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# The Role of Symbolic Form in the Bedtime Nature Stories of Thornton W. Burgess

Ronald A. Royer

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THE ROLE OF SYMBOLIC FORM IN THE  
BEDTIME NATURE STORIES  
OF THORNTON W. BURGESS

by  
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A Dissertation  
Submitted to the Graduate Faculty  
of the  
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in partial fulfillment of the requirements  
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The Role of Symbolic Form in the Bedtime Nature Stories of  
Title Thornton W. Burgess

Department Center for Teaching and Learning

Degree Doctor of Philosophy

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*Ronald Alan Boyer*

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*April 5, 1984*

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## ABSTRACT

The task of this research is to examine the epistemological premises inherent in Thornton W. Burgess' nature stories for children as defined by Ernst Cassirer's philosophy of symbolic forms. Its purpose is to identify these premises, examine them in light of Cassirer's philosophy, and explore their relevance to education theory.

Burgess holds that children are characterized by their potentiality, that their interest in animals is inherent, that they instinctively sense themselves superior to animals, and that for these reasons it is possible to convey the child through the medium of a fact-based animal story.

During the course of examination of the body of Burgess' writings published between 1910 and 1927, two forms of presentation emerge: the mythic and the empirical-scientific. Examination of these trends in terms of Cassirer's philosophy discloses a progressive development of the way in which Burgess presents facts of nature. The resulting derivation of principles of this progression provides guidelines for early childhood literature and education about science and nature.

## CHAPTER I

### Introduction

#### Statement of the Problem

The research problem is to examine the epistemological premises inherent in Thornton W. Burgess' nature stories for children as defined by Ernst Cassirer's philosophy of symbolic forms.

#### Purpose of the Study

The purpose of this study is to identify and analyze the premises which guided Thornton W. Burgess in the creation of his bedtime nature stories for children, particularly in reference to those principles of symbolic form relevant to education theory.

#### Delimitations

This study is limited to an examination of Burgess' writings for children in relation to the principles of symbolic form. It is not a critique of Burgess' literary style or of other aspects of his technique. Rather, it focuses on five premises from which Burgess approaches writing:

1. A child's mind is characterized by its potentiality.
2. Children bear an intrinsic interest in animal life.
3. Children intuitively sense themselves superior to animals.
4. To be successful, animal stories must be factually correct with respect to natural essentials.

5. It is possible to remain true to natural essentials, yet to convey human moral lessons through symbolization. Nature stories are thus "unequaled as a vehicle for conveying information of all kinds" (1922b, p. 137).

Subjects of analysis are limited to Burgess' writings on his own method and theory and to the 40 books of his Old Mother West Wind stories (8 titles); Bedtime Story-Books (20 titles); and Green Meadow, Green Forest, and Smiling Pool series (4 titles each), which represent his most productive and formative years (1910-1927).

The essential concepts brought to the analysis are those of the philosophy of symbolic forms, as defined by Ernst Cassirer in his principal writings.

#### Limitations

Precedent for this study is limited by the absence of any exhaustive formal investigation either into Burgess' writings or into the principles with which he approaches writing for children. The study is therefore substantially exploratory, and is limited to an analytic examination of the role of symbolic form and epistemological principles.

#### Need for the Study

Cassirer (1953b) writes, with respect to his theory, "If all culture is manifested in the creation of specific image-worlds, specific symbolic forms, the aim of philosophy is not to go behind all these creations, but rather to understand and elucidate their basic formative principle" (p. 113). Need for this study rests upon the contention that the "understanding and elucidation of this basic formative principle" is not merely the rightful aim of philosophy, but that it

also bears directly upon the epistemological foundations of education. Cassirer has provided insight into the principles of symbolic form. What is needed is a demonstration of their relevance to the field of education.

#### Background of the Study

Agosta (1983) describes Burgess as "one of the most prolific writers of nature stories for children" (p. 73), noting that he produced more than 70 books of nature stories and more than 15,000 syndicated newspaper columns during his 55-year career--from 1910 until his death in 1965.

Burgess' early stories, which began simply as bedtime tales for his own son and the first of which were mailed to his son during a brief absence, are characteristically of two sorts: (a) explanatory tales, which reveal facts of nature and explain them, often mythically; and (b) morality tales, which offer a moral lesson to the child reader. In later cases, particularly as Burgess' technique matured, these themes were blended and are less readily distinguishable. But certain factors remain constant in all the tales: Animals are personified and given names, they engage in dialogue with one another, and some lesson is offered to the child reader through events and dialogue as the story develops.

