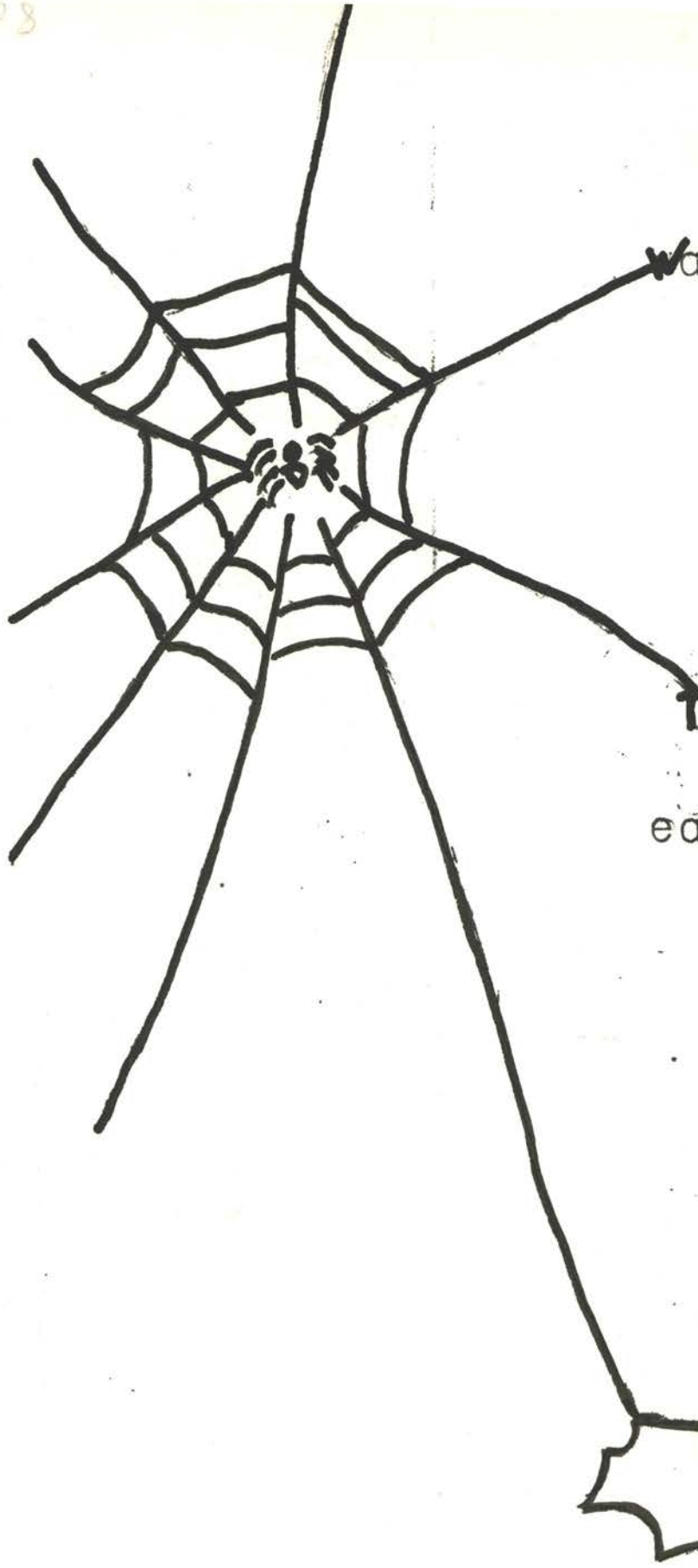
She cooked
the grass seed
in the big pot

with

The children liked it.
They called it "cereal."



the bear meat.



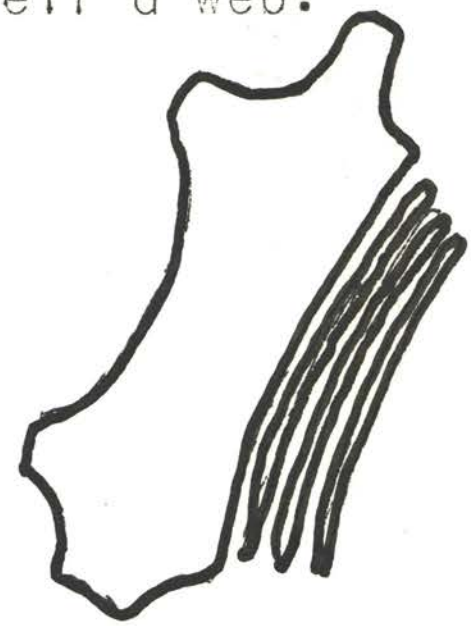
One day
the man
watched a spider
spin its web
in the cave.

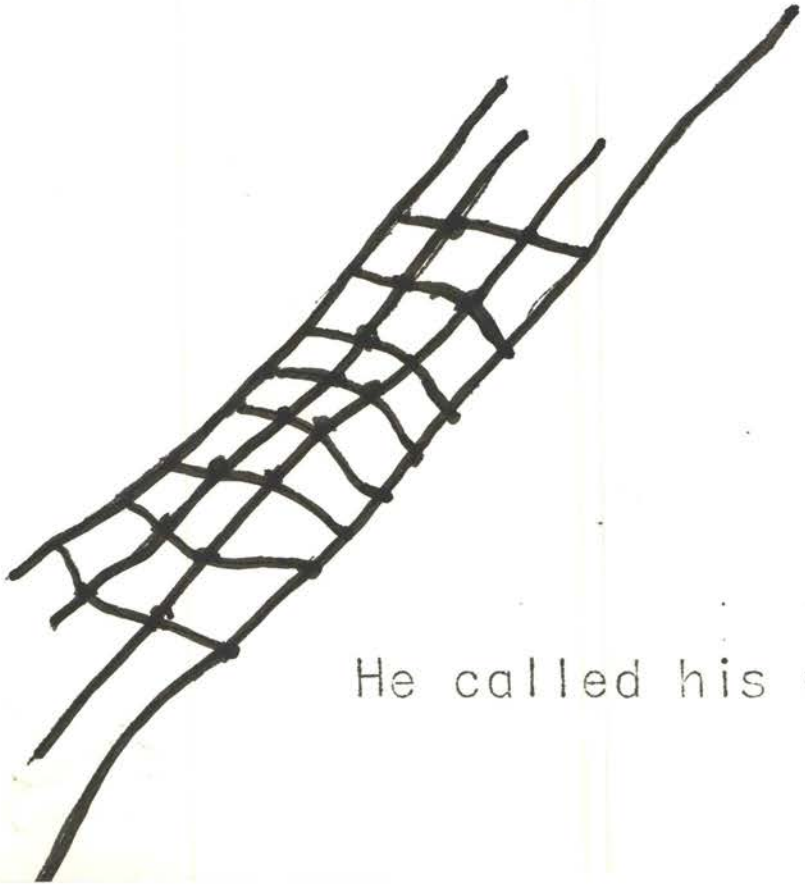
He watched
some insects
get caught
in the web.

Then he watched
the spider
eat the insects.

He was sitting on a bear skin rug

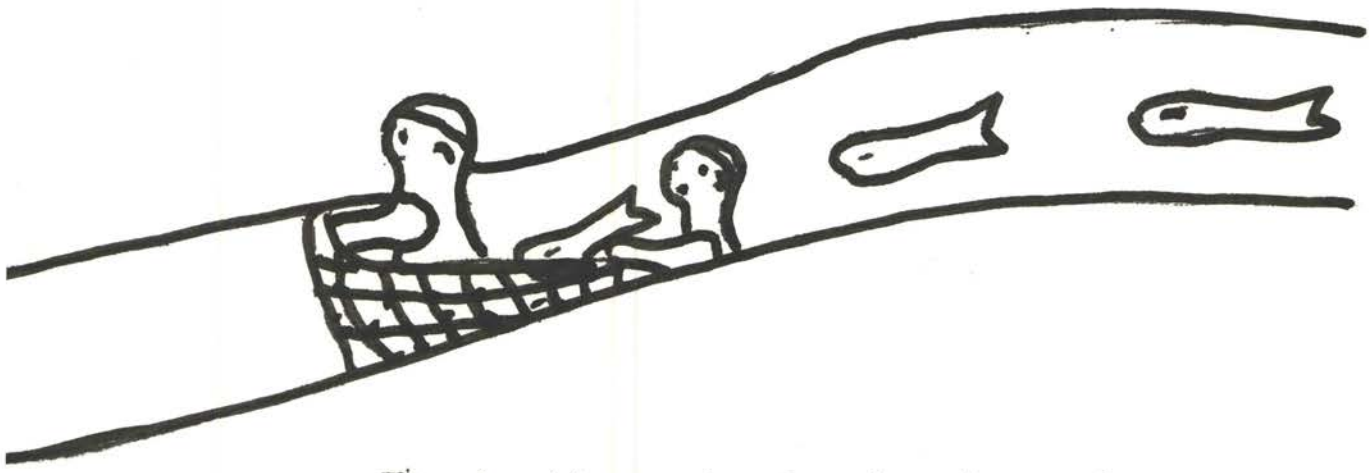
By and by
he cut the bear skin rug into strings
and made himself a web.



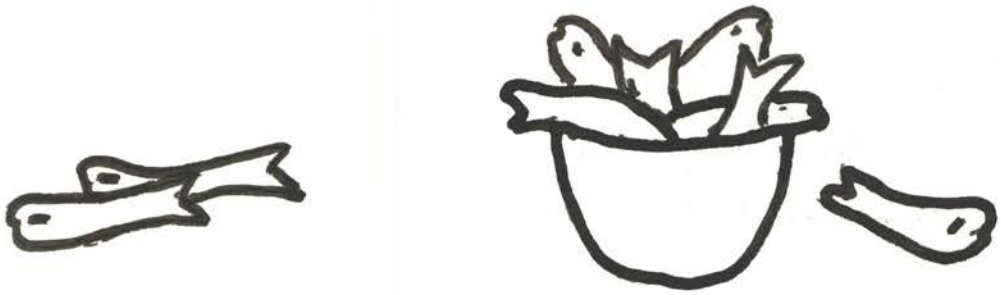


He called his web a "net."

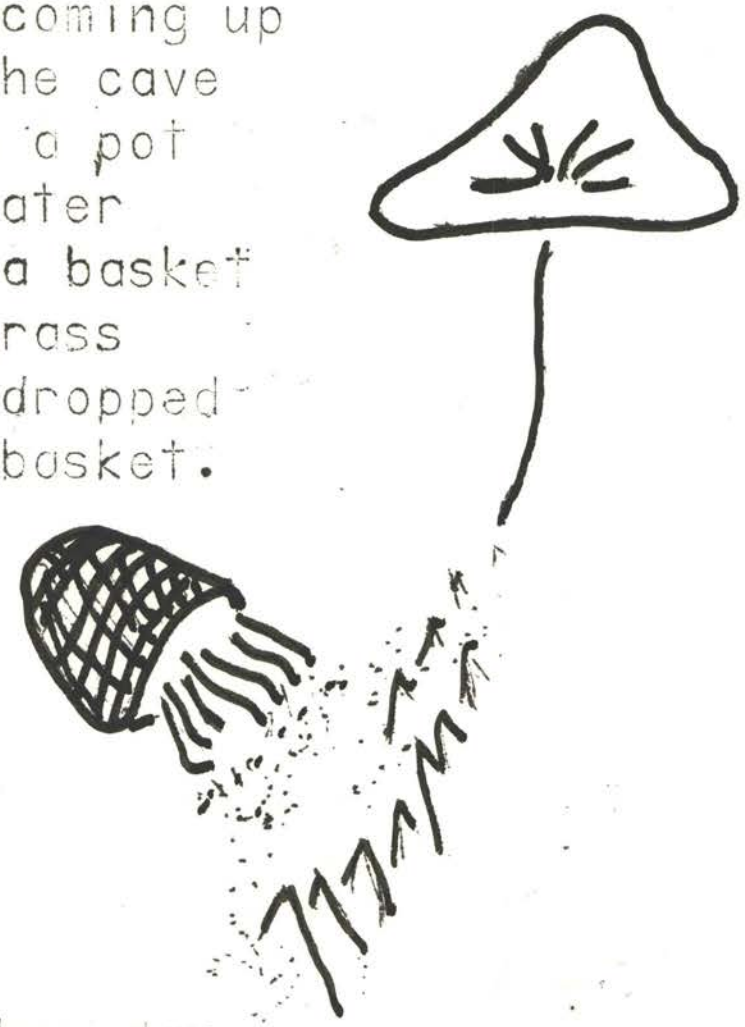
He took the net down to the river.
When he dragged it
through the water
he caught fish in it.



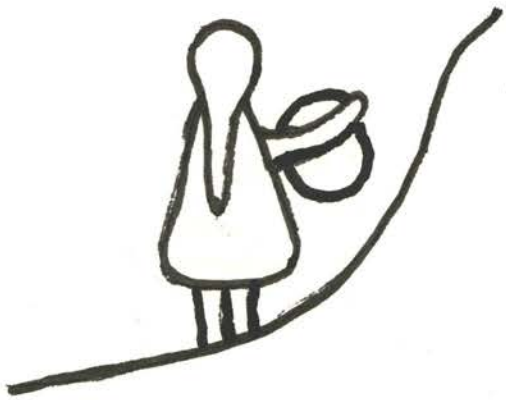
Then they had plenty of fish to eat.



One day
when the woman
was coming up
to the cave
with a pot
of water
and a basket
of grass
she dropped
the basket.



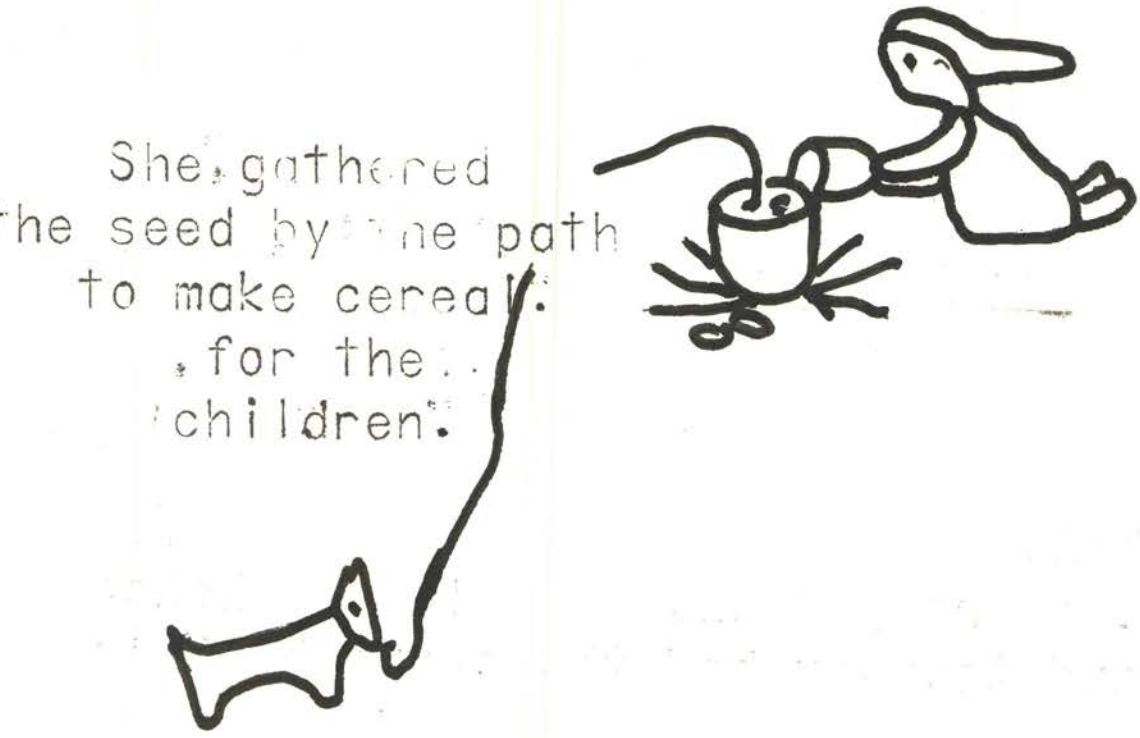
Another day
she found
some grass

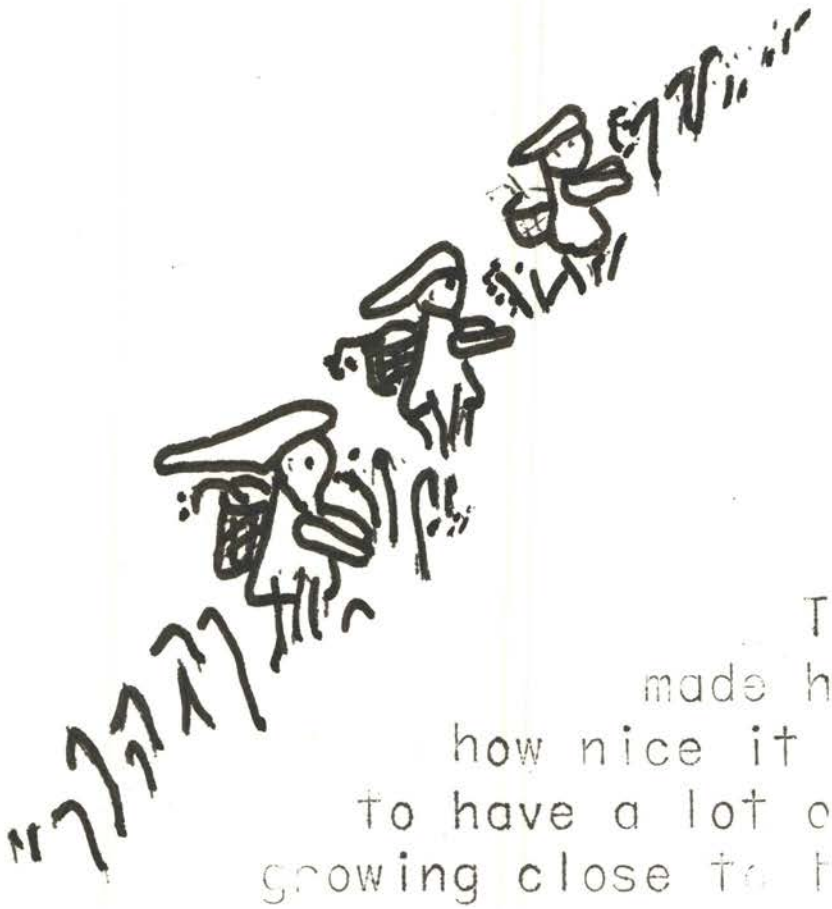


growing
where she dropped
the basket.

It was the kind
of grass
she had dropped.

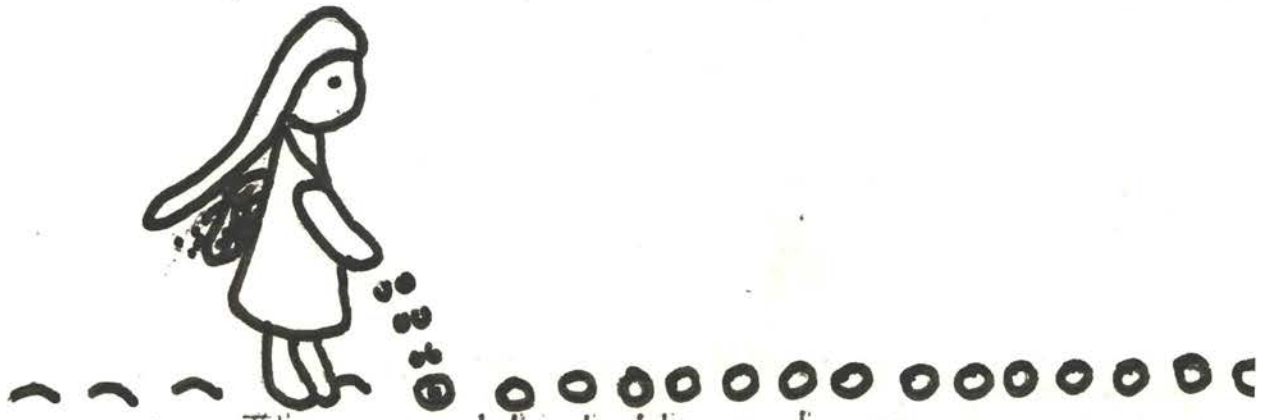
She gathered
the seed by the path
to make cereal
for the
children.