At the same time, Burgess says, "in my writing I strive not to deviate from the prosaic facts as Mother Nature presents them" (1960, p. 5). This presents a question which Burgess was compelled repeatedly to answer: How can one remain true to the facts of nature, yet present animals clothed, speaking, and presenting moral conclusions? Agosta (1983) states the problem categorically: "One cannot simultaneously be

true to animal nature and to a human moral code" (p. 77).

Burgess justifies the speech and clothing of his characters (by illustrators George Kerr and Harrison Cady) in this way:

The only concessions to pure imagination are the speech put in their mouths, and in the license of the illustrator in clothing them. The former is necessary in order to make a story, and does not mitigate the truth or in the smallest degree offend those seeking the truth because there is general recognition of the fact that there is some means of communication between animals. The clothing of the characters by the illustrator merely serves to more firmly establish them as real personalities. (1923c, pp. 135-136)

The third aspect, that of drawing moral conclusions, Burgess addresses in this way:

The lives of our four-footed and feathered neighbors run parallel to our own. What we experience they experience, only in lesser degree. Keeping this in mind together with the fact that the child intuitively understands and recognizes his superiority, it becomes a simple matter to convey to the child any desired lesson through the medium of a story concerning a member of the lesser orders. But always there must be rigid adherence to truth and fact in regard to these characters. It is because the child recognizes that the stories are true in all essentials that the lesson is at once taken home. Thus the story that humanizes the animal to the point of the impossible is bound to fail in its purpose from an educational standpoint. (1922b, 1960, p. 213)

Placing Burgess "somewhere near the middle of [a] generic continuum," Agosta (1983) defines the continuum in this way:

At one end are those stories presenting animals which are actually humans decked out in fur or feathers, and at the other end are those stories concerned with presenting animal life in a strictly realistic way. Stories true to animal nature present behavior consistent with the animal's species. . . . At the other end of the continuum are those animal stories which offer little or no pretense that their animal characters are other than human beings in disguise. These stories . . . present animals with all the virtues, vices, aspirations, and disappointments of human beings; these stories are true, not to animal, but to human nature. (p. 76)

Burgess' overall aim was twofold: (a) to entertain, and (b) to educate. His efforts to educate took two directions--teaching natural history and teaching human moral codes. As he says of the early years of his career:

I was gaining some reputation as an entertainer of children. This was encouraging and stimulating. but what I most craved was recognition of the underlying purpose of my work. This could come only through endorsement from educators and leaders in the various fields of natural science. (1960, pp. 126-127)

Burgess' specific aims in writing were thus threefold:

(a) entertainment, (b) teaching natural history, and (c) teaching morality. It was in the attempt to reconcile these different aims that Burgess arrived at his characteristically "hybrid" characters which wear clothes, speak, demonstrate moral premises, and yet remain allegedly true to the habits of their species.

#### Background of the Philosophy of Symbolic Forms

Immanuel Kant was first to establish, as Ernst Cassirer later explicitly stated, "that there is a universal and essential form of knowledge and that philosophy is called upon and qualified to discover this form and establish it with certainty" (1953b, p. 8). Kant accordingly established two a priori forms of sensuous intuition--space and time--and further set forth 12 categories of understanding which relate the phenomena perceived through these forms in terms of cause and effect, substance and attribute. Against these forms of intuition (space and time) and intellection (the categories), Kant distinguished the external content of experience--that which is formed in experience. The form and content of experience Kant united in a set of schemata, each one of which synthesizes them into the phenomenon. It is not the

forms of intuition, nor the categories of understanding, nor the external content of perception which are experienced, but the schemata alone in their synthetic unity. Schemata, for Kant, comprise the entire content of human experience (Kant, 1929).

It was these schemata which fascinated the Kant scholar, Ernst Cassirer, who would later extend the Kantian method to encompass not only reason but all human representational activity--reason, art, history, language, mathematics--in his Philosophy of Symbolic Forms.

Although one may not know more of the world in itself than that it is, said Kant, one may know and define one's own methods of knowing. Nature in itself, as a conceptual whole, never has been nor can it be in our grasp. Yet, objective inquiry has always aimed at the goal of creating a universal concept of nature under which all other concepts may be subsumed. However, Kant pointed out, such inquiry has always relied upon the content of experience to order this search; and this is not justified without first having verified the mechanism of experience. As an absolute and veridical regulative telos for objective inquiry, Kant proposed instead the Idea, which as in Plato remains the unifying force behind scientific progress toward any unified concept whatever. Idea, said Kant, is implicit in all rational quest.