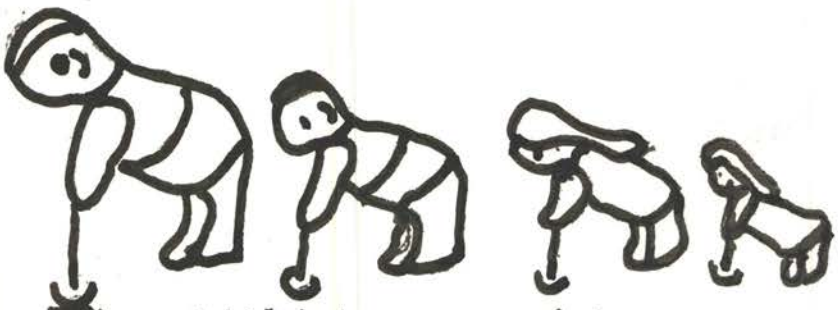
This
made her think
how nice it would be
to have a lot of cereal
growing close to the cave.

By and by
the woman learned to plant the seed
where she wanted the grass to grow.
The children dug holes in the earth
with a stick.
She dropped the seed in the holes
and the children pushed the earth
back in for a cover.

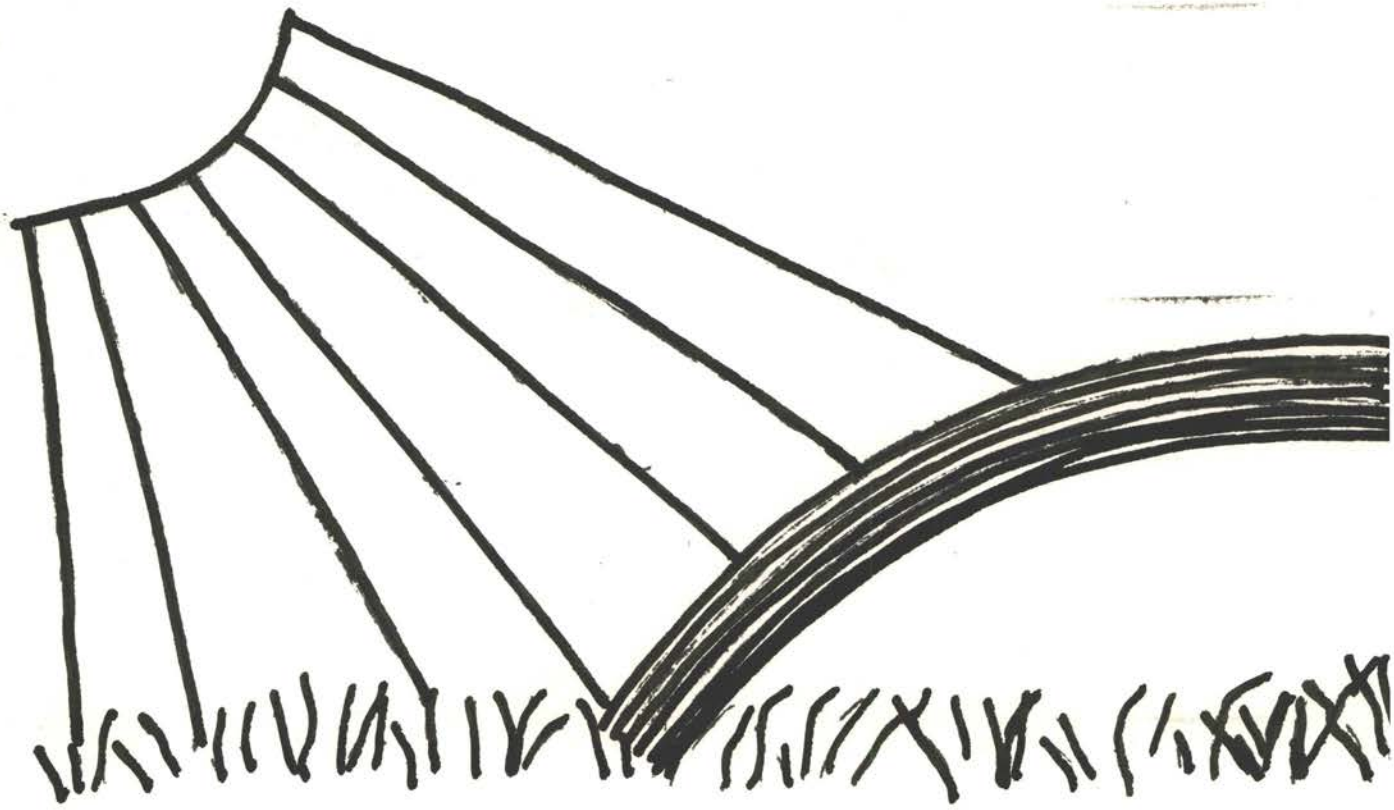


They called the place
where they planted the seed
a "field."

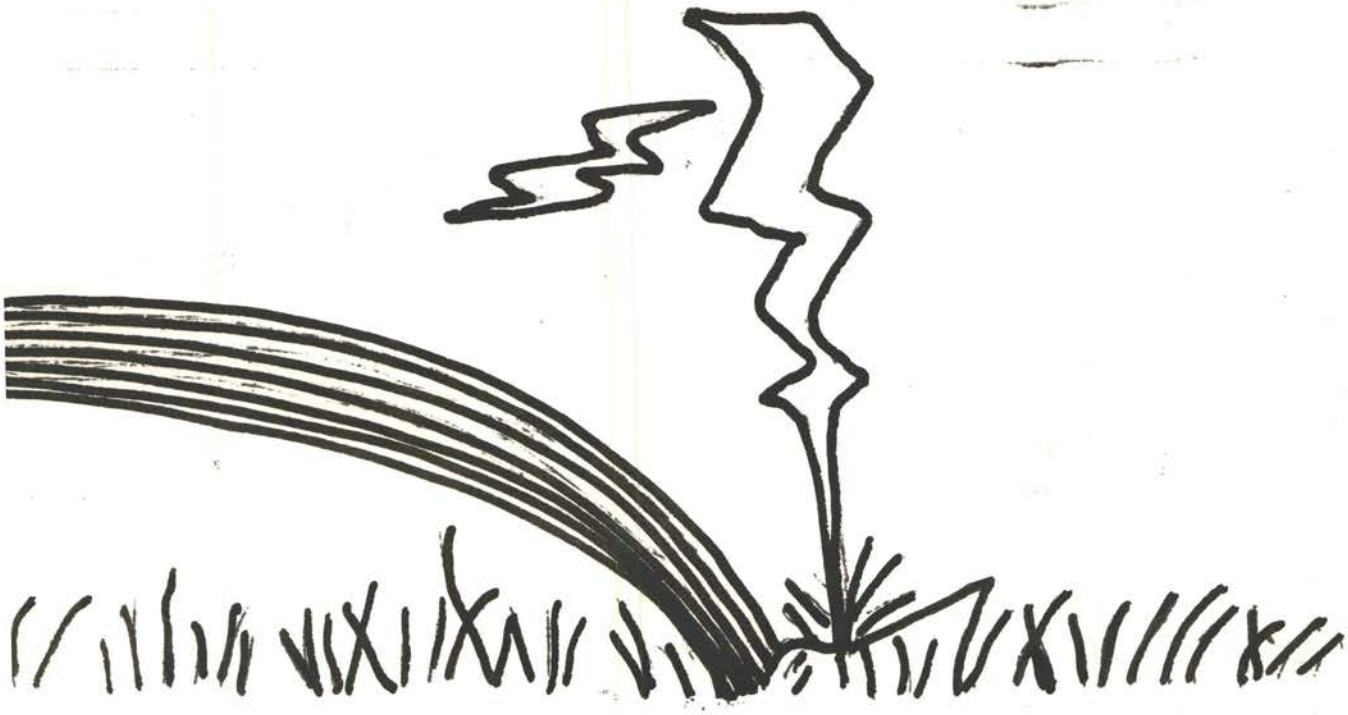
The man and the woman
said the earth was like the cave
because it was a home for the seeds.



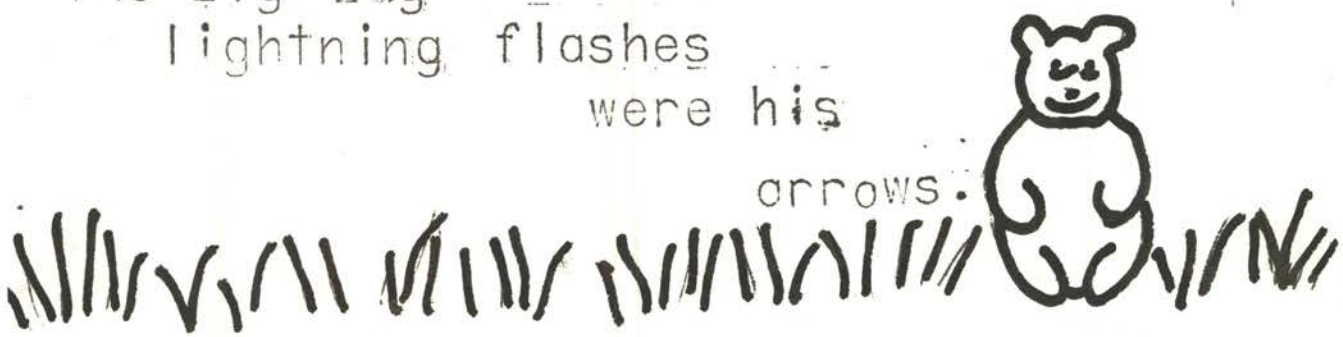
The children said
it was like the mother
because it gave them cereal to eat.



The children said
the sun was like a father.
It kept the earth
warm and bright and cozy
like the fire the man brought down
from the volcano.



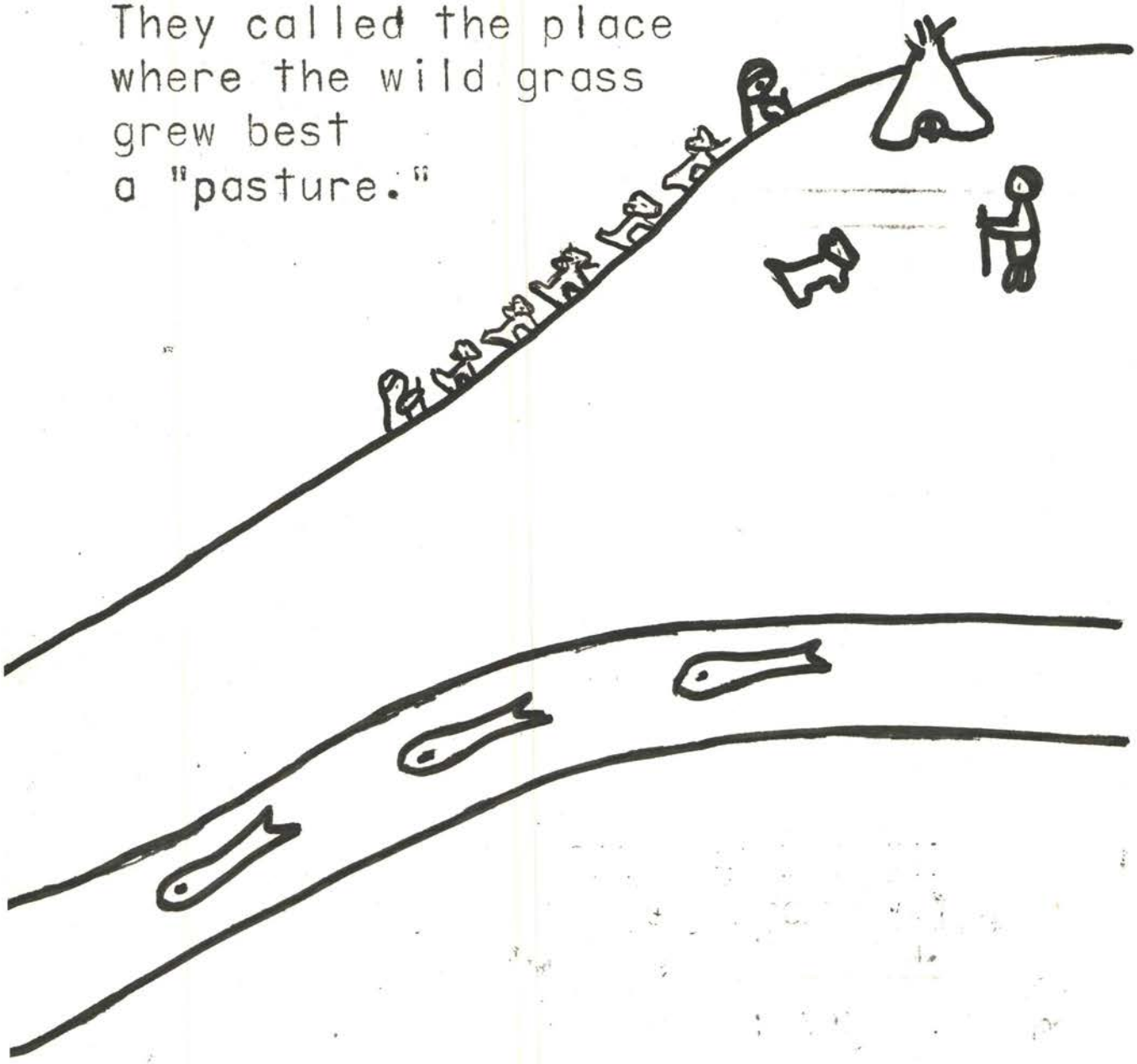
When the rains came they said the sun
was pouring down water
to give the seeds a drink.
When they saw a rainbow in the sky
they said the Father Sun
was a mighty hunter
and the rainbow was his bow.
When the lightning flashed in the sky
they said
the zig-zag
lightning flashes
were his
arrows.



By the time
the woman and the girls
had a big field of grass
the man and the boys
had a big herd of goats.

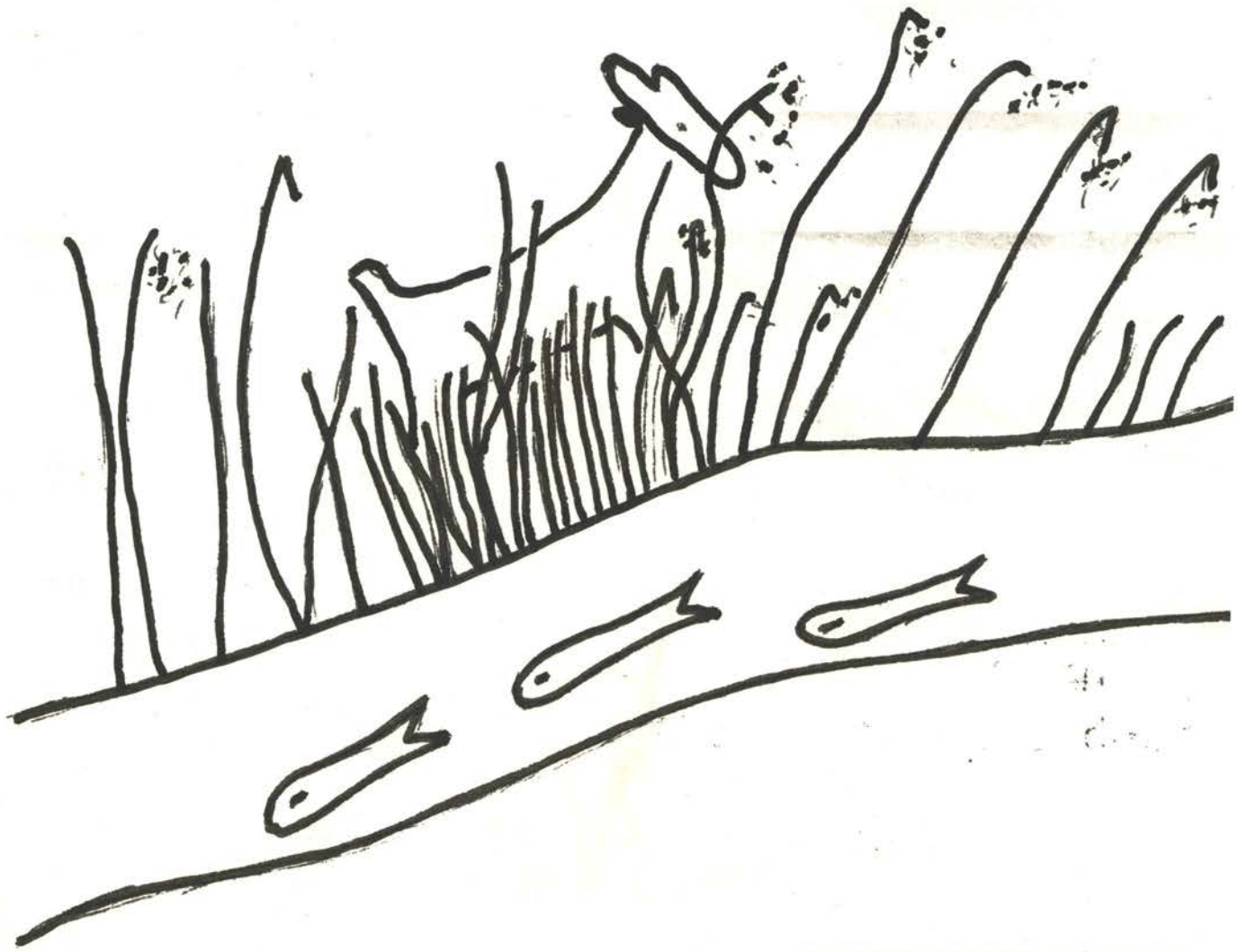
In summer
they took the herd
high up on the mountain
to eat wild grass.

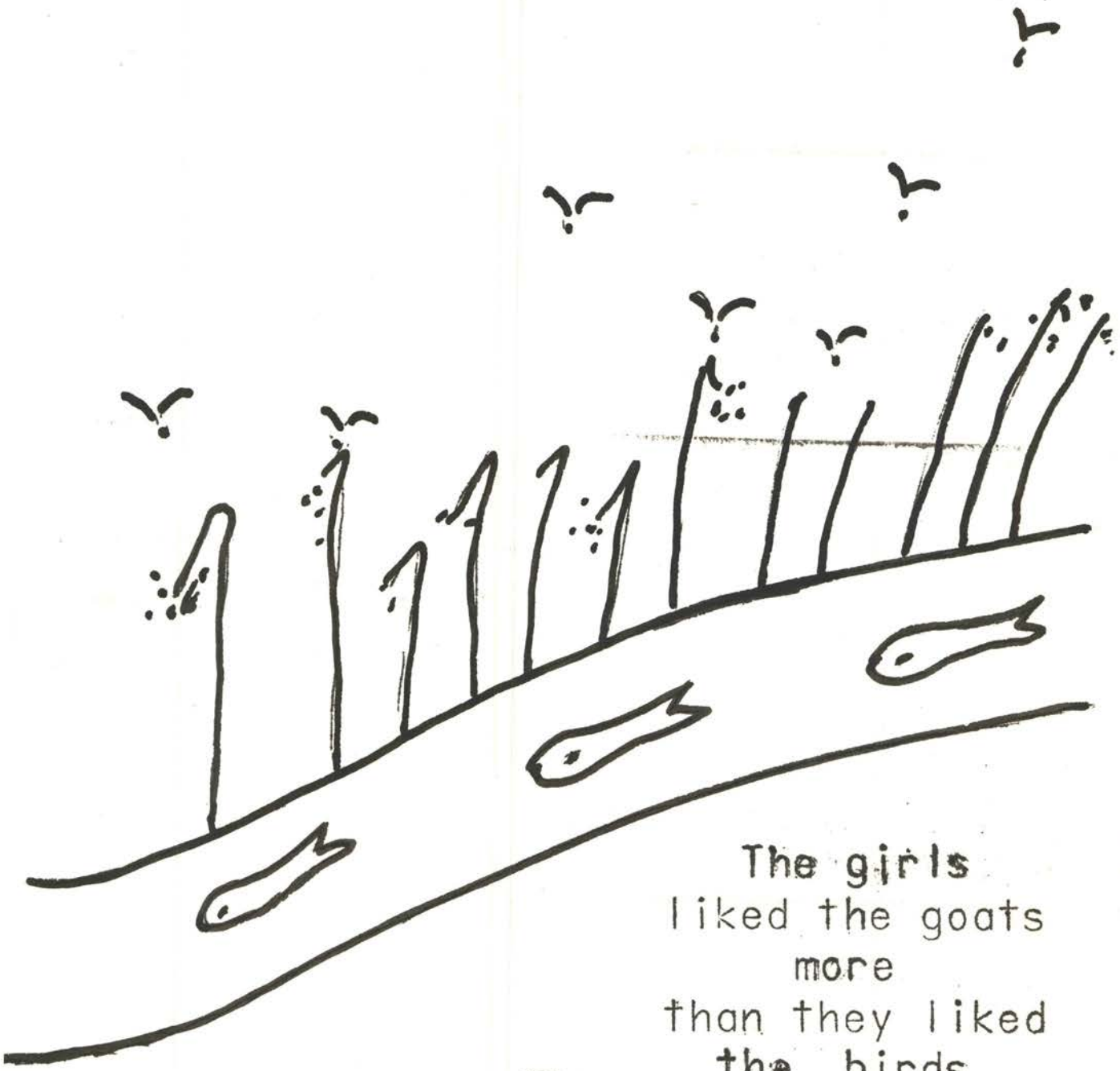
They made themselves a tent
out of bear skins and goat skins.
They called the place
where the wild grass
grew best
a "pasture."



The girls stayed at home
and shooed the birds away
to keep them from eating
the grass in the field
by the river.

When the goats
came down to the river
to drink
they ate the grass seed
in the field
in spite of every thing
the boys and the girls
could do.

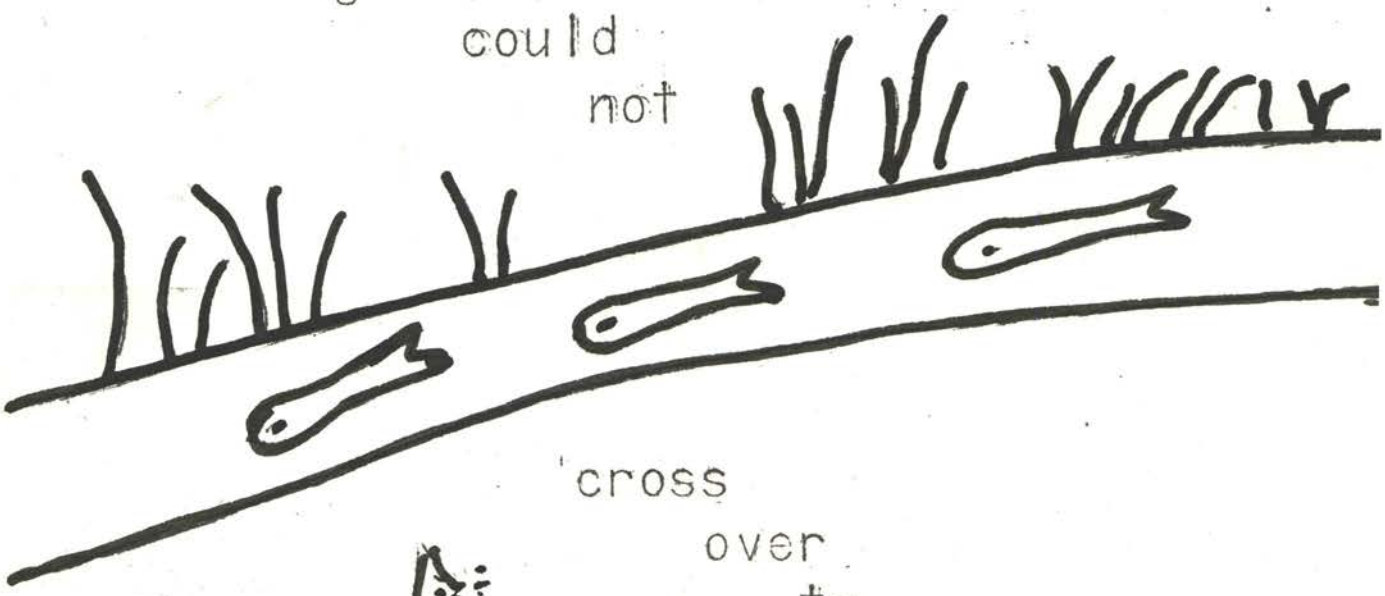




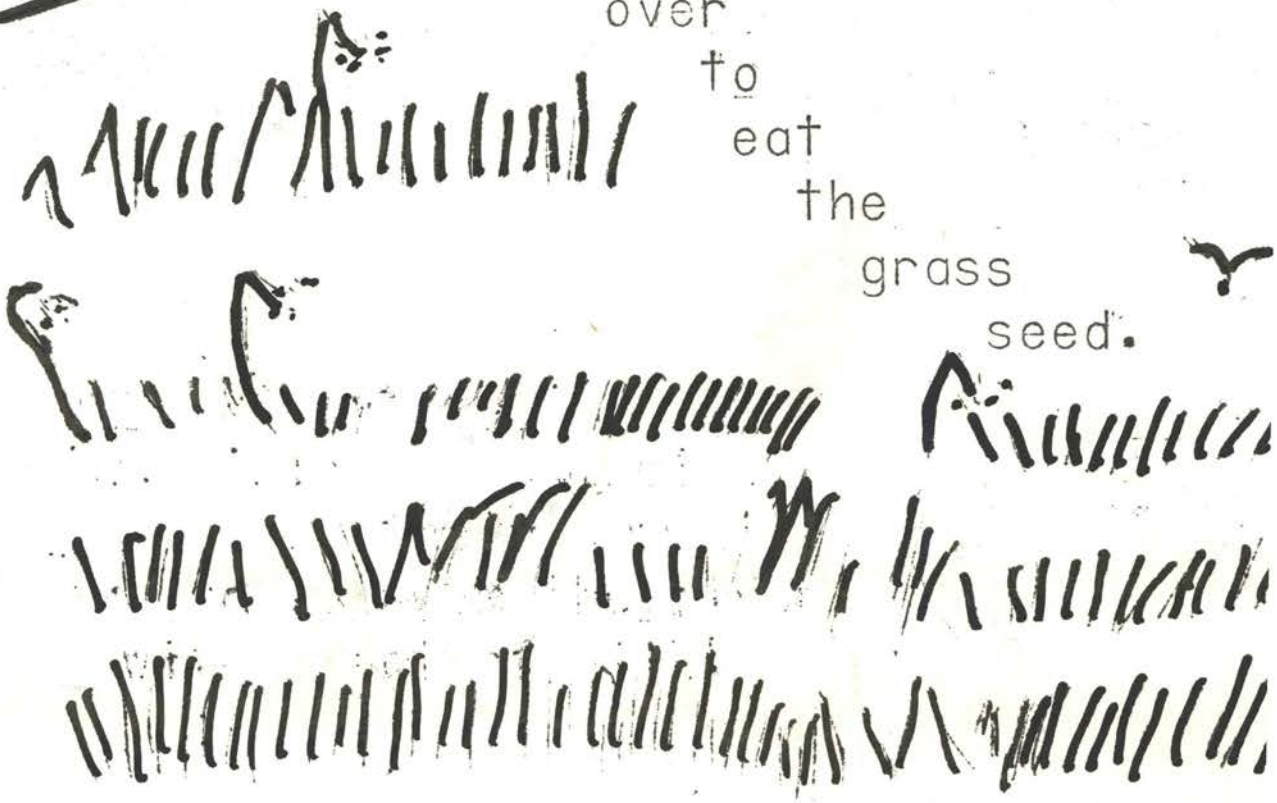
The girls
liked the goats
more
than they liked
the birds
because
they liked
goats' milk
to eat
on
their cereal.

At last
the woman and the girls
made their field on the other side
of the river. They made themselves
a summer house out of little trees.
Then
the

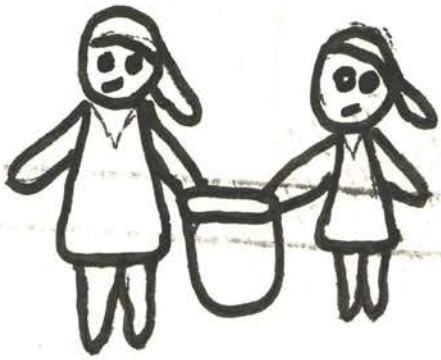
goats
could
not

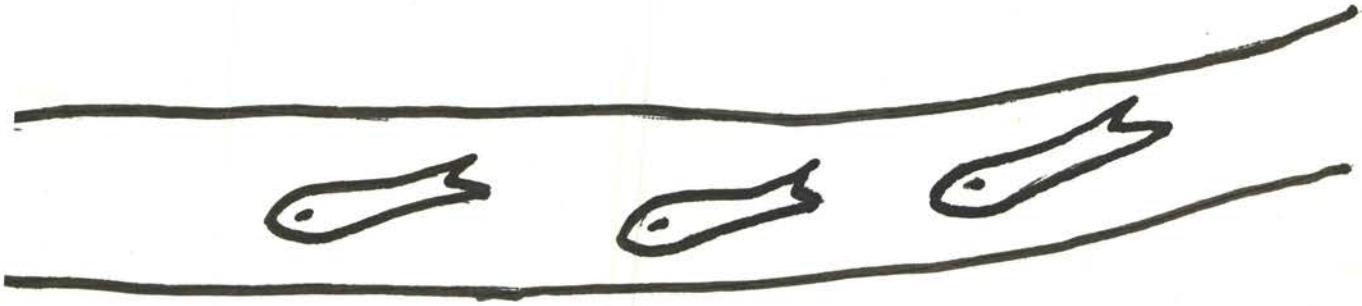


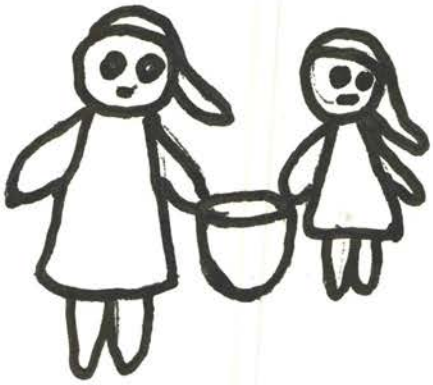
'cross
over
to
eat
the
grass
seed.

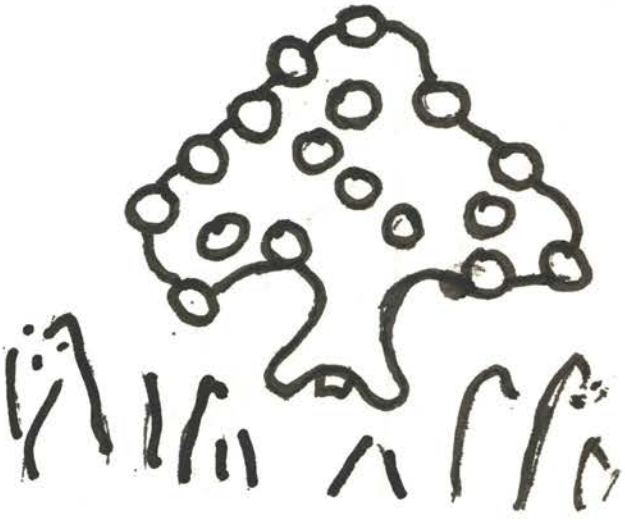


But
every time
the girls wanted
milk to eat
on their cereal
they had to swim
the river
with a pot
of milk!