It follows that, for Kant, the principle of the Idea of nature is an a priori necessity for growth of any valid knowledge about nature. Furthermore, the Idea of a unified whole of nature is to be seen as regulative only in terms of our systematic knowing about nature. It is by no means to be thought of as constitutive within nature in itself, independent of a knower.



The fundamental question asked by Cassirer is this: How can these principles be applied to other forms of cultural expression? Is the rational the only valid mode of the expression of culture? Are not myth, art, language, music, and history also cultural forms, each striving toward its own unique yet unified representation of experience? If so, Kant will have analyzed but one cultural form among many--organized thought or "pure reason."

For Cassirer, the forms and categories of Kant's method are not in question. Rather, the schema serves as an axial concept for discovering the a priori forms of all cultural representation--that is, all symbolic forms.

Such a concept of symbolic forms may apply to any experience given in representation. The scientist represents experience through reason, in theory. The artist represents experience through artifacts, in art. The speaker represents experience through language, in words. Each of these, and others as well, has its own formulative principle by which expression is possible. What, asks Cassirer, is the a priori principle of such representation in general? His answer is symbolization: "Hence, instead of defining man as an animal rationale, we should define him as an animal symbolicum. By so doing we can designate his specific difference, and we can understand the new way open to man--the way of civilization" (1966a, p. 26).

An exhaustive analysis of the principles of Kant's critiques or of Cassirer's Philosophy of Symbolic Forms is beyond the scope of this study. Rather, the study will focus on those aspects of the philosophy of symbolic forms which provide insight into the writings of Thornton Burgess and the problem of reconciling natural essentials with moral

lessons. It will thereby serve to emphasize the epistemological significance of Burgess' method and its value as a guide in demonstrating basic principles of universal significance to the epistemological foundations of education.

### Descriptive Definitions

The following definitions are given to provide a determinate point of reference for terms used extensively in the following pages.

Defined are terms which Burgess uses frequently in his writings on method as well as those central to the philosophy of symbolic forms. It is these terms which will be carried to the analysis of Burgess' theories and their products.

Conception. The unitary, determinate ground of both thought and speech, simultaneously and mutually, is the concept. Cassirer explains:

How does language succeed in escaping from that Heraclitean river of change, in which no content recurs truly identical--how does language place itself, as it were, in opposition to this flux, and abstract determinate forms from it? Here lies the true secret of predication as a problem both of logic and of language. The beginning of thought and speech is not this: we do not simply seize on and name certain distinctions that are somewhere present in feeling or intuition; on the contrary, on our own initiative we draw certain dividing lines, effect certain separations and connections by virtue of which distinct individual configurations emerge from the uniform flux of consciousness. (1953b, p. 280)

These "configurations" are concepts. The process of their formation is conception.

The function of the concept is precision in representation.

"Hence," Cassirer continues, "the original and decisive achievement of the concept is not to compare representations and group them according to genera and species, but rather to form impressions into representations" (1953b, p. 281).

As the formation of such representations is refined, they are shaped and changed. Thus, for example, the concept "species" in natural science has changed substantially over many years from Aristotle's original conception, as the "separations and connections" effected by science have changed. The result is a more precise definition of what is meant by "species."

The effect of such development is that, as Cassirer notes, "the primary function of concept formation is not . . . to raise our representations to ever greater universality; on the contrary, it is to make them increasingly determinate" (1953b, p. 280).

Creation. The formation of representation from indeterminate beginnings is termed creation. Creation begins in potentiality and ends in the determinate representation of experience. It is a conscious act of abstraction from the indeterminate continuum of change for the purpose of such formation. The absolute end of a creative act is the formation of a unified, determinate representation of the whole.

Cassirer (1955) provides an example of creation in the development of Roman theology:

In searching the sky for omens of man's undertakings on earth the augur began by dividing it into definite sectors. The east-west line, established by the course of the sun, was bisected by a vertical from north to south. With this intersection of the two lines the decumanus and the cardo, as they were called in the language of the priests, religious thinking created its first schema of coordinates. (p. 100)

Fact. By fact is meant the conception of any singular content of experience in the absence of imagination. That a particular skunk has stripes is a fact. That females of a certain species of bird lay speckled eggs is a fact. That such a skunk has eaten one of the speckled eggs may also be a fact, given veridical evidence. Facts are

representations of experience and what reason may extract from experience through proof.