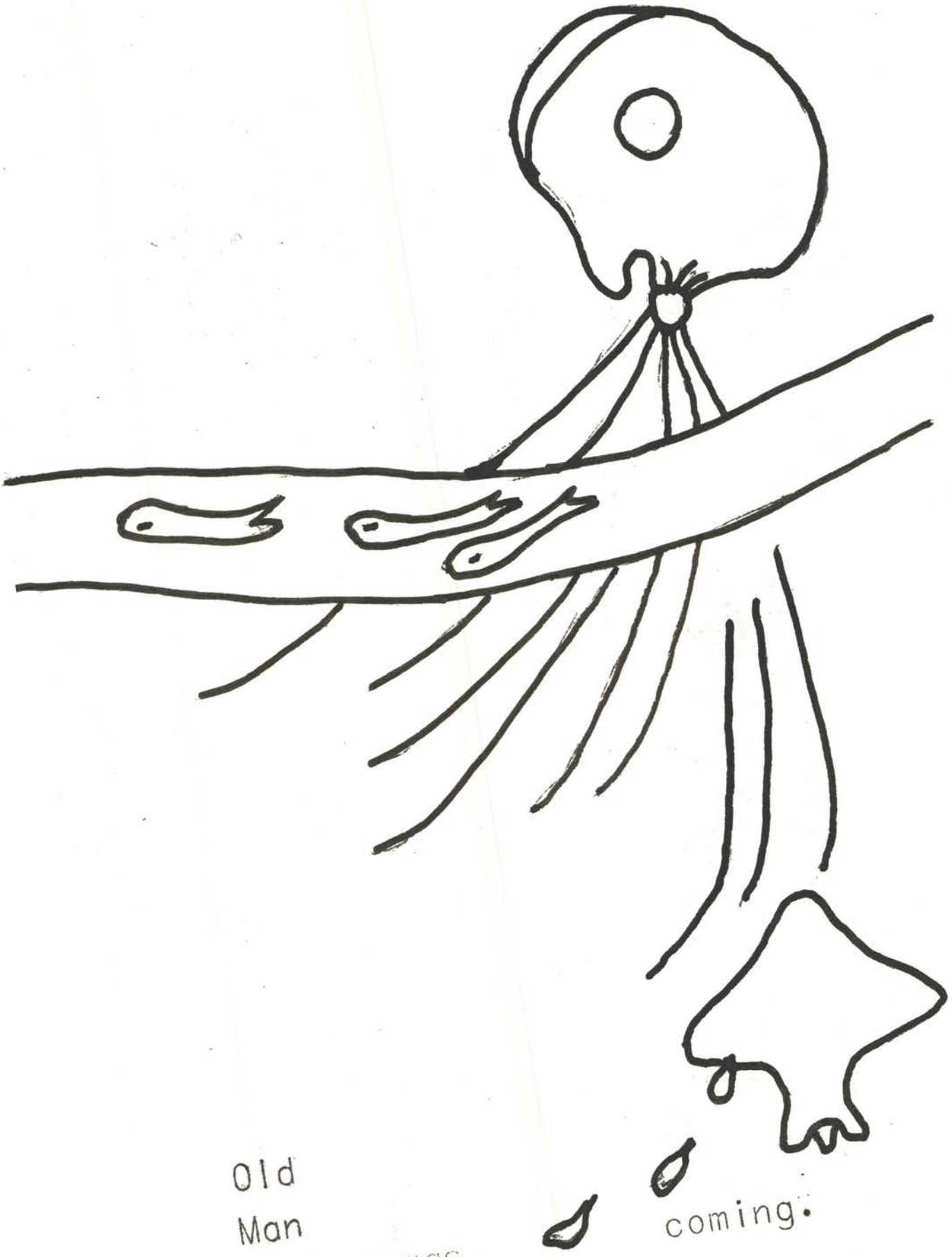




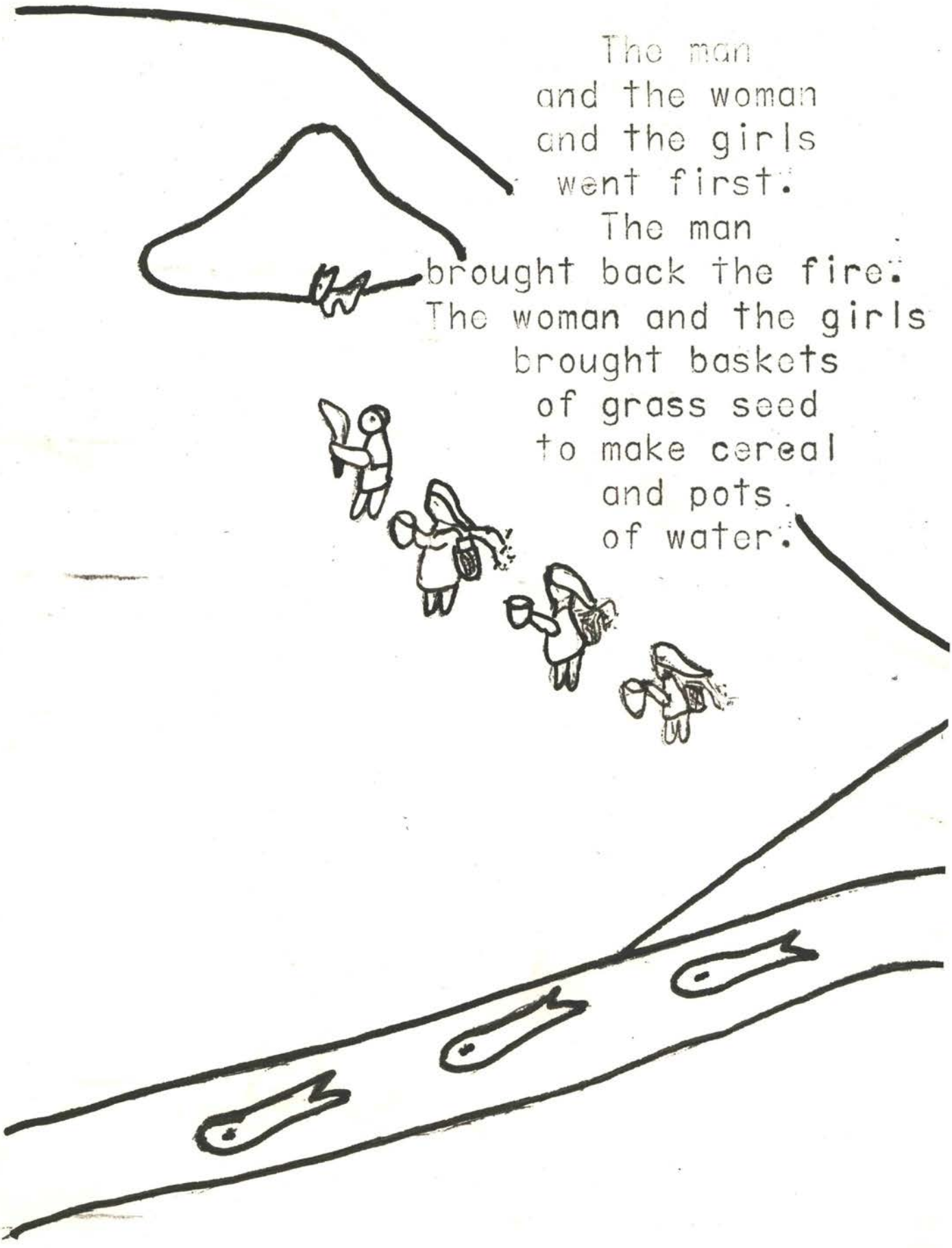




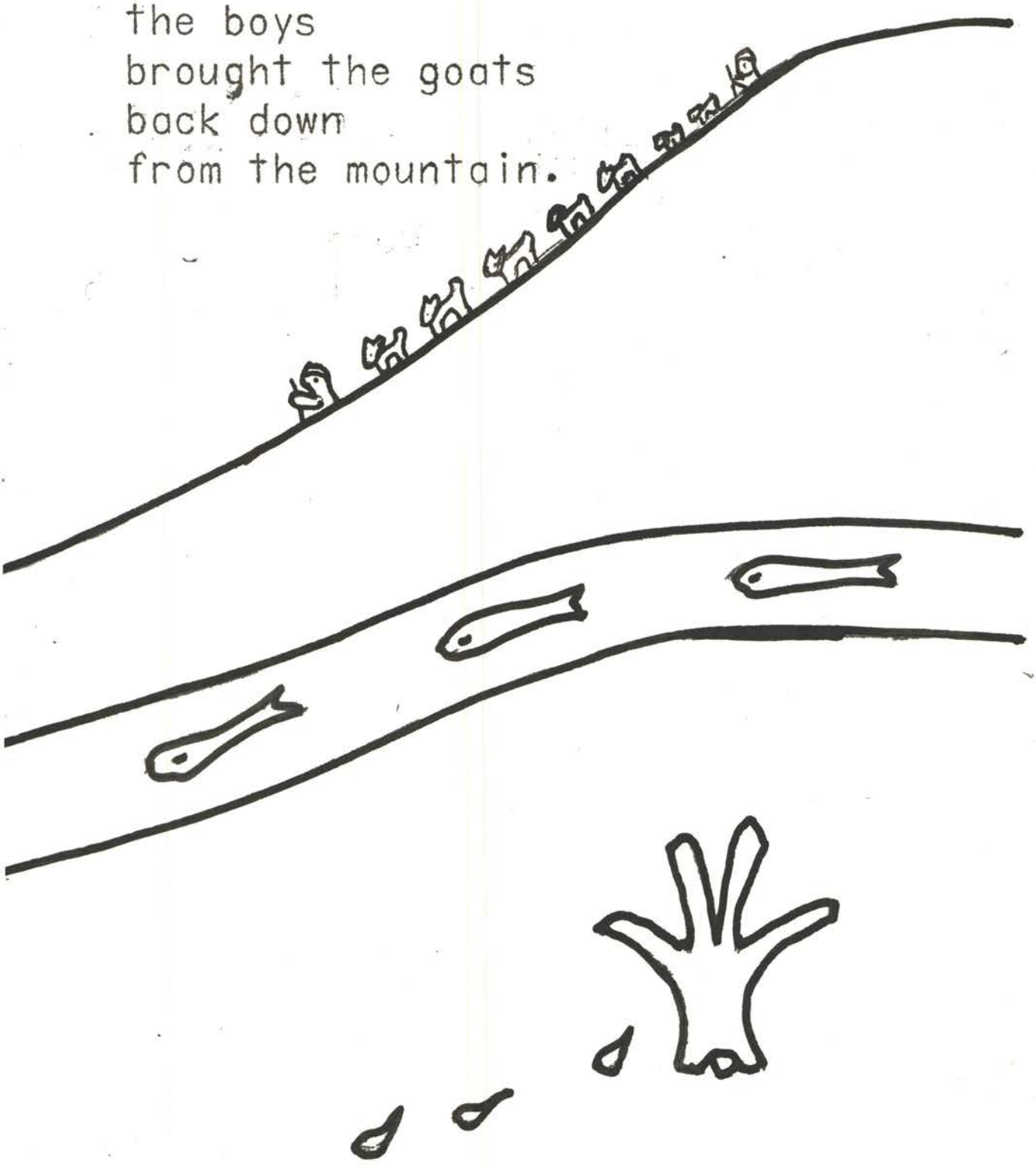
When
the leaves on the apple tree
turned red and yellow
and began to fall
to earth
the man and the woman
told the boys and the girls
they must all go back to the cave.



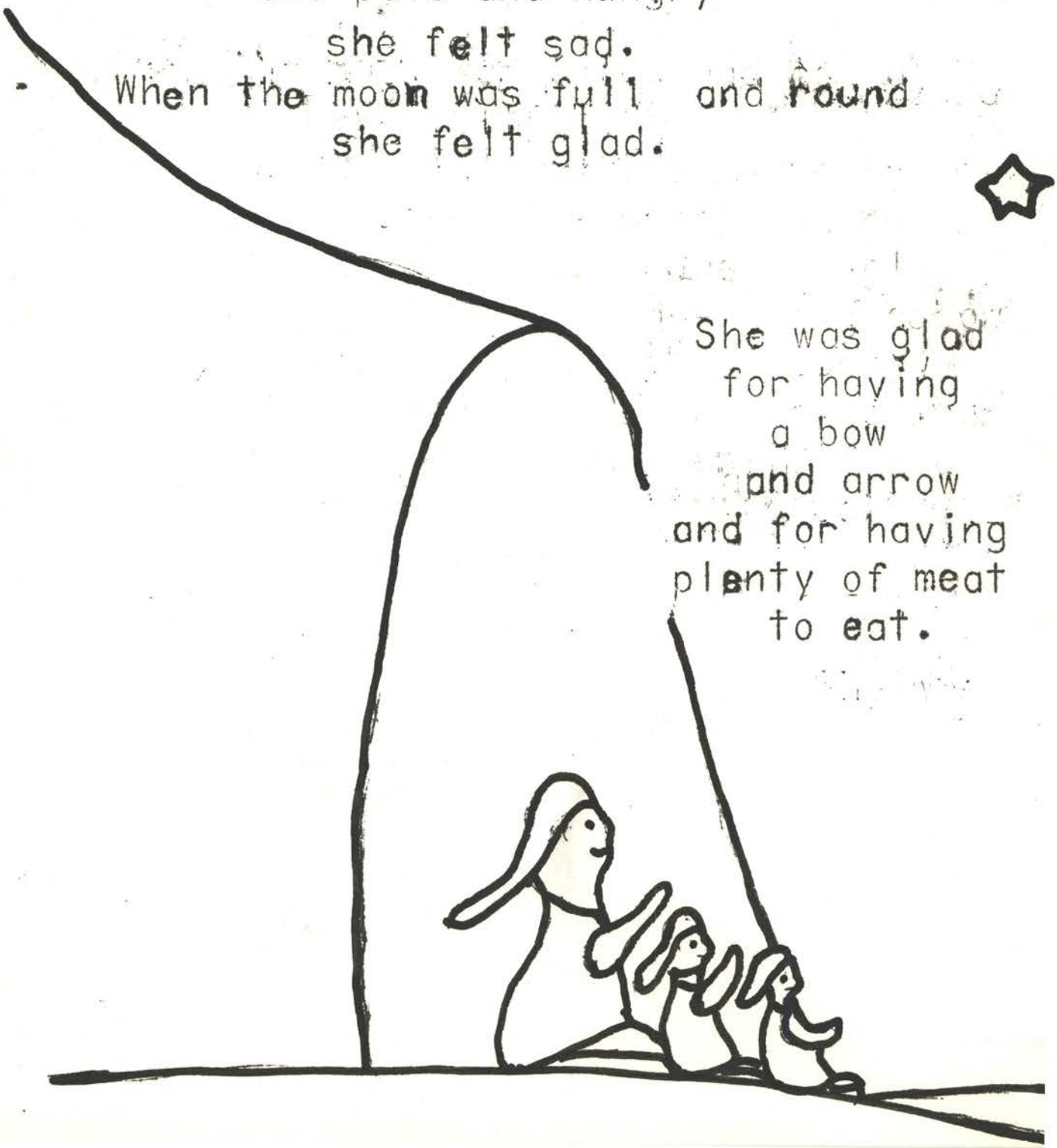
Old
Man
Winter was coming.


The man
and the woman
and the girls
went first.
The man
brought back the fire.
The woman and the girls
brought baskets
of grass seed
to make cereal
and pots
of water.

When
the leaves
were all gone
from the apple tree
the boys
brought the goats
back down
from the mountain.



When the cold winter nights came
the woman
liked to sit in the cave door
and look up at the moon.
When the moon looked thin
and pale and hungry
she felt sad.
When the moon was full and round
she felt glad.

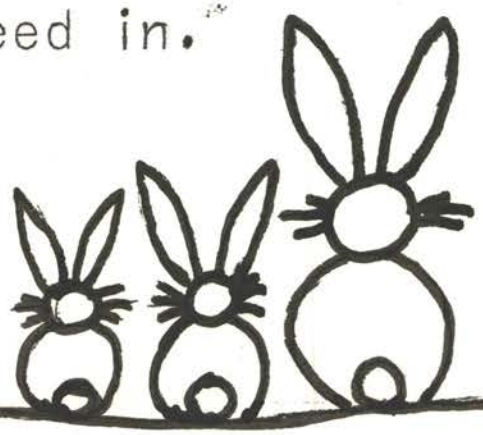


She was glad
for having
a bow
and arrow
and for having
plenty of meat
to eat.

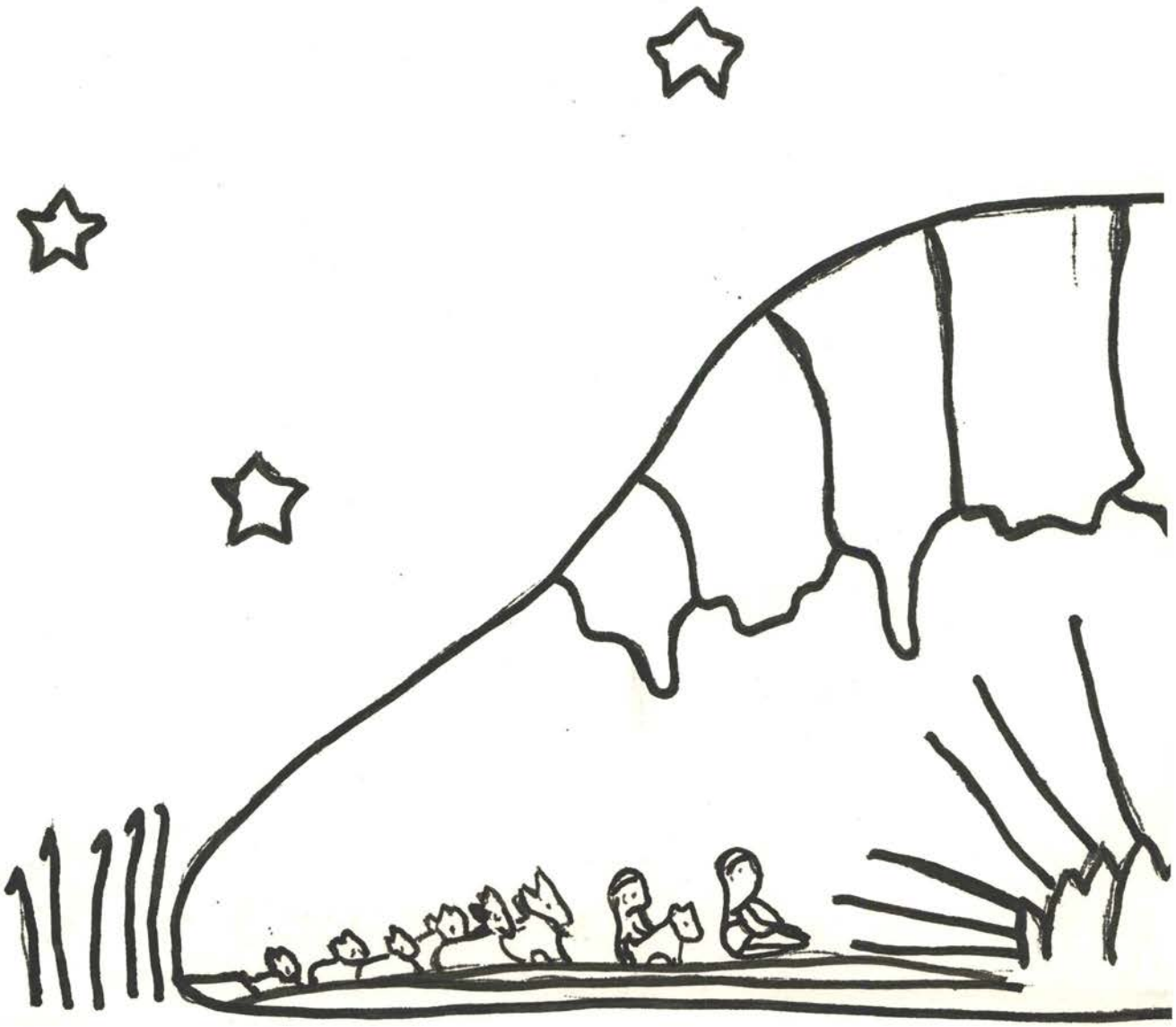
She was glad
for having a net
to catch fish in
and for having
plenty of fish to eat.

She was glad
for having plenty of water to drink
and for having pots to carry it
up to the cave.

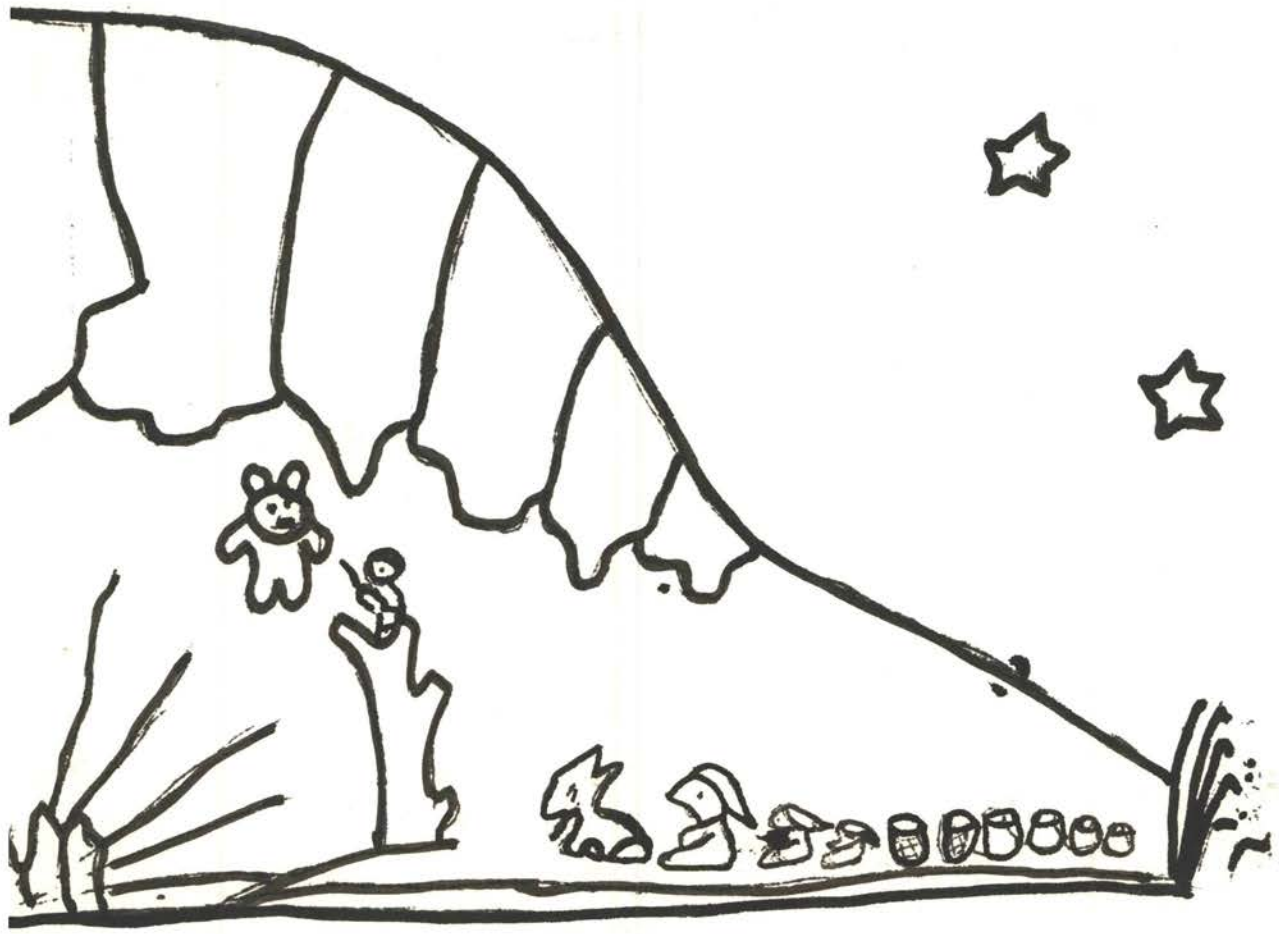
She was glad
for having
a herd of goats to give milk
to go on the cereal.
She was glad
for having
plenty of grass seed to plant
to make the cereal.
She was glad
for having
plenty of baskets to carry
the grass seed in.

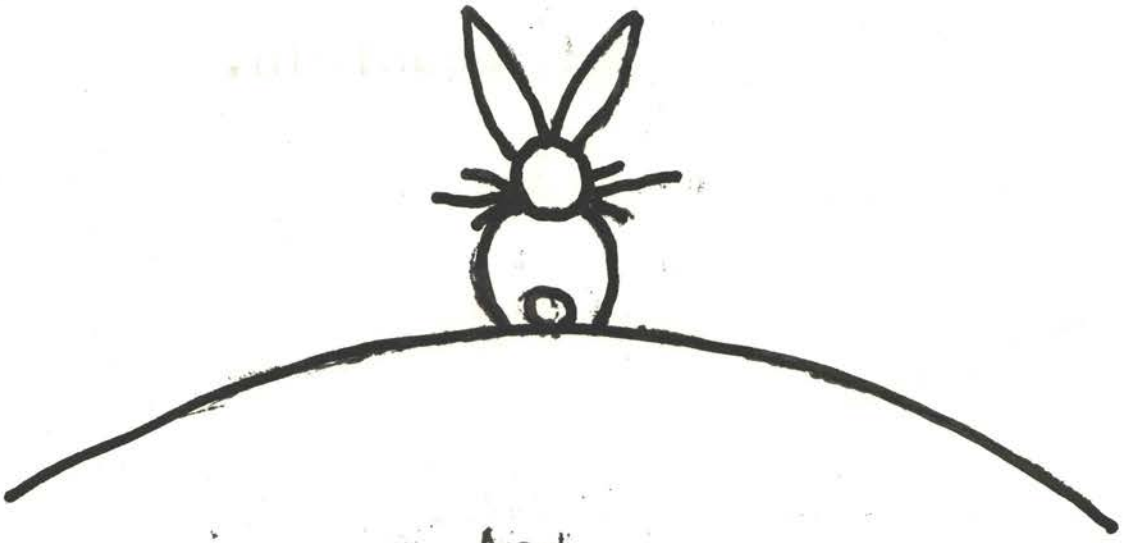


When
she went back
intp the cave
the biggest boy
was drawing a picture
on the cave wall
with a charcoal stick.