It is understood that facts, taken in this sense, are at a deeper stratum themselves the conceptual product of creative abstraction. But in their particular conceptual milieu these abstractions have assumed the role of conceptual conventions so deeply rooted as to seem invariable. It is this apparent invariability, this conceptual necessity, which determines their facticity. However, as Cassirer explains further:

There is no such thing as sheer facticity, as an external and immutable datum: on the contrary, what we call a fact must always be theoretically oriented in some way, must be seen in reference to a definite conceptual system, which implicitly determines it. (1957, p. 409)

In accordance with Kant's principle that one cannot grasp the external content of experience--the thing in itself--Cassirer further asserts that facts "are valid not insofar as they reproduce a given rigid being but insofar as they comprise a project for possible postulations of unity, which project must progressively be confirmed in practice, in application to the empirical material" (1957, p. 476). Einstein (1950) echoes this assertion:

The aim of science is, on the one hand, a comprehension, as complete as possible, of the connection between the sense experiences in their totality, and, on the other hand, the accomplishment of this aim by the use of a minimum of primary concepts and relations. . . . The story goes on until we have arrived at a system of the greatest conceivable unity, and of the greatest poverty of concepts of the logical foundations, which are still compatible with the observation made by our senses. (p. 63)

With respect to the ultimate relativity of facts, Cassirer says:

It is not a matter of disclosing the ultimate, absolute elements of reality, in the contemplation of which thought may rest as it were, but of a never-ending process through

which the relatively necessary takes the place of the relatively accidental and the relatively invariable that of the relatively variable. We can never claim that this process has attained to the ultimate invariants of experience. (1957, pp. 475-476)

Experience. The conscious relation of subject and object in any process is termed experience. Such process may be immediate (sensation, intuition) or mediate (conception, unification). The natural result of experience is knowledge, without which experience would be mere empty occurrence. "This transformation occurs," says Cassirer,

when a different signification, a different "valence" is attributed to the factors of the flowing change. Insofar as we conceive each phenomenon as belonging solely to the sphere of change it is, strictly speaking, "given" only in a single point of time: the moment creates it and snatches it away. Definite halting places, relative points of rest, can be gained in this unceasing change only because the particular contents, though variable and ephemeral in their facticity, point themselves to something permanent--something of which all these changing images are only diverse aspects. Once the variable has thus been taken as the representation of a constant, it takes on an entirely new face. (1957, p. 154)

Experience thus "takes on a new face" by becoming knowledge. Knowledge is signified experience. Experience is therefore the indeterminate ground of the formation of concepts and thus of knowledge.

Imagination. The creative move toward unification in the absence of veridical relationships is termed imagination. It is the relation of facts, concepts, or intuitions to produce a unified representation; for example, a myth or a hypothesis. But such relation must be conducted in the absence of proof, for imagination is an act of absolute creativity. Cassirer defines the role of imagination in this way:

If perception is to signify anything at all--if it is to be perception for an ego and perception of something--it must possess certain theoretical criteria of validity. . . . For the union of sensory perceptions or representations in one consciousness and their reference to one object are never a matter of mere sensory receptivity but are always based on an "act of spontaneity." And it now becomes evident that just as there is a spontaneity of the pure understanding, of logical, scientific thought and construction, so there is also a spontaneity of the pure imagination. (1957, p. 9)

Myth and science differ in their application of imagination in that whereas hypothesis demands judgments based upon empirical reference, myth admits of no such need. Thus, in science, facts are synthesized by imagination into a hypothesis which is subsequently carried to experiment to produce new or refined concepts. In myth, the same facts are synthesized by imagination into a representative whole which stands by itself. Thus, in science, imagination produces means; whereas in myth it produces ends.

Intuition. This term is here defined as the achievement of unity in immediate apperception. Bergson distinguishes intuition and analysis in this way:

We call intuition here the sympathy by which one is transported into the interior of an object in order to coincide with what there is unique and consequently inexpressible in it. Analysis, on the contrary, is the operation which reduces the object to elements already known, that is, common to that object and to others. Analyzing then consists in expressing a thing in terms of what is not it. (1965, pp. 161-162)

The sole function of intuition is immediate unification; for as Bergson points out, any attempt to qualify the achievement is of necessity analytic. Intuition is thus always immediate. As soon as an intuitive experience is qualified in a mediate conceptual frame or reference, it ceases to be intuitive and becomes systematic or rational--that is, symbolic.

By virtue of this immediacy, intuition is veridical, but only as intuition. Thus, one may intuit the redness of a rose petal; but in comparing it with the redness of any other object one must abstract the concept "redness," which remains then static and apart from the intuition itself.