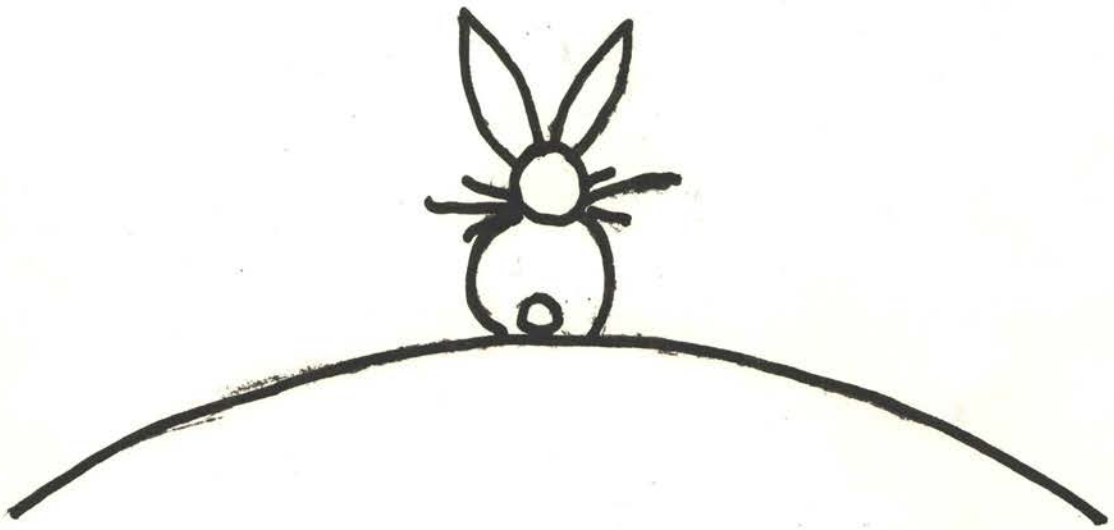


Then
she was gladdest of all
to be able to keep
the cave
warm and bright and cozy
for the boys and the girls
and the dog and the goats
with the fire
the man brought down
from the volcano.



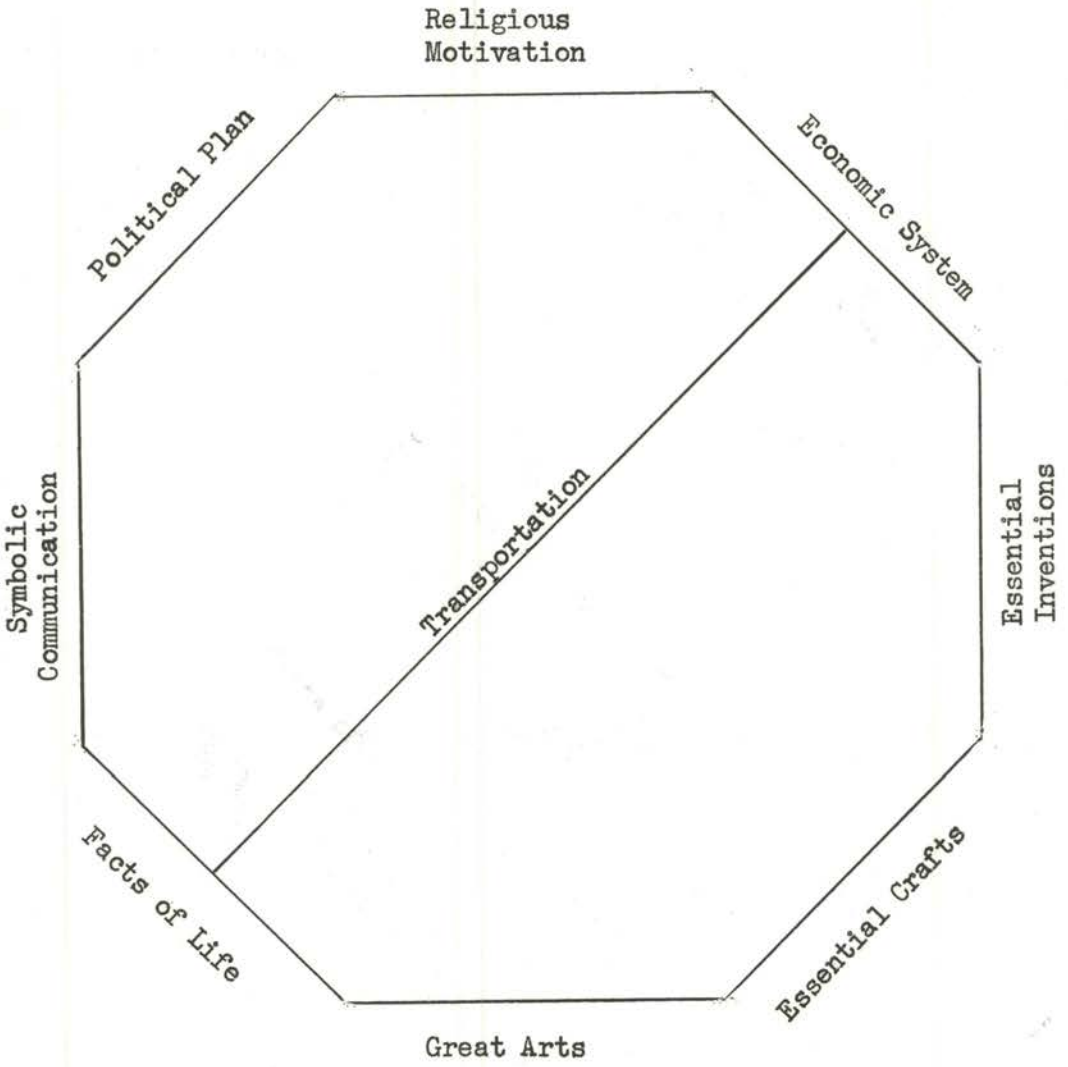


And
that is the end
of the first story
about the man and the woman
and their children
when the world was young.



APPENDIX B

CHART: ABSTRACT ELEMENTS COMMON TO ALL CULTURES



NINE ABSTRACT ELEMENTS COMMON TO ALL CULTURES

ABSTRACT

EVOLUTION OF CULTURE

prepared by

for
Human Development - OAMC - 1950
copyright

Developed Physical Characteristics of Man
(external)

right Posture
reoscopic Eyes Focusing on
ed Hands with
posing Thumb

Definition of Magic
(pre-science)

's grasp of the external
iverse, involving eloman-
l control of his destiny.

The Laws of Magic

) Sympathetic or Kinship
gic - like things are kin
ings. Kin have magical con-
ol over each other because
ey share a common spiritual
sence. Example: twins.

) Homeopathic Magic or the
rt for the Whole - a part of
thing shares in greater or
sser degree the essence of
e whole. Example: fire is
part of the sun.

) Associative Magic - a
ing retains some of the
iritual essence with which
has been associated.
ample: a saint's shirt.

(Compare formal memory
devices - seemingly the first
great urge behind all magical
devices was to retain conscious-
ness of experience.)

page one

ELEMENTS

Religious Motivation

(implies belief in a super-natural power or powers.)

Animism
(simple perceptual)
Light

Patterns: (123)
Conjury
Fetishism
Religism
Totemism (use of
Ancestor Worship the
Necrolatry mask)

King Worship
Sacrifice
Divination

Theocracy

Polytheism
(conceptual)
(implies a synthesis of nature percepts)

Patterns:
Animal Gods
Anthropomorphic Gods
Earth Worship
(maternity)
Sun Worship
(paternity includes
Moon Worship maternity)

Monotheism
(complete synthesis)

Deism

Political Plan

(implies sovereign authority over the individual)

Promiscuity
(unit: the individual)

Totemic Clan
(unit: the family)

Patterns:
Matriarchy
Avunculate
Polygamy
Polyandry
Polygyny
Patriarchy
Monogamy

The Tribe

Patterns: (x)
Semi-nomadic
(people plus territory)
Semi-sedentary: Riparian
Peoples
Oligarchy
Autocracy (use of
Despotism the
mask)

The State

Patterns:
Sedentary
(people plus land)

(other patterns same as (x))

Super State

Patterns:
League or Alliance
Confederacy
Republic

The Empire

(implies a military sovereignty imposed on native governments)

Economic Basis

(contingent on control of natural resources)

THE STONE AGE

Eolithic Era

Utilization of Stone

Pattern: Gathering and Collecting-Scavengering

Domestication of Fire

Paleolithic Era

Pattern: Hunting and Fishing

Utilization of Wood
Hard Woods

Bamboo Cultures

Neolithic Era

Patterns:
Herding
Planting

Domestication of Animals
Domestication of Plants

Utilization of Water
Irrigation

Utilization of Minerals
(surface mines)
Gold - Silver - Copper

The Bronze Age
or
Aeneolithic Era

Pattern: Militarization

THE IRON AGE

Patterns:
Industrialization (y)
Capitalism

Utilization of Power
Air - Water - Electricity

page two

COMMON

Transportation

CULTURE

Foot Traction

Air Power
Floating

Hand Power
Poling
Rowing

(production)
Pattern: Trade

and

Barter

Animal Traction

GREAT

NOMADS

Water Power

Power Traction (machines)
(production)
Pattern (y)

Symbolic Communication

DIFFUSION

Contingent on:
Totemic or Genetic Concepts[1]
Magical Concepts (1, 2, 3)
Geographic Concepts (place and distance) (a)
Number Concepts (b)
Time Concepts (c)
Word Concepts (verbalization) (d)

Linguistics (d)
Pantomime (1.2.3.) - (a.b.c.)
Imagery (1.2.3.)

Telegraphy
Drum Language
Heliography
Smoke Signals

Pan Pipes-Horns-Etc.

Sign Recordings
Trail Signs (a)
Landmarks
Charts and Maps (a)

Tattooing

Pictographs
Alphabets
Numerals

Counters (b) (gambling concept is based on factor of coincidentalism)
Shells
Sticks
Knots

The Abacus (implies computing)
The Calendar (b.c.)
The Almanac (c)

Coined Money

page three

ALL

COLOURS

Essential Crafts

(tool production and production of staple commodities)

Stone Chipping
Fire Erosion

Horn Art
Bone Art

Stone Grinding

Weaving:
Basketry
Spinning
Felting (fabric production)
Knotting
Featherwork

Ceramics (chemurgic production)
Pottery
Plaster

Tanning
Dyeing
(tailoring)

Metallurgy (f)
Molding
Smelting

Essential Inventions

Weapons
Sling
Boomerang

Bow and Arrow

Atlatl or Spear Thrower
Blowgun

Simple Machines
Inclined Plane
Wedge
Screw
Lever

Cement
Gunpowder

Decimal System

The Wheel
The Pulley
The Keystone Arch

page four

The Facts of Life

(pre-science)

The Great Hypothesis

Concept of Magic

Sympathetic Magic (1)
Homeopathic Magic (2)
Associative Magic (3)

The Great Quests
(conceptual)
The Elixir of Life (e)
The Philosophers' Stone (f)
Perpetual Motion (g)

The Great Discoveries

The Life Essences (h) (2)
Blood
Breath
Paternity - sperm and ovum (1)
The Sedatives (j)

(science)
Controlled Experiment
Germ Theory (k)
Construction of Matter (f g)
Electrical Energy (l).

Great Arts

(outgrowths of magical concepts plus inventions)

The Dance
Rhythm

Music
Melody

Pre-architecture
Cave
Arbor
Grass Hut
Tent
Post and Lintel

Megalith
Mound
Pyramid

Architecture Sculpture

page five

APPENDIX C

ELEVEN LINE DRAWINGS FOR COMPARISON WITH FOUR SIMULATED PICTOGRAPHS FROM "WHEN THE WORLD WAS YOUNG"

A COMPARISON OF SOME LINE DRAWINGS

This appendix includes eleven line drawings to compare with four drawings from "When the World Was Young." Among the eleven are prehistoric rock drawings, Mexican pictographs, children's drawings, a modern cartoon, and an illustration from Little Black Sambo. Figure XV is a comic book diagram reproduced by a nine-year-old third grade language problem child.

Figure I is a petroglyph or "rock drawing" from the Capsian culture in North Africa.[1] The interpretation given to this drawing in Rank's Art and the Artist[2] is that the ostrich is drawn as tall as the hunter to emphasize its import. The hunter desires to kill it and so must appease its ego. The bow is shown conceptually as an extension of the hand. The mother protects the hunter from the animals in the picture and furthers his good fortune in the chase through her prayers. That she is praying is emphasized by her conventional ritualistic attitude, hands uplifted to the spiritual powers. That she is his mother and not his wife is the implication of the umbilical cord joining the two human figures.

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[1] Original at Tint, Algeria.

[2] See Rank, Art and the Artist, op. cit., pp. 260-261.

Figure II is a line drawing from an Egyptian rock tomb at Amarna.[3]

Figure III is from the Aztec Codex Mexicana. Hyatt Verrill interprets the series of three scenes as a pictorialization of the methods, aims, and rewards of education, notably of instruction, application, and the attainment of facility in the art of weaving. Not only does the novice's clothing improve with her increase in skill, but also the appearance of one, one-and-a-half, and two tortillas hanging on the wall symbolizes a material reward of another character--perhaps the trade value of her occupation.[4]

Figure IV, from the Nuttal Codex in the Garcia Library at the University of Texas, represents a prehistoric Mexican corn festival.

Figure V is a cartoon from the Houston Chronicle, May 12, 1954. It is introduced here for comparison with other types of line drawings, prehistoric and modern.

Figure VI is a "drawing of a man" made by a four-year-old girl at the University of Texas Nursery School. This child averaged approximately 140 on her intelligence tests. The drawing has six points on which to score according to the Goodenough rating: hair [free floating], head, eyes,

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[3]See Viola, p. 17, for reproduction.

[4]See Verrill, pp. 78-79, for reproduction. Original at Oxford University.

eyebrows, arms, legs. Her score is high for her age because she had indicated eyebrows.[5]

Figures VII, VIII, and IX are from eight-year-old children in Cizek's Art School in Vienna; the first two are by girls and the last by a boy.[6]

Figure X is an illustration from Little Black Sambo[7] showing an adult drawing of "the kind children make themselves" after commercial reproduction.

Figures XI, XII, XIII, and XIV are "pictographs" from "When the World Was Young." They represent bringing down fire from a volcano, carrying home a dead bear, the sun and the rainbow, and taking the goats over the mountain.

Figure XV is a nine-year-old "language problem" child's reproduction of a volcano as he found it charted in a comic book printed in English and sold on the Texas-Mexican Border. It is introduced here not only to show the relationship of the modern comic book to the ancient device of the pictograph, but also to show the "flow" of the child mind through the media of drawings whether presented as pictographs, cartoons, or Isotypes.

All of these pictures are line drawings, the "natural" format of children's drawings according to the several

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[5]Goodenough, op. cit., pp. 35-110.

[6]Viola, op. cit., pp. 196-197.

[7]Little Black Sambo, courtesy of publishers.

artists and psychologists quoted in this thesis with respect to this subject. None of the pictures has perspective other than that indicated by relative size, overlapping, and height with respect to the baseline.

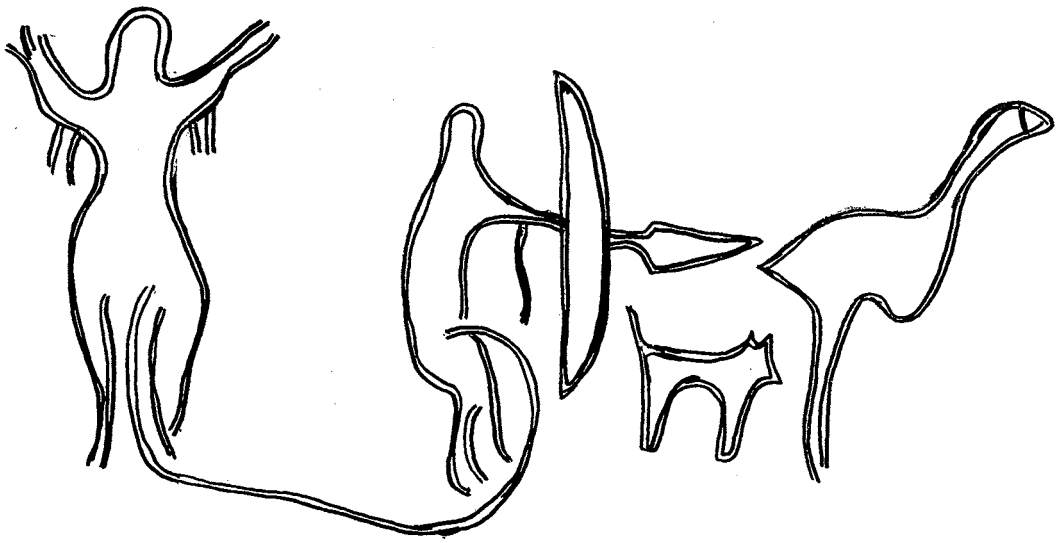


Figure I

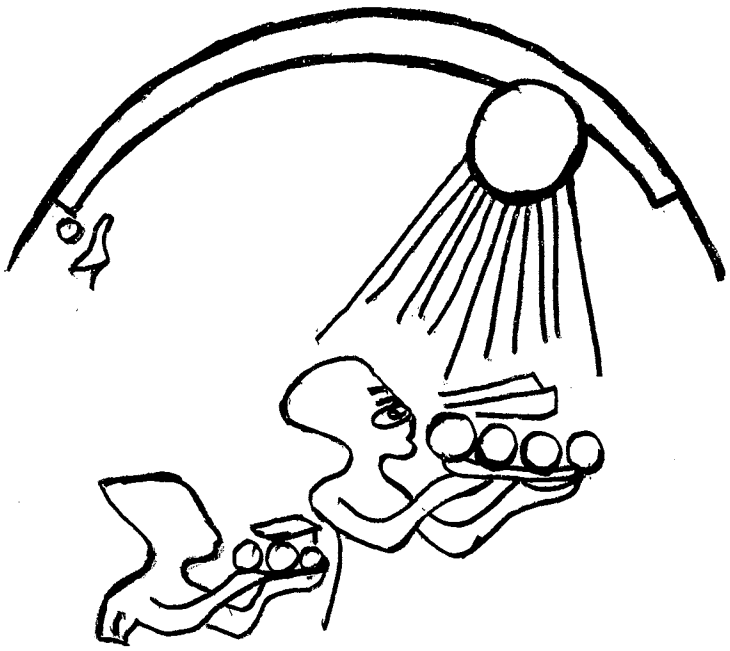
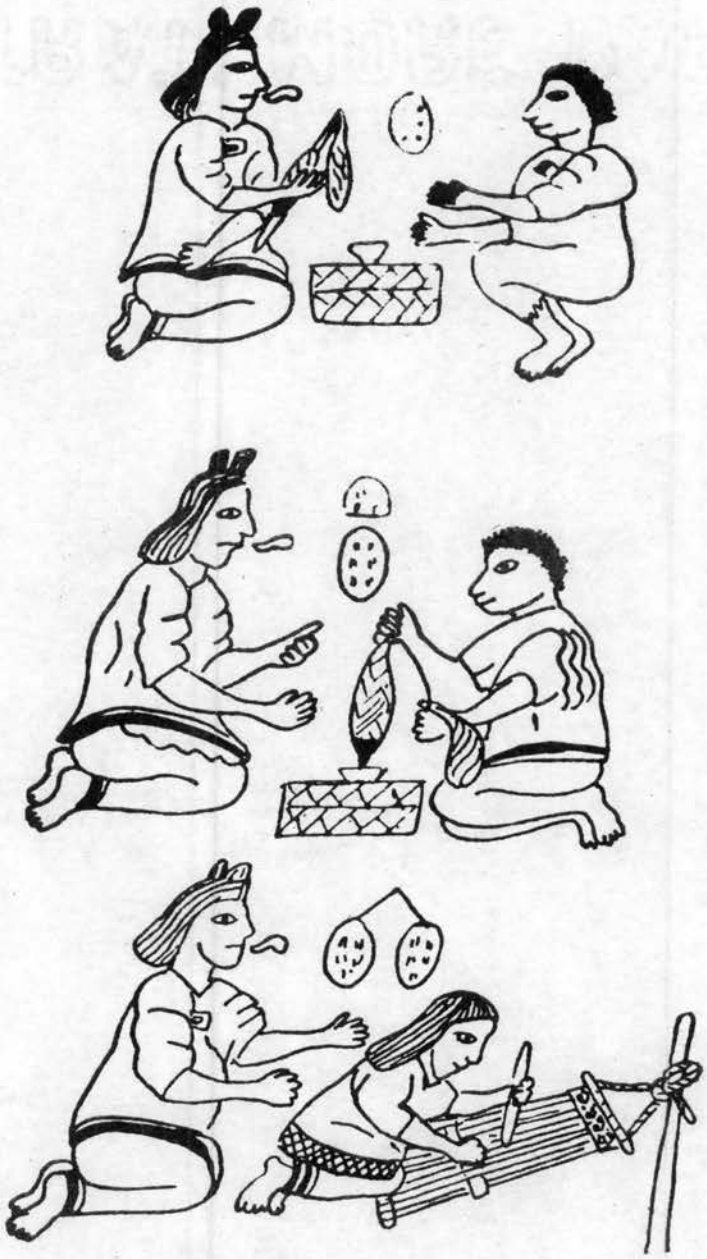
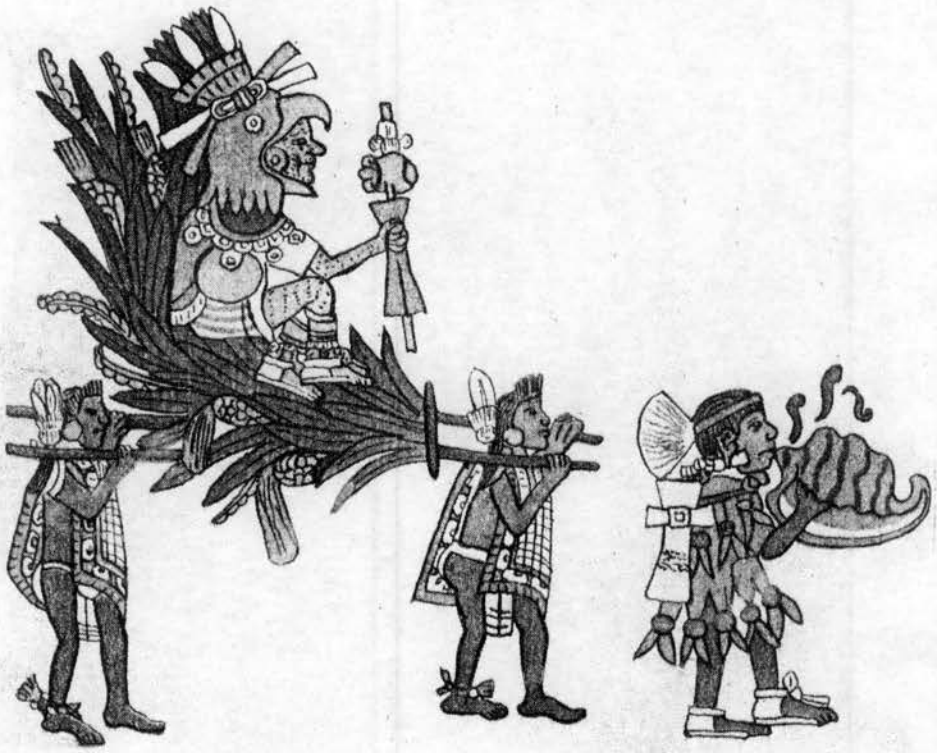