Interest. As here defined, interest is the spur to imagination. It rests upon the belief that unification is possible, and is thus the motive force behind all representational synthesis. "All concept formation," notes Cassirer,

is ultimately oriented toward one fundamental goal, toward determination of the "absolute truth." Ultimately thought seeks to fit all particular propositions, all particular conceptual structures into a unitary and all-inclusive intellectual context. (1957, p. 284)

Interest is manifest in the belief that a given object of experience is of value in this process.

Knowledge. The representation of experience is here termed knowledge. Knowledge is constituted of primary and secondary concepts taken into memory. These concepts may or may not have been synthesized to produce understanding.

In the broadest sense, knowledge is cognized experience and derives from any sensation. Such knowledge is characterized in the phrase, "I know." Intuitive knowledge is characterized by the phrase, "I know that." Conceptual knowledge is characterized by the phrase, "I know that is X." And unified knowledge, or understanding, is characterized by the phrase, "I know that is always and only X."

Such a hierarchy of experience exemplifies the progressive tendency of experience toward representation and of representation toward understanding. Thus, sensation is cognized essence; intuition

is cognized sensation; conception is recognized intuition; and understanding is recognized conception.

Primary conception is that derived solely from intuitions, that is, from empirical experience. Secondary conception, that derived from primary concepts, when it has progressed to unified conception is termed understanding.

Language. This term defines the symbolic form of conceptual representation. "Spiritual content," writes Cassirer, "and its sensuous expression are united: the former is not an independent, self-contained entity preceding the latter, but is rather completed in it and with it" (1953b, p. 178). Language and conception are thus two aspects of the same phenomenon--that is, thought. It is language which gives thought its form, thought which is formed in language.

Learning. The progressive building of knowledge toward understanding on the level of the whole is termed learning. The theoretic end point of learning is a unified veridical concept of the whole (understanding of the whole). Within its particular intellectual context, such a unified concept of the whole will, by definition, include any future intuitions or concepts as automatically subsumed. Learning is thus the synthesizing of knowledge.

Myth. Myth is the symbolic form which constitutes the first step toward conceptual abstraction. It is a representational synthesis of sense impressions whose principal function is unification. Thus, as Cassirer explains, the mythic mind conceives "an unbroken continuous whole which does not admit of any clean-cut and trenchant distinctions" (1966a, p. 81).



The continuous whole conceived in myth, says Cassirer, "discloses a very different character from that conceptual whole in which cognition strives to comprehend reality. . . . [H]ere, on the contrary, all reality is smelted down into concrete unifying images" (1955, p. 62). This is the primary distinction between myth and science, as Cassirer further notes:

Whereas scientific cognition can combine elements only by differentiating them in the same basic critical act, myth seems to roll up everything it touches into unity without distinction. The relations it postulates are such that the elements which enter into them not only enter into a reciprocal ideal relationship, but become positively identical with one another, become one and the same thing. (1955, p. 63)

Change in the mythic frame is thus not a function of cause and effect, as it is in science, but is characterized instead by metamorphosis from one unified image to another, accomplished without need of rational explanation:

When scientific thinking considers the fact of change, it is not essentially concerned with the transformation of a single given thing into another; on the contrary, it regards this transformation as possible and admissible only insofar as a universal law is expressed in it, insofar as it is based on certain functional relations and determinations which can be regarded as valid independently of the mere here and now and of the constellation of things in the here and now. Mythical "metamorphosis," on the other hand, is always the record of an individual event--a change from one individual and concrete material form to another. (1955, p. 47)

What Cassirer here terms "smelting down into concrete unifying images" and "rolling everything up into unity without distinction" thus stands as the correlate in myth to logical synthesis in science. For its synthesis, myth employs imagination or, as Cassirer terms it, "magical intervention." This is the primary procedural difference between myth and science, for in order to achieve a unified conception

in science one must learn the necessary logical relationships; whereas in myth the mechanism of unification is solely that of imagination.

Nature. Nature is here used to mean both the whole and the Idea of the whole. The term thus includes both human and nonhuman spheres of experience, both knower and known, both thing in itself and the concept which represents it. Nature, as here defined, thus stands as the indeterminate ground of all symbolic forms, both in the sense that it has the potentiality to form and in the sense that it has the potentiality to be formed. Nature is thus creative and created.

Nature is the totality of all that is.

Symbolic form. "Every authentic function of the human spirit," writes Cassirer,

has this decisive characteristic in common with cognition: it does not merely copy but rather embodies an original, formative power. It does not express passively the mere fact that something is present but contains an independent energy of the human spirit through which the simple presence of the phenomenon assumes a definite "meaning," a particular ideational content. This is as true of art as it is of cognition; it is as true of myth as of religion. All live in particular image-worlds, which do not merely reflect the empirically given, but which rather produce it in accordance with an independent principle. Each of these functions creates its own symbolic forms which, if not similar to the intellectual symbols, enjoy equal rank as products of the human spirit. (1953b, p. 78)

Thus, for Cassirer art is the symbolic form which represents experience in sculpture, painting, or batik. Language is the symbolic form which represents experience in thought, speech, or writing. Myth is the symbolic form which represents experience in concrete and unitary conceptual images.

The function of all symbolic forms is the representation of experience, that is, the production of knowledge.

Universal. The term universal is here reserved for the realm of concepts only. A universal is a secondary concept derived from the relation of primary concepts. However, as Cassirer notes, "Language cannot [first] aim to institute connections of the manifold, which come under a universal rule, but it must first perform the preliminary task of giving to each particular impression an intrinsic signification" (1953b, p. 281). That is, one cannot derive the universal concept "color" from an experience of manifold colors without having first derived concepts for the various colors themselves. Universals are synthetic products. Primary concepts, derived from intuitions, are likewise synthetic; but it is only in an analysis of them that their similarities to other primary concepts may be determined. Intuitions cannot be analyzed. Therefore, universals may only be secondary concepts.

Unification. Synthesis into an objective whole is termed unification. Primary conception is the unification of manifold intuitions. Secondary conceptions are the unifications of primary conceptions.

Unification is the telos of both rational synthesis and creative imagination. A unified representation of the whole is the aim of all knowledge.

Understanding. Understanding is a unified synthesis of conceptions (facts, in science), the relational elements of which are certain. Understanding is unique to language and reason, for unification is intrinsic in myth, and the logical relation of concepts foreign.

### Organization of the Study

Chapter 2 is a review of related literature in four parts. Part one is a review of the literature written by Burgess for children. It is primarily bibliographic. Part two is a review of Burgess' writings about his method and philosophy. Part three is a review of critical literature by others about Burgess' writings for children. Part four is a review of the literature pertinent to an understanding of the philosophy of symbolic forms and its development.

In chapter 3, Burgess' fundamental premises are unfolded and explained. In this chapter, four research questions are considered:

1. What is Burgess' conception of nature?
2. What is Burgess' conception of the reader of his stories?
3. What is Burgess' conception of learning, and how does he conceive the role of his writings in that process?
4. Upon what perceived authority do Burgess' moral lessons rest?

The examination of Burgess' premises, as defined in chapter 3, constitutes the substance of chapter 4. This examination is made in terms of the philosophy of symbolic forms and is essentially analytic. Considered are the following seven research questions:

1. What does Burgess mean by facts and what is their role in his symbolizations?
2. What is the role of creativity in Burgess' symbolizations?
3. To what degree and in what ways is Burgess' interpretation of nature determined; to what degree and in what ways free?
4. How does Burgess conceive the role of teacher in presenting facts?

5. What is the fundamental relationship between potentiality, creativity, and facts?

6. What is the relationship between symbolization, interest, and imagination?

7. How does symbolization produce understanding?

## CHAPTER II

### Review of Related Literature

#### Children's Literature by Burgess--Bibliographic

Burgess wrote a sizeable volume<sup>1</sup> of periodical literature before 1910, much of it under the pseudonymous by-line W. B. Thornton. Including the book, The Bride's Primer (Burgess, 1905), this writing is varied, but does not include any animal literature specifically for children. Burgess considered Old Mother West Wind (Burgess, 1910) to be his "first book," and as Agosta (1983) notes:

Though later collections of tales evince certain technical refinements over these first stories, Burgess was committed to the animal story for the remainder of his productive years. (p. 76)

Old Mother West Wind was followed by Mother West Wind's Children (Burgess, 1911) and Mother West Wind's Animal Friends (1912b), both of which extend and refine the techniques of storytelling found in Old Mother West Wind.

In 1912, Burgess also began his explicit promotion of the Boy Scout program with the first of his Boy Scouts series (Burgess, 1912a, 1913c, 1914e, 1915e). These are not elsewhere treated in this study.

Mother West Wind's Neighbors (Burgess, 1913d) appeared in 1913, along with the first of the Bedtime Story-Books, The Adventures of Johnny Chuck (Burgess, 1913a), and The Adventures of Reddy Fox (Burgess, 1913b).