Figure II



Aztec codex showing a mother teaching her daughter to weave

Figure III



"Parade of the Corn Festival" from Nuttal Codex

Figure IV

"No, I think we'll wait for color."

Figure V

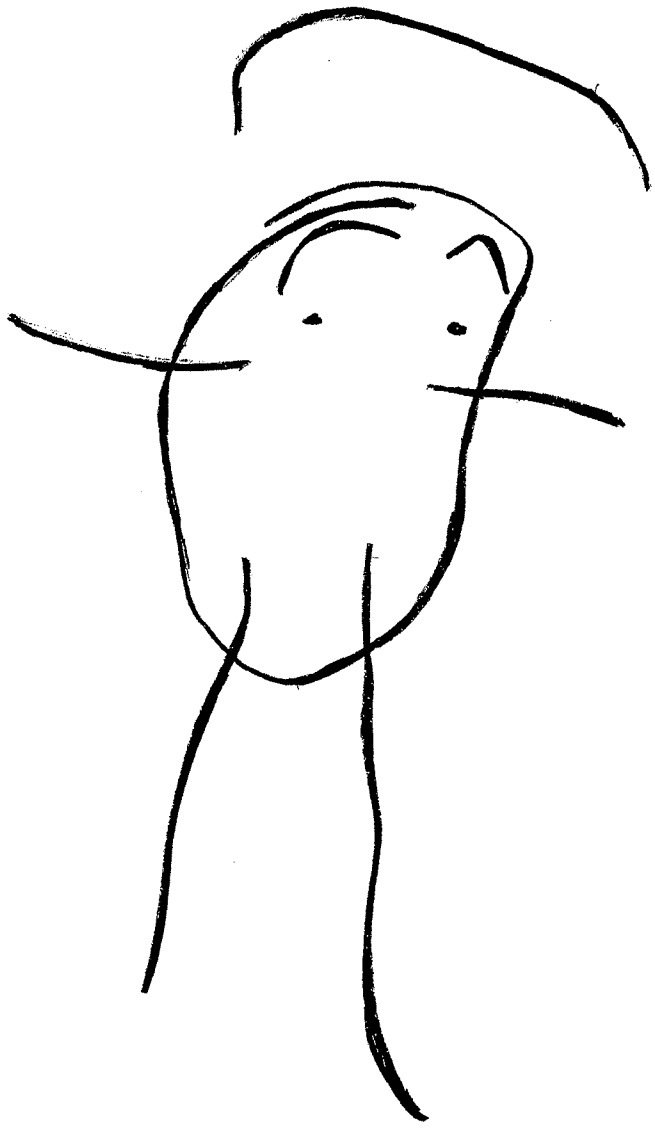


Figure VI

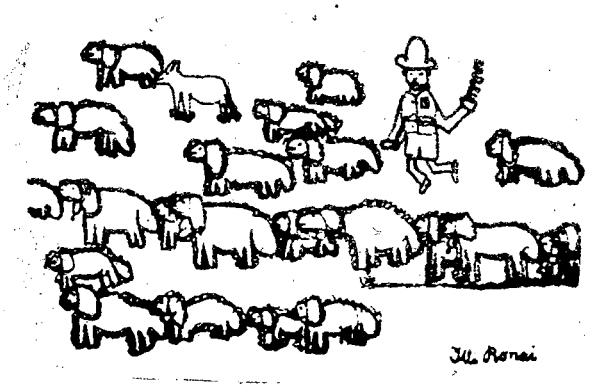


Figure VII

Figure VIII

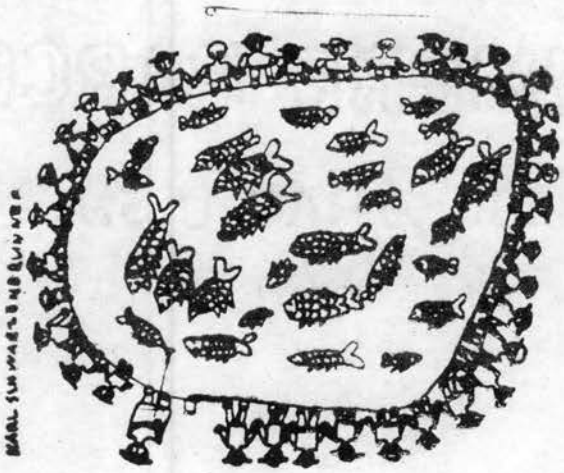
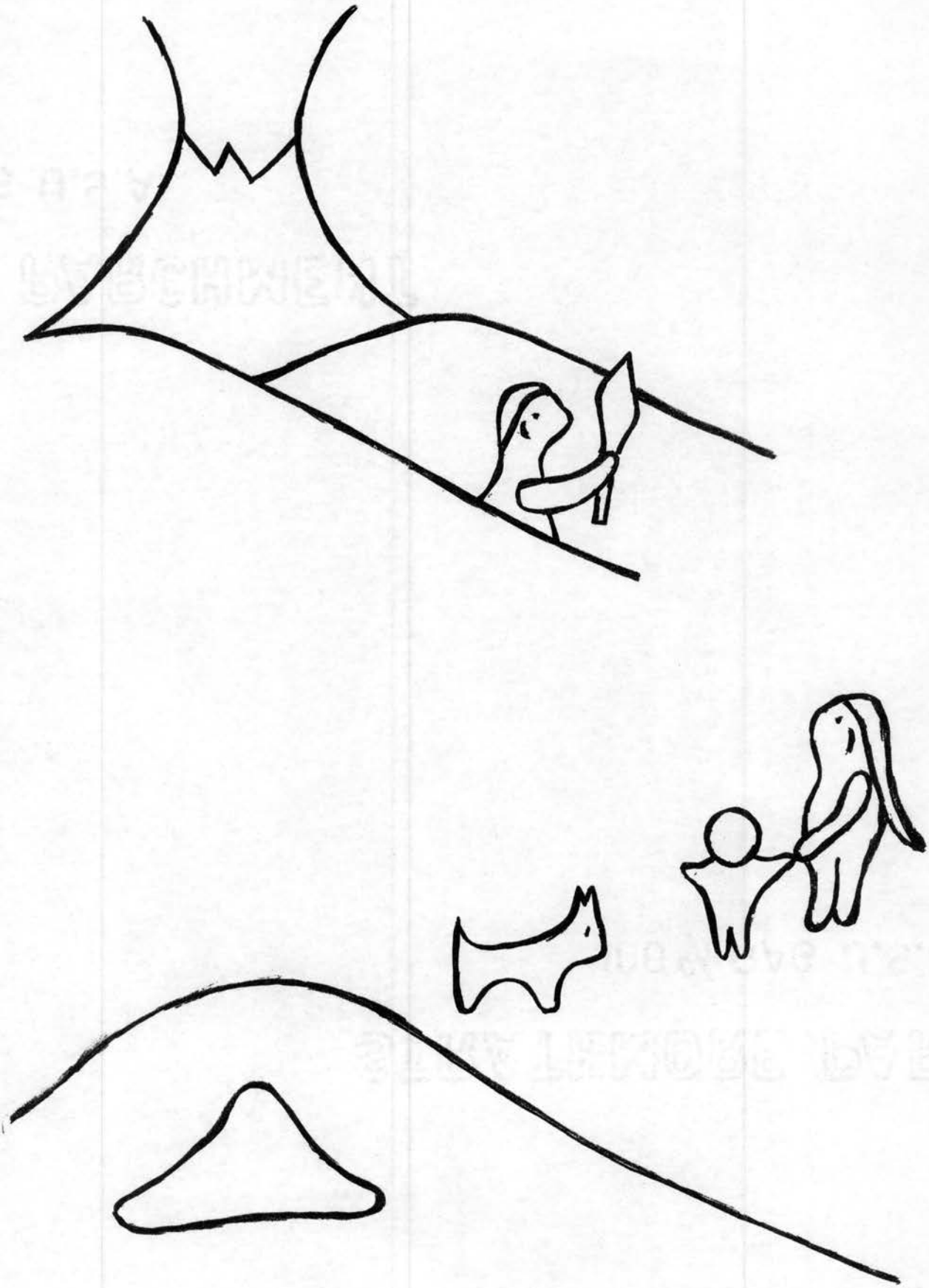