The Mother West Wind and Bedtime Story-Book series occupied Burgess' attention through 1918, when Happy Jack (Burgess, 1918c), first of the Green Meadow series, appeared. The Mother West Wind series was completed, at 8 volumes, in 1918; and the Bedtime Story-Books finished, at 20 volumes, in 1919. The Green Meadow, followed by the Green Forest and Smiling Pool series, at 4 titles each, were produced during the period 1918 to 1927. The Mother West Wind, Bedtime Story-Book, Green Meadow, Green Forest, and Smiling Pool series--totaling 40 titles--constitute the subject of this study. A complete list of these titles is given beginning on page 22.

Wright (1979) lists Burgess' accomplishment as consisting in "over 70 full-scale books, more than 100 picture and paper books, 15,000 daily newspaper Bedtime Stories, and many other magazine stories, articles and poems" (p. 7). According to Titcomb in Lovell (1974), the total is 171; and Agosta (1983) attributes "over seventy books" to Burgess. The uncertainty of these figures stems from the fact that many of the individual tales, which constitute chapters in the "full-scale books," first appeared as syndicated newspaper columns--the rights to which Burgess did not retain ("Is This a Fair Deal?", 1941). These tales were widely republished both as syndicated columns and as paperback books by publishers other than Burgess' own (Little, Brown and Company).

Five bibliographic references delineate this Burgess corpus. Wright (1979) provides descriptions and notes on the contents of all known book-form publications by Burgess, including photographs of major edition covers and title pages, a listing of translations and foreign editions, chronologies, and a checklist of sources on Burgess.

His is the most comprehensive bibliography available on Burgess.

Dowhan (1977) provides an annually updated magazine article bibliography and annotated timeline of Burgess' periodical writings. Titcomb, in Lovell (1974), gives an alphabetical listing of 171 book titles, many of which are the aforementioned republications and paperbacks. This listing he claims to be "the most complete published list of Mr. Burgess' books compiled to date." Commire (1979) provides a synoptic listing of the Burgess corpus in addition to her biographical sketch of Burgess. And Agosta (1983) begins his analysis of Burgess with a list of "selected books" totaling 92.

The following is a chronological list, by series, of those volumes considered in this study:

Mother West Wind Series (1910-1918)

Old Mother West Wind (1910)  
Mother West Wind's Children (1911)  
Mother West Wind's Animal Friends (1912b)  
Mother West Wind's Neighbors (1913d)  
Mother West Wind "Why" Stories (1915f)  
Mother West Wind "How" Stories (1916e)  
Mother West Wind "When" Stories (1917c)  
Mother West Wind "Where" Stories (1918d)

Bedtime Story-Book Series (1913-1919)

The Adventures of Johnny Chuck (1913a)  
The Adventures of Reddy Fox (1913b)  
The Adventures of Unc' Billy Possum (1914d)  
The Adventures of Mr. Mocker (1914b)  
The Adventures of Jerry Muskrat (1914a)  
The Adventures of Peter Cottontail (1914c)  
The Adventures of Grandfather Frog (1915c)  
The Adventures of Chatterer The Red Squirrel (1915a)  
The Adventures of Danny Meadow Mouse (1915b)  
The Adventures of Sammy Jay (1915d)  
The Adventures of Old Mr. Toad (1916c)  
The Adventures of Old Man Coyote (1916b)  
The Adventures of Buster Bear (1916a)  
The Adventures of Prickly Porky (1916d)  
The Adventures of Poor Mrs. Quack (1917b)  
The Adventures of Paddy The Beaver (1917a)  
The Adventures of Jimmy Skunk (1918b)



The Adventures of Bobby Coon (1918a)  
The Adventures of Ol' Mistah Buzzard (1919b)  
The Adventures of Bob White (1919a)

Green Meadow Series (1918-1920)

Happy Jack (1918c)  
Mrs. Peter Rabbit (1919e)  
Bowser The Hound (1920a)  
Old Granny Fox (1920c)

Green Forest Series (1921-1923)

Lightfoot The Deer (1921a)  
Blacky The Crow (1922a)  
Whitefoot the Wood Mouse (1922c)  
Buster Bear's Twins (1923b)

Smiling Pool Series (1924-1927)

Billy Mink (1924a)  
Little Joe Otter (1925)  
Jerry Muskrat at Home (1926)  
Longlegs The Heron (1927)

Also published during this period, in addition to the aforementioned Boy Scouts series, are the Wishing Stone series (Burgess, 1915g, 1921b, 1921c) and three more prosaic works titled The Burgess Bird Book for Children (Burgess, 1919c); The Burgess Animal Book for Children (Burgess, 1920b); and The Burgess Flower Book for Children (Burgess, 1923a). The Boy Scouts and Wishing Stone series consist of juvenile novels in the human realm, and although animals figure prominently in some of them, neither series is, strictly speaking, animal fiction. The third group of books, illustrated by Louis Agassiz Fuertes and provided with indices including technical names, is intended to present factual information in a handbook format for children. Although a modified story format is used, in conception these three books are not stories but field guides.