Figure IX

Figure X



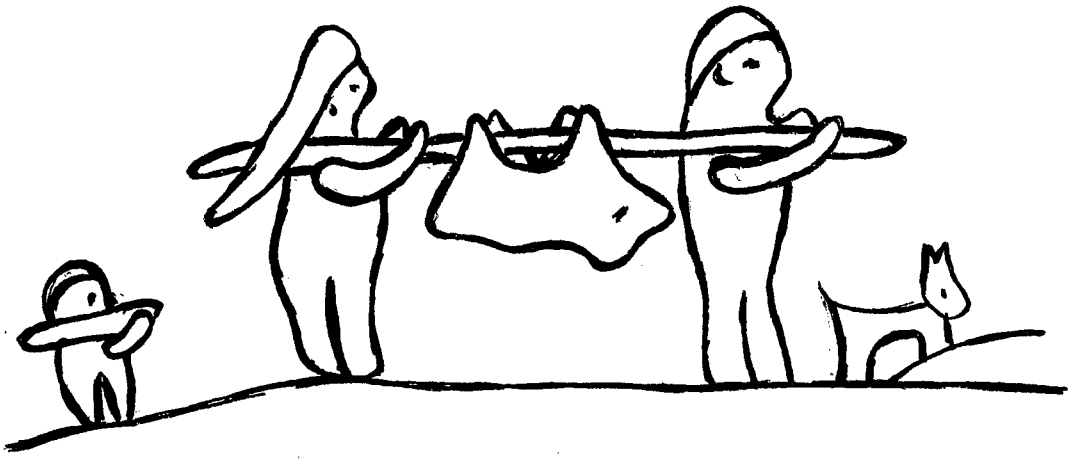


Figure XII

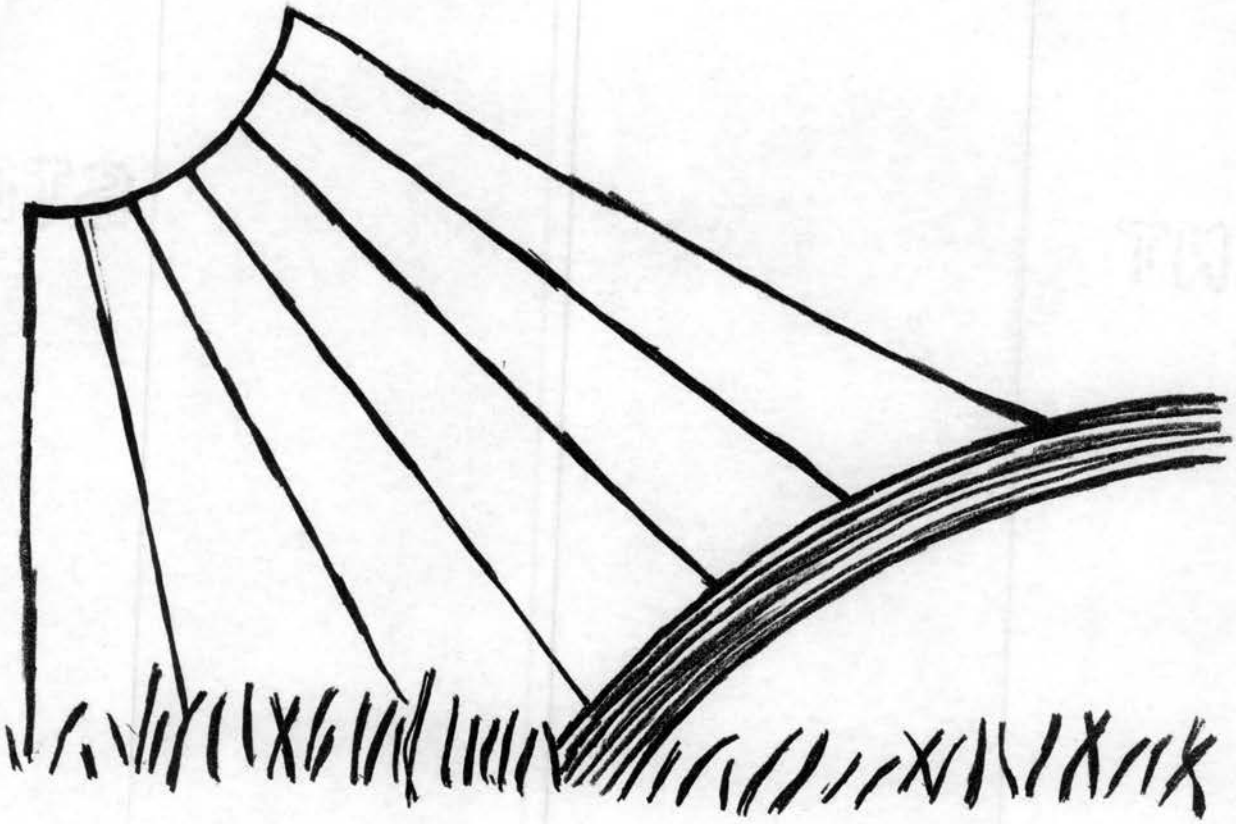


Figure XIII

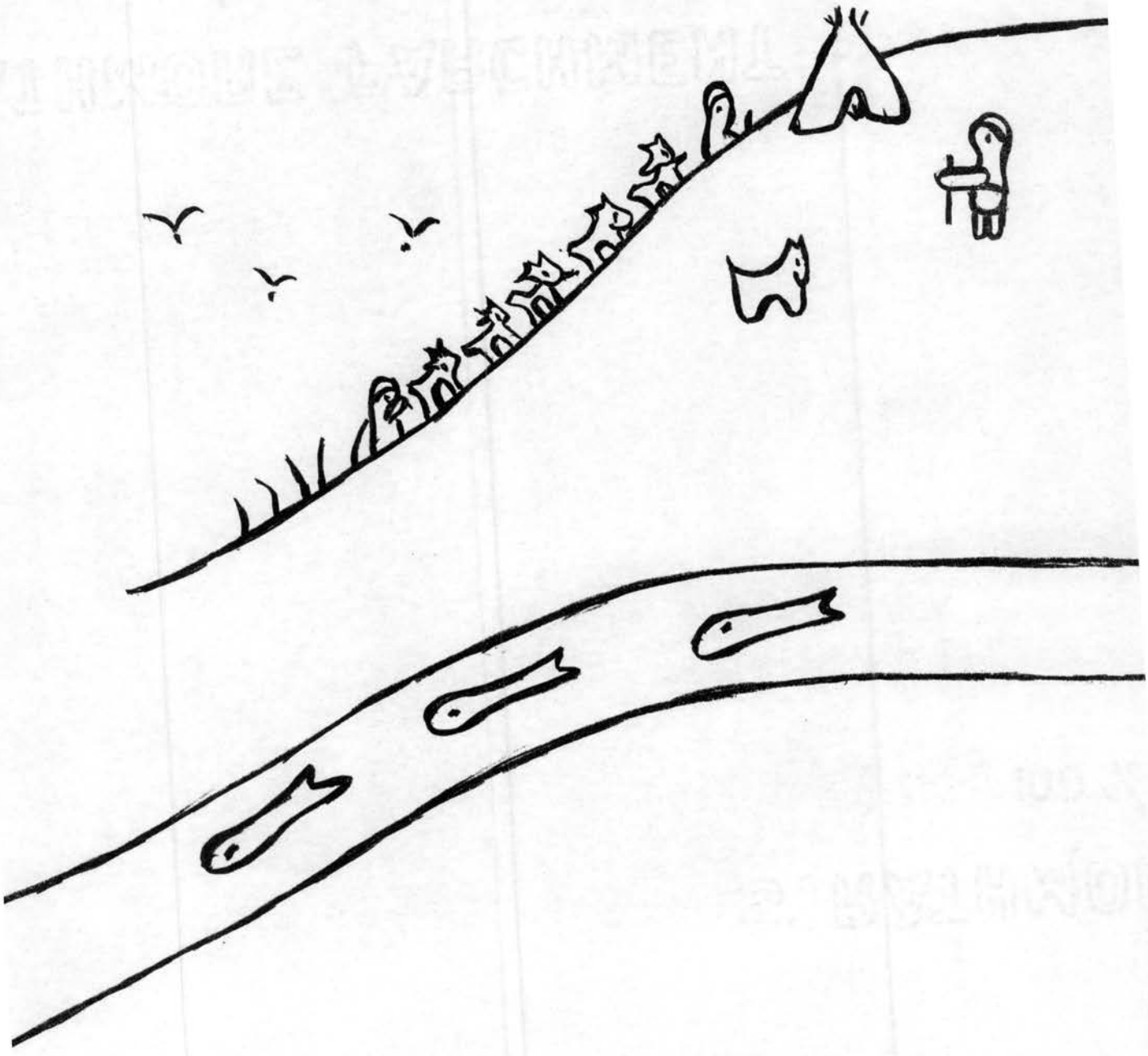
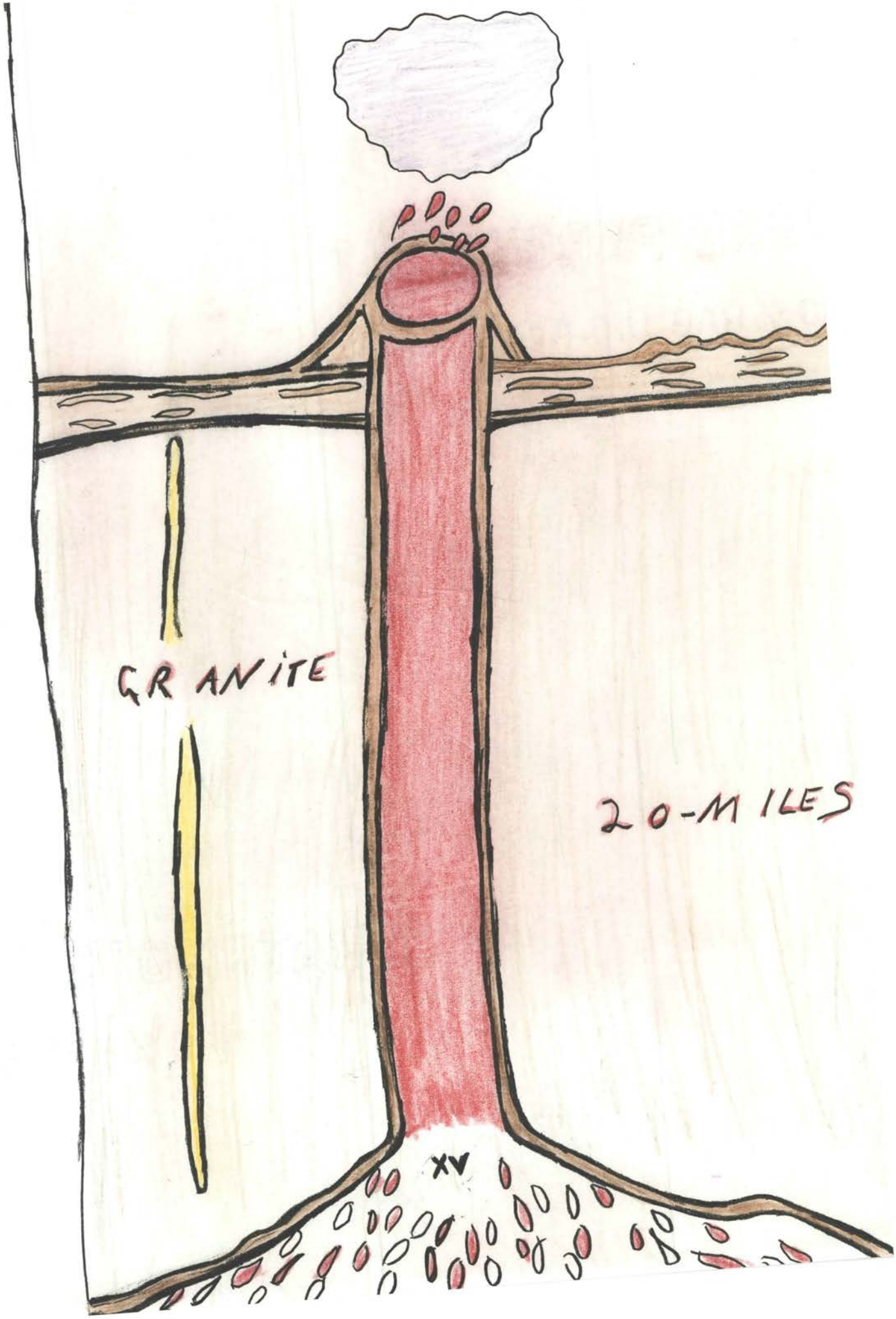


Figure XIV


GRANITE
20-MILES
XV

APPENDIX D

OUTLINE OF CONCEPTUAL ACCULTURATION USED IN RESPECT TO "WHEN THE WORLD WAS YOUNG"

OUTLINE OF CONCEPTUAL ACCULTURATION USED IN RESPECT TO "WHEN THE WORLD WAS YOUNG"

Acculturation, or world culture growth, and individual intellectual growth are, alike, vested in conceptuality; and each is a result of interaction (1) of the individual with natural phenomena, (2) of individual with individual, and (3) of world culture growth and individual intellectual growth, each with the other. This conclusion is based in large part on summaries of anthropological thought given in Chapter IV, "Theories of Early Mentality," in Alexander A. Goldenweiser's book, Early Civilization, and on careful study of the references listed in the bibliography of this thesis under the heading, "Studies of Conceptual Growth Through Child Experiences."

1. Memory is the dominant factor in acculturation.[1]
2. The distortion of perceptual memory is Magic--a result of identifying the symbol with reality and the consequent discrepancies between symbolic representation with true phenomena.[2]

---

[1]Gordon Willard Allport, Personality (New York: Henry Holt and Company, 1937), pp. 345, 555. Cf. Edna Heidbreder, Seven Psychologies (New York Century Company, 1933), p. 94, for Wundt on "social products."

[2]Cf. Raoul Allier (New York: Harcourt, Brace, and Company, 1927), p. 11; Allport, op. cit., p. 23; and Alexander A. Goldenweiser, Early Civilization (New York: Alfred A. Knopf Company, 1922), Chapter XV.

3. Intrinsic interest is a by-product of magical assumption.[3]

4. Empathy is the essence of intrinsic interest as expressed through activity.[4]

5. Progressive education based on activity is correlated with the experience curriculum.[5]

6. Conceptuality is integrated perceptuality.[6]

7. The preprimary and primary years, as periods of "emergent understanding," are peculiarly the periods of "crucial experiences."[7]

As a result of consideration of the conclusions set forth in the preceding statements (synthesis) it appears

8. That the function of the symbol in the educational process is a major factor in the teaching-learning process.

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[3]Allier, op. cit., p. 11; cf. William R. Featherstone, Curriculum of the Special Class (New York: Columbia University Press, 1932), p. 89.

[4]Herbert Read, Education Through Art (London: Faber and Faber, 1945), p. 87; see also Allport, op. cit., p. 523, for Wundt on "judgement"; and Featherstone, op. cit., p. 91, on "the socially aware person."

[5]Grace F. Ramsey, Educational Work in the Museums of the United States (New York: H. W. Wilson Company, 1938), p. 82.

[6]See James Rowland Angell, Psychology (New York: Henry Holt and Company, 1904), pp. 86-90: "Loss of discrimination equals confusion."

[7]See Theodore Brameld, Patterns of Educational Philosophy (New York: World Book Company, 1950), p. 321; Frederick Eby and Charles Flinn Arrowwood, The Development of Modern Education (New York: Macmillan Company, 1934), p. 60, on Comenius; and cf. the Freudian maxim: "The child is father of the man"; and G. Stanley Hall, Adolescence (New York: D. Appleton and Company, 1905), pp. iii-xx.

In consideration of the above conclusion, and the original conclusion concerning acculturation (further synthesis), it appears that

9. Heuristic discovery is a learning function;[8]

and that

10. Logic, as we know it in our culture (Euro-American civilization) is a result of heuristic discovery resulting in (1) classical typology--the science of identification of natural phenomena based on Plato's theory of "forms" and on Aristotle's arrangement of Platonic "forms" as represented by natural phenomena into systemic classifications.[9]

It would then appear that the magical element which has resulted in distortion due to identifying symbolism with reality is vested in a logical but erroneous assumption of unchanging fixity of form through laws of family relationship which may be defined as "like invariably produces like," ignoring the evidence of possible mutation. Thus it becomes evident that

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[8]See Henry E. Armstrong, Teaching of the Scientific Method (New York: Macmillan Company, 1903), "Introduction." Cf. George Herbert Mead, The Philosophy of the Act (Chicago: University of Chicago Press, 1938), p. 68; and Ladislas Segy, Buma--African Sculpture Speaks (New York: A. A. Wyn Company, 1952), p. 130: "Affinity of Ideas."

[9]Brameld, loc. cit.

11. The idea of evolution or historical descent in the relationship of "forms" in natural phenomena is a dynamic factor in modern thought;[10]

and that

12. A shift from the concept of Aristotelian class systems among natural phenomena as unalterably fixed through the laws of heredity to a concept of historical descent through mutations as the dominant scientific concept of phenomenal organization is the crucial intellectual experience of our time.[11]

It would thus appear that

13. Specialization versus universalism, as over-all speculative philosophies, ends in a draw.[12]

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[10]See Adolf Euchen, The Problem of Human Life (New York: Charles Scribner's Sons, 1909), pp. 536-42; and Paul Cohen-Portheim, The Message of Asia (New York: E. P. Dutton Company, 1934), pp. 18, 63-66. Cf. J. S. Brubacher, Modern Philosophies of Education (New York: McGraw-Hill Book Company, 1939), p. 24: "If there is disagreement about first principles as to the nature of reality, it is bound to be reflected in notable differences of opinion as to the way educational practice shall be carried on"; and a comment from W. C. Lea in his monumental work, The History of the Spanish Inquisition: "There are few things so indestructible as a superstitious belief, once it has become fairly implanted in human credulity."

[11]See fn. 10.

[12]Cf. James Edwin Pearce, Museums--Their Use and Place in the Transmission of Culture (Austin: University of Texas, 1921), pp. 5-6; and The Tales That Dead Men Tell, loc. cit., p. 82, with Robert Briffault, The Making of Humanity or Rational Evolution (New York, Macmillan Company, 1930), p. 113.

As a result of the four conclusions listed immediately above, one further conclusion is evident.

14. Whatever ultimate truth may be with respect to specialization and universalism, the philosophy of cosmology--that is, the theory of a pattern or design of natural laws by which this common sense world operates--is the end result of evolutionary implementation in the production of scientific disciplines.

In consequence, the introduction of sequential patterning, as a concept in the fields of the natural sciences and the social sciences, is a felt need in the primary and pre-primary curriculums of today.

At this point, insomuch as curriculum and methodology cannot actually be separate entities in the teaching-learning process,[13] the educational question in hand becomes the question of how to convey this concept to, or "vehicularize" it for, the "emergent understanding" in the educational levels below the fourth grade. Conceding, as stated above, that memory is the dominant factor in acculturation, it is further set forth that

15. The major mnemonic factor in the theory of universal acculturation is the drama; and it is set forth also that the various aspects of drama, when

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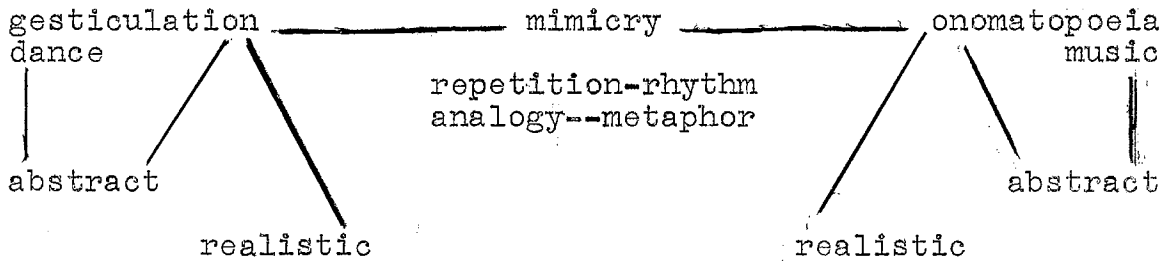
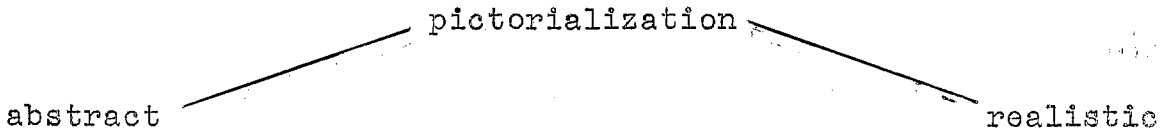
[13]Daniel Bell Leary, Living and Learning (New York: Smith Publishing Company, 1931), p. 77.

identified as culture's major mnemonic device, may be broadly sub-divided.[14]

16. These sub-divisions are, then:



17. In the shifting of dramatic methodology from realistic reproduction to the abstract, synecdoche (mimicry) found a vehicle other than music and the dance, the vehicle of self-expression in memory-image--mimicry through drawing.[15]



18. Genius, as today determined by psychologists in the field of symbolic creativity, is rooted in the power of disassociation-at-will.[16]

19. Drawing is the objectifying of memory images.[17]

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[14]Ross Lee Finney, A Sociological History of Education (New York: The Macmillan Company, 1940), p. 113, on "The Cognitive Capital of Civilization."

[15]Ibid.

[16]Cohen-Portheim, op. cit., p. 217.

[17]Heidbreder, op. cit., p. 64.

20. Objectifying memory images through drawing takes the same form with the non-reading adult[18] as it takes with the pre-reading child.[19]

In consequence of the several (15 - 20) determinations of the historical descent of the practice of symbolizing the the cultural heritage, it is obvious that, for condensation purposes,

21. Drawing is a major factor in the learning process,[20] and,

22. The picture is a major factor in the teaching process;[21] and that,

23. Comic books and cartoons, closely identifiable with the pictograph as a concept-conveyor, are education, too.[22]

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[18]Cf. missionary stories of natives in Africa failing to recognize their own photographs but drawing themselves by the symbol for "man," which is the same as the child's symbolization in Goodenough's "drawing a man" test; and compare outlined figures in the highly sophisticated decorative values of Navajo sand painting.

[19]See Segy, op. cit., p. 106, for a comparison of African Art with Children's Drawings; and see also Viola's biography of Franz Cizek, Vienna Professor of Art.

[20]Cf. Grace M. Fernald, Remedial Techniques in Basic School Subjects (New York: McGraw-Hill Book Company, 1945), for remedial techniques and Ramsey, op. cit., on the "museum method."

[21]Cf. Confucius: "One picture is worth a thousand words."

[22]See Ruth C. Strickland, The Language Arts in the Elementary School (Boston: D. C. Heath and Company, 1951), pp. 304-305.

In totaling up the statements (20 - 22) it is evident that the picture becomes an instrument of impressionism, whereas drawing is a method of expressionism; thus "art"--in the pictorial sense--partakes of the nature of semanticism; that is,

24. Pictorial art is, culturally speaking, a form of conceptual action and interaction, as, for instance, Navajo sand painting.[23]

One aspect of the drama as the over-all mnemonic device in the handing down of the cultural heritage is still to be considered in detail.

25. The story or tale was, and is, the dominant mnemonic device for condensing drama; that is, for preserving and handing down, in "package form," the dramatic plot.

In consequence, the allegory or story form has been combined with pictorialization to create "When the World Was Young" as a tool or aid for the introduction of fourteen step concepts in cultural anthropology for the child below the fourth grade reading level.

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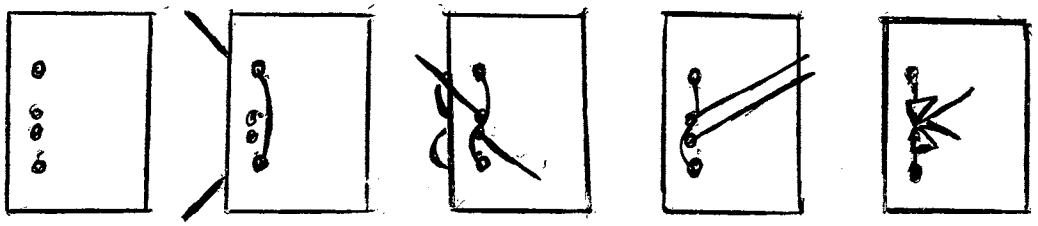
[23]See Strickland, Ibid., pp. 305-307.

APPENDIX E

SOME SUGGESTED TEACHING AIDS

1. How to Make the Book
2. Integration with General Science
3. Bibliography
4. Design: Ladder of Life
5. Integration with Language Arts
6. Preschool Use



SOME SUGGESTED TEACHING AIDS

1. How to Make the Book

"When the World Was Young" is set up for a pattern to be made and used by the teacher in the schoolroom or the parent in the home. The format is determined by an economical use of time and of school supplies. The simplest form is 8 1/2 x 11--the regular typewriter sheet size and the regulation size stencil. This sheet fits any typewriter, any mimeoscope, and any mimeograph or Ditto machine.

This book can be made up with any weight paper, using one side of the paper only. It can be more attractively made up by using a heavyweight paper that can be mimeographed on both sides of the sheet. The cost is no greater, inasmuch as only half as much heavyweight paper is required. The cover design can be run off on a lightweight cardboard which is either white or colored. The extra-heavy cover will increase the cost. Page assembling and "binding" can be done by each individual in a class, or by a selected group working on a class "project." The method is primitive in the bookmaking trade and consists of (1) punching four holes, then lacing with an eighteen-inch length of cord; (2) the cord is laced from the front through the two outer holes which should be made six inches apart; (3) the ends

are evened at the back of the book and brought up through the two center holes which should be half an inch apart; (4) the ends of the cords are then evened on the front of the book and tied, (5) catching the six-inch length of cord, already laid down, in the knot.

To make a book for children to color in, the pages can be left in mimeograph form. To make a more permanent "reader," the book can be run over with a speedball pen and India ink--as in the copy here appended. Where there is objection to the figure drawings from the point of view of art as self-expression (see "Delimitations of the Problem" in Chapter I) the neo-pictographs may be omitted and the space left for the child to use as motivated to his own creative effort by hearing and discussing the story. This space also may be used for "paste ups" that have meaning for the child who will cut out pictures related to the story.

2. Integration with General Science

Readying the Child for a Project (Third Grade) in Malaria Control by Use of the Museum Method in the Natural Sciences while Readying Him for the Social Concept of Man's Increasing Control Over Natural Forces and Resources by Means of the Readiness Instrument: "When the World Was Young"

"Malaria Control," because of its familiarity to teachers of the Southwest, has been chosen as the project to illustrate the use of the museum approach in the primary grades (pre-primer through third grade) and to illustrate

the integration of the natural sciences and the social sciences below the fourth grade level. This project is easily prepared in all its ramifications since public health departments everywhere furnish malaria control data for teacher consumption.

The actual project (third grade) consists of (1) determining mosquito breeding places and (2) effecting their destruction (a) by overturning water containers such as tin cans and (b) by unstopping drainage catch-holes.

A generalized skeleton for the readiness project is here set forth with the intention that it shall serve to ground the teacher in the use of the museum approach for inculcating concepts in both the field of the natural sciences and the field of the social sciences. At the same time it allows for integration of the two fields and thereby justifies the existence and the use of the readiness instrument, "When the World Was Young."

The first step in the study of malaria control is identification of the mosquito. The primer child or the preschool child learns merely the identification of this insect type: a mosquito. He learns nothing about different kinds of mosquitoes and nothing about malaria. He does not even learn the classification: "insect." He may learn the identification of other common insect types in his home area. In either case, he will have taken the first experiential step in using the scientific method: the observation and determination of a natural phenomenon.

Suppose that a mounted mosquito, a housefly, an ant, a dragonfly, and a spider are each set forth in a pillbox. The primer child or the preschool child learns to identify by name each of these four insects and their cousin, the spider. Depending upon the interest level of the class, it may or may not be pointed out that while the others have each six legs, the spider has eight.

When the children have learned to identify the several types by name and to apply that name correctly to living types in the area, the exhibit will have served its purpose: the inculcation of recognition and of identification by name of five natural phenomena.

Over and above this specific learning, a readiness for a classification concept of such phenomena will have been achieved through familiarity with the group aspect of the five insect specimens. For, by virtue of their having been displayed together, the similar characteristics of the classification insect will be in the observers' experience, whether or not the actual word "insect" is in their vocabulary.[1]

Had a horned toad, actually a lizard, been added to this display, the effort of correct association would not

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[1]See Wilhelm Wundt, Folk Psychology (New York: Alfred A. Knopf Company, 1911), on apperception; Edna Heidbreder, The Seven Psychologies (New York: Century Company, 1933, p. 141; and William James, Talks to Teachers (New York: Henry Holt and Company, 1924), pp. 80-84, 159-168, on apperception and association.

have been achieved. A horned toad is a natural object, but a horned toad is not an insect.[2] To include with the insects and the spiders, which are closely related to the insects, one or two objects which are not so related[3] would be to create the "curio collection" complex. This is the complex that destroys scientific values in an experiential observation. In other words, a museum exhibit, to be true to the museum method, must fall within the conceptual scope of a given scientific discipline. Therein, as a teaching method, it differs from mere idle observation of nature, per se.

Yet, were the exhibit to be verbally labelled by the teacher as "an animal collection," the horned toad might have been added, together with other mounted specimens. In this case, the emphasis would be on the concept "animal" and not on the concept "insect." Since "animal" includes insects, birds, fish, frogs, and lizards, as well as mammals--dogs, lions, elephants, etc.,[4]--at least one specimen from each of these classification groups could well be

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[2]See Webster's New International Dictionary for definition of "insect."

[3]See Field's Handbook on Insects for the distinction between true insects and spiders.

[4]The classification "animal" should not be confused with the classification "mammal." See Webster's New International Dictionary for definition of "mammal." See Figure XVI, "The Ladder of Life."

included in the exhibit to present the over-all concept: animal.[5]

Assuming, then, that an elementary school teacher has a class which already has had single specimen and group specimen experience of the above nature, that group is ready for a new experience based on this kind of training.

A next logical step would be a "habitat group" (still life) showing the mosquito in its natural haunts. Such an exhibit, in museum language, is a "diorama." The breeding place of the mosquito is water. An exhibit (still life) showing a swamp or a pool with accompanying plant growth may be labelled: "Where the Mosquito Lives" or "This is the Mosquito's Home." As an accompanying "real life" exhibit, wiggletails may be shown in a bowl with the label: "Mosquito Babies."[6]

A follow-up step could be: "Who are the mosquito's enemies?" Out come two of the familiar pillboxes--the mounted spider and the dragonfly. Here is another step in associative concepts: the spider and the dragonfly are the mosquito's natural enemies.

It is now possible to add the spider and its web (still life) and the dragonfly to the habitat group in the diorama.

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[5]See Webster's New International Dictionary for definition of "animal."

[6]See Louis Compton Miall, Natural History of Aquatic Insects (New York: Macmillan Company, 1912), pp. 328-345.

In the live exhibit, the wiggletails may be fed to the fish in the room aquarium as an actual demonstration of the mosquito's natural enemies, and the truth may be instilled that the "enmity" is not emotion in a human sense: that the fish do not "hate" mosquitoes but are merely accustomed to make use of them for breakfast and supper. This is hard on the wiggletails but good for the fish; thus is inculcated the "balance in nature" concept.

At this point, a field trip may be organized--a visit to a bit of water in some natural surrounding. Thus the class is further trained in the first step of the scientific method, this time in the purposeful observation of natural phenomena. That is, the observation is made with the purpose of fitting the theoretic discipline to actual experience with nature at large. The still life exhibit is natural only as to type. It is nature frozen under teacher control for the sake of inculcating a given science (ideology), the ideology of classification based on type specimen.

Up to this point the actual project of malaria control has not come under class discussion. The project, like the necessary definitions, is in the mind of the teacher. Classwork is "readiness" work, in accord with the educational philosophy of Comenius:

> In all operations of nature, development is from within--a subject should be understood before any definitions are learned.

> Nature compells nothing to advance that is not driven forward by its own weight. Nothing should be taught to the young unless it is not only permitted but actually demanded by their age and strength.[7]

It now can be assumed that the class in question has had two experiences of a general nature leading to the specific malaria control concept: (1) the mosquito as a natural phenomenon, including its breeding places, and (2) the experience leading to the concept of man's increasing control over the forces of nature through his accumulative steps in civilization (artifactualization) as shown in "When the World Was Young." What transfers can be made from the one experience to the other? Suggested examples are:

1. The spider has been identified as a web spinner in "When the World Was Young" and in the natural habitat groupings made for the schoolroom where it appears as an enemy of the mosquito.
2. The fish has been shown as food for man in "When the World Was Young," and the mosquito has been shown as food for fish in the school aquarium. It may be pointed out that if this last were not true the aquarium itself would serve as a mosquito

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[7]John Amos Comenius, cited by Frederick Eby and Charles Flint Arrowwood in The Development of Modern Education (New York: Prentice-Hall, Inc., 1934), p. 216.

breeding place, and the mosquitoes would then feed on the children and the teacher.[8]

3. The bear and the goat are familiar through the use of "When the World Was Young," and visits may have been made to a zoo where they will have been observed drinking water. Certainly dogs have been observed drinking water.

4. Field trips to look for mosquito breeding places, and the still life habitat diorama, will have familiarized the children with life along the water-edge.[9]

5. Their attention may now be specifically called to the evidence in "When the World Was Young" that Man's earliest homes, whether in the cave or the tent or the house, were all beside the water.

6. Their attention may further be called to the finding of the reeds for weaving and of the cereal grass beside the river and to the need of the plants in the field for rain.

They are now ready for a new natural science concept: the necessity of all living things for water. Man's

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[8]For setting up an aquarium see "The Aquarium in the Classroom," The Aquarium Journal, May, 1950; and also "Tropical Fishes in the Elementary School," loc. cit., March, 1952.

[9]The 16mm film, Life in a Pond (Coronet Films, Inc.), may follow the field trips and enhance any nature observations the class has made.

earliest homes were beside the water, and plants and all creatures including man share this necessity.

The teacher may now introduce the concept that man, like the mosquito, has natural enemies--a general concept--and that one of these is the mosquito--a specific concept. Originally, when he knew the mosquito only for its nuisance value, he controlled it, poorly enough, with smudge fires and with mud packs on his person.[10] (The Orinoco River Indian controls it by having learned to keep himself in motion while sleeping. He sleeps in a hammock and keeps it swishing all night long by the touch of his heel to earth.) Eventually, after he learned the art of weaving, man shut out the mosquito with reed mats,[11] then with cloth "mosquito bars" around the beds.[12] Today, reed mats and cloth have been replaced by metal window screens, which is yet another example of step-by-step acculturation.

Familiarity with the diorama, already established,[13] affords a stimulus for a third step in research: the use of

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[10]See Mary Jourdan Atkinson, The Texas Indians (San Antonio: The Naylor Company, 1953), on the Karankawa.

[11]Ibid., "The House of Straw."

[12]See Lyle Saxon, Fabulous New Orleans, and Herbert Asbury, The French Quarter, for data on early day mosquito protection.

[13]Cf. Bernice Elliott, "This Museum Belongs to the Children," The Nation's Schools, December, 1952, and Leon L. Winslow, "The Standard School Museum Installation," School Board Journal, November, 1948.

pictorial and reading materials in planning and constructing the diorama. Initiation of this step is an integral part of readying the child for further projects in the natural sciences and the social sciences.

Such research may begin with scrapbooks and with simple classifications and shelf arrangements of local natural history specimens.[14] It may proceed to modeling plants, animals, persons, and objects to be used in individual dioramas,[15] or in more ambitious class or group dioramas, and to painting backgrounds or murals, all relating to habitat groups.

It may end with the assembling of individual dioramas and group-made dioramas for an exhibit to other classes or for parents' night, and with the production of a play characterizing the primitive struggle between man and mosquito.[16]

It may be assumed that the children are now at the place in the third grade where they are to be given the actual malaria control project as a class project in

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[14]See "A Sample Home Museum," Eugenics Pamphlets, no. 66-AA (Sacramento, California).

[15]A personal observation of dioramic work in the fifth grade at the model school for teacher training at Courtland, New York, where an entire class displayed cigar-box exhibits set up to demonstrate Mexican anthropo-geography, showed that cagar boxes fronted with cellophane are excellent for miniature dioramas.

[16]See fn. 20.

physiology (Health). Having learned that malaria is a disease with certain characteristics,[17] they may now learn that the mosquito is a malaria carrier.[18] It may be emphasized that man was fortunate enough, when he learned the connection between mosquito and malaria, to have advanced in civilization sufficiently to be able to screen out the mosquito, along with the housefly--another disease carrier. But one malaria-bearing mosquito, slipping through an opened door, is sufficient to give everybody in the house malaria. Here the heroic story of Dr. Walter Reed's Spanish American War malaria experiment should have its place as a classic in medical annals, this story[19] to be followed by an explanation of quarantine practices in American ports, and the meaning of the flag called the "yellowjack."[20]

It was the relatively recent discovery of oil that brought the mosquito breeding places under man's control, for the wiggletails suffocate where air is cut off by a thin film of oil over the water surface. The general concept follows that all living things must have air to breathe as well as water to drink. The corollary concept follows that

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[17]See Leon J. Warshaw, Malaria, the Biography of a Killer (New York: Rinehardt Publishing Company, 1949).

[18]Ibid.

[19]Paul de Kruif, The Microbe Hunters (New York: Harcourt-Brace and Company, 1926).

[20]Ibid.

oil cannot be sprayed into every tin can or other container holding stagnant rain water, hence the necessity for the malaria control project on the part of the class. The project might be emphasized by introducing a bowl of water and letting it stand till the wiggletails breed, then oiling the water.

The logical follow-up to this sequence of control-of-nature concepts is the concept that there is in nature a balance man would do well to preserve. For if the mosquito is his enemy, the spider and the dragonfly are his friends and protectors; thus is the child readied for conservation concepts and projects.

The total sequence offers a stimulus for a nature pageant showing the various steps in man's control over the mosquito, with a picturesque motif to be drawn for several scenes from Charles A. R. Campbell's Bats, Dollars, and Mosquitoes.[21] Mammals on Wings is a 16mm film the Texas Fish, Game, and Oyster Commission provides without cost, showing the habits of bats.[22]

It will help the teacher to orient herself in the use of the museum approach if she keeps in mind that at all

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[21]See Charles A. R. Campbell, Bats, Mosquitoes, and Dollars (Boston, 1925), for the story of the Indian ceremonial of welcome to the dragonfly.

[22]This picture can be had free of charge from the Film Department, Texas Fish, Game, and Oyster Commission, Walton Building, Austin 14, Texas.

times she actually is employing Froebel's "object psychology" raised to the nth degree,[23] combined with Leary's platform[24] for educational philosophy and psychology which is based on the three fundamentals: sequentiality, relativity, synthesis; and that the actual emphasis in the use of objects and audio-visual aids is not on teaching but on learning.

> The ideal and the goal is this: the true experiential museum method requires classification and arrangement in sequence and/or arrangement in comparative relationship with other natural or social phenomena in such a manner that the student may observe and acquire for himself the natural science concepts and the social science concepts heuretic discovery inevitably demonstrates by such arrangements.[25]

In considering the use of the bibliography here prepared especially for teacher preparation in using the suggested integration unit, it is well to keep in mind the

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[23]Cf. Froebel, Comenius, and Ramsey with respect to "object psychology" and the use of teaching-learning aids.

[24]Daniel Bell Leary, Living and Learning (New York: Smith Publishing Company, 1931); and Leary, Psychology, Normal and Abnormal (Philadelphia: Lippincott Publishing Company, 1928).

[25]Margaret M. Brayton, "A Children's Museum Curator Looks at Museum Relations," Museum News, vol. 21, January 1, 1947; Rose Mary Daily, "Leisure Time Activities for Children in the Museum," Museum News, vol. 27, December 1, 1947; and Catherine Steele, "Philosophy and Aims of Museum Work with Children," Museum News, vol. 28, January 1, 1951.

ancient adage: he who teaches up to the limit of his preparation is sure to fall over the edge. This is a polite version of the ancient crudity: to teach a dog tricks, it is first necessary to know more than the dog.

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Suggested Films

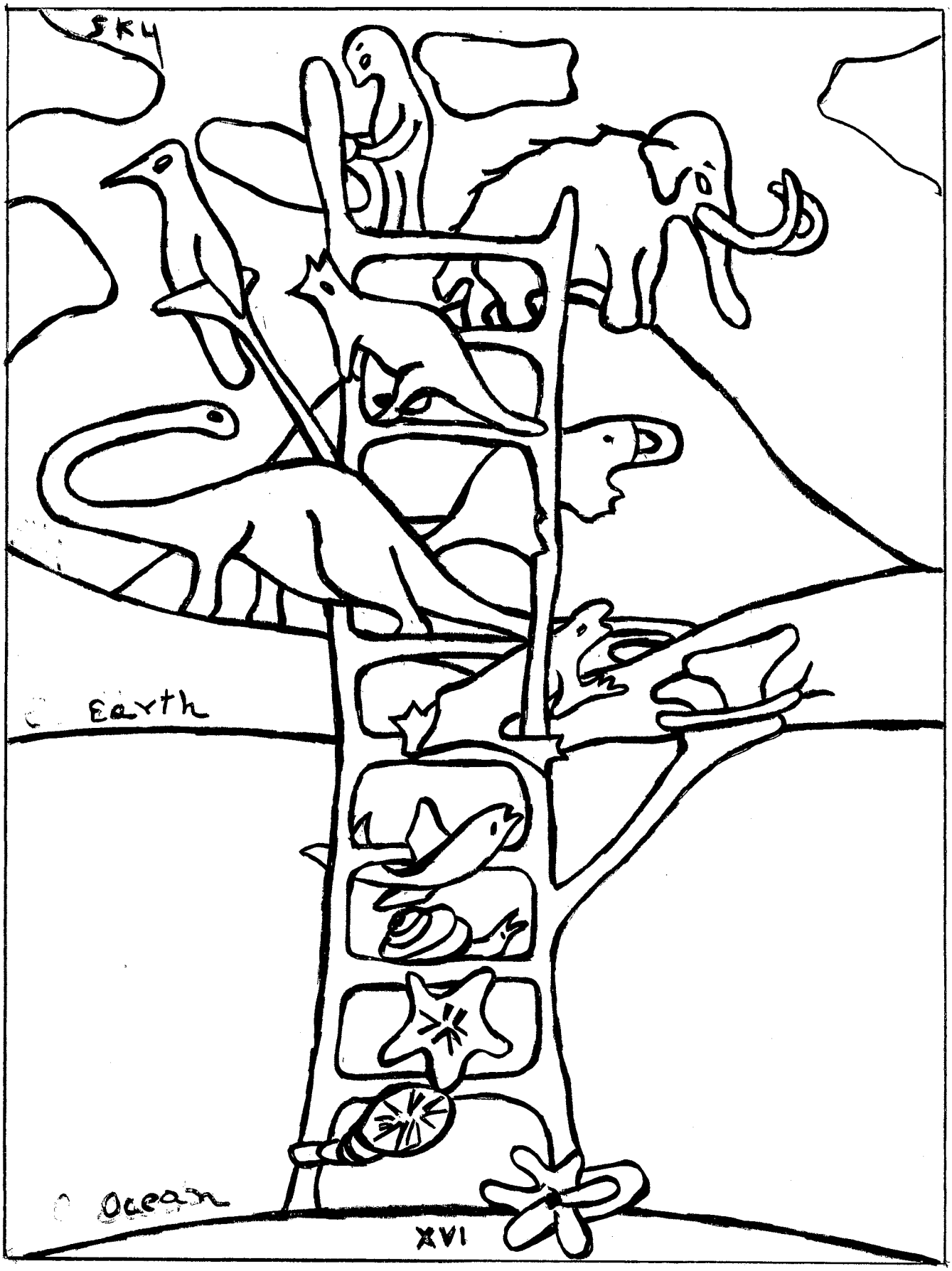
African Pygmies, Encyclopaedia Britannica Films

Life of a Monarch Butterfly, Encyclopaedia Britannica Films

Life in a Pond, Coronet Films, Inc.

Loon's Necklace, Encyclopaedia Britannica Films

Mammals on Wings (non-sound, free distribution), Texas Fish, Game, and Oyster Commission, Walton Building, Austin 14, Texas.



XVI

5. Integration with Language Arts

Paul McKee's theories of teaching elementary reading prohibit formal questioning and answering with respect to textual content but encourage conversation about the story.[26] In the teacher's own mind a list of questions may exist, not to be asked, but for the purpose of guiding the conversation. If she can herself answer these questions, she will be fully aware of the story content.

1. What made the cave warm?
2. What made the cave light?
3. Who brought the fire to the cave?
4. Where did the man get the fire?
5. What is a volcano?
6. What is a cave?
7. Where did the cave people get their water?
8. What did the man catch in the river?
9. Who went hunting together almost every day?
10. What did the man make that helped him to hunt?
11. Did the bow really look like the moon?
12. What did the man think the moon looked like?
13. Who cooked the meat the man and the dog brought home?
14. How did they carry the bear home?

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[26]Paul McKee, The Teaching of Reading in the Elementary School (New York: Houghton-Mifflin and Company, 1948), p. 569.

15. What did the woman make out of bear skins?
16. Who wove the first basket?
17. What did she use to weave the basket?
18. What did she see that made her think of weaving?
19. How did she use the baskets?
20. Where did she find the reeds growing?
21. What did the man do with his basket?
22. What did the baby do with the baskets?
23. Who made the first pot?
24. How did the woman use the pot?
25. What did she see holding water that made her think of making a pot?
26. How did the man and the dog catch the first goat?
27. What did the boys do with the goats?
28. What did the children eat on their cereal?
29. Who herded the goats?
30. Who planted the grain?
31. Why did the woman and the girls go across the river to plant the grain?
32. Why did they think the earth was like the mother?
33. What did they think of the rain?
34. What did they think of the rainbow?
35. Why did they think the sun was like the fire the man brought down from the volcano?
36. What did the spider do?
37. What did the man make after he watched the spider spin its web?

38. How did he use the net?

39. Who helped him?

40. What did the woman do while the man and the boys fished?

41. What did the family do when the leaves fell from the apple tree?

42. What did the man bring back to the cave?

43. What did the woman and girls bring back to the cave?

44. What did the boys and the dog bring back to the cave?

45. What did the big boy do with a piece of charcoal?

46. What is charcoal?

47. How did they cook before they had pots?[27]

48. How did they cook after they had pots?

49. How many children were there in all?

50. What was the woman gladdest to have?

6. A Suggestion for Parents and Preschool Teachers

The parents at home with the preschool child start that child in the acquisition of language as the child listens to the parents talk and read. If allowed, and particularly if encouraged, to draw without reference to attempted "likeness" of objective material, the child may become facile at self-expression through abstracted pictorial qualities.

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[27]Atkinson, op. cit., p. 214.

Whether or not facility of self-expression is the end result of infantile expressionism through this medium, the child may gain a familiarity with tool concepts during and through use of the infantile drawing urge. To place in the child's hands the series of pictographs illustrating "When the World Was Young" and to allow him (1) to color the given pictographs as he chooses, (2) to encourage him to extend, through his own play, the adventures of the children in the allegory, and (3) to enter with him into conversation about the fourteen steps in the sequence, and any additions he may make to the series, is to emphasize familiarity with the major concept and its cluster of step concepts in sequential acculturation.

Inasmuch as familiarity amounts to association with a given concept, and it is through association that an apperceptive mass is built, the child thus introduced to the basis of cultural anthropology in the pre-reading stage will be on the road to a ready comprehension of the social sciences and to an integration of the social sciences with the natural sciences when he reaches the status of an independent reader in the fourth grade.

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