Expository Literature by Burgess  
on Method

Among Burgess' writings other than children's fiction and nature guides several articles explain his approach to writing for children. From these writings are derived the five premises given in chapter 1.

Premise 1. A child's mind is characterized by its potentiality.

Burgess (1923c) characterizes the child's mind metaphorically: "The bent twig shapes the tree. Even more susceptible is the child mind."

And he also characterizes it categorically:

Here are found all those latent forces for good and evil; for the uplifting of the race and for its destruction; for the triumph of civilization and for its overthrow. The minds of youth are fallow ground ready for the seed, and every adult who comes in contact with a boy or girl is, consciously or unconsciously, a sower of seed. . . . As the boy or the girl is led to think, so will the man or woman become an active force. (1923c, p. 135).

Burgess thus conceives the child's mind in terms of its potential to become an active force and in terms of the indeterminacy of its beginnings.

Premise 2. Children bear an intrinsic interest in animal life.

"Interest in living things is inherent," says Burgess (1924b, p. 48).

In recalling two discoveries made when he began writing nature stories, Burgess says:

The first of these was the universal interest in animals and birds. It is not confined to children. I question if there is another subject which can even approach animal life in universal appeal to young and old. Whether the child be of the country or the city, he or she is at once interested in animals. (1922b, p. 137)

This universal interest Burgess traces to "dawn man," noting:

By force of circumstance his sole interest in life must have been in the animals and other creatures surrounding him. His very existence depended on constant observation of them. Such intelligence as he had was constantly

concerned with them. . . . This interest has persisted ever since, and probably always will persist. (1922b, p. 137)

These words were sufficiently axiomatic for Burgess that they appeared unchanged in his autobiography (Burgess, 1960, p. 210).

Premise 3. Children intuitively sense themselves superior to animals. Burgess explains his view:

Intuitively the smallest child is conscious that it is superior to any animal. It knows that is a higher being. No child will admit that any animal knows more than he does, and this is especially true of the smaller animals. Much as the adult looks down to the level of the child, the child in turn looks down on the level of the squirrel and the rabbit. (1922b, p. 138)

This view is expressed in both primary and secondary sources on Burgess (Burgess, 1923c, 1924b, 1960; Nordell, 1960; Walsh, 1927).

Premise 4. To be successful, animal stories must be factually correct with respect to natural essentials. "From the beginning," writes Burgess (1923c), "the underlying thought was to foster a love of nature by presenting in story form the truth about the daily lives of the birds, animals, and lower forms of life most easily observed by the average child." And, he adds:

No smallest incident is used which cannot be substantiated by two or more recognized authorities. Thus the reader of a series of stories concerning Johnny Chuck comes to have an accurate and comprehensive knowledge of the habits and daily life of the woodchuck. (1923c, p. 135)

This does not mean for Burgess, however, that animals may not be personified. Burgess explains the purpose of such personification in this way:

Country boys have written me that they have given up trapping. To these boys trapping meant not only a genuine source of pleasure but a source of needed income. No one asked them to give up trapping. In none of my work had I ever asked boys to give up trapping. But I had used a series of stories in which were told the experiences of Jerry Muskrat and Billy Mink with traps.

By the simple expedient of giving these animals names they became personalities. From their own knowledge of the habits of these animals the boys recognized that the stories were true. They were not the experiences of any one particular muskrat or mink, but of all muskrats and minks. The moment these animals were given personality they became a part of the world of these boys and definitely more interesting alive than dead. (1922b, pp. 138-139)

And, he qualifies the role of such personification in this way:

But always there must be rigid adherence to truth in regard to these characters. It is because the child recognizes that the stories are true in all essentials that the lesson is at once taken home. Thus the story that humanizes the animal to the point of the impossible is bound to fail in its purpose from an educational standpoint. (Burgess, 1922b, p. 139)

The limit of such personification Burgess defines in a direct quote given by Harris (1956):

I like to think truthfulness has helped me most of all. Some writers, you know, have animals riding bicycles and doing all sorts of things. Except for giving the animals names--and every child names his dog or cat--and making them articulate, I have always been truthful to nature; to the facts. (p. 18)

An example of this combination of fact and personification is given by Burgess in Walsh (1927):

They have the keenest sense of justice in the world, these folks to whom life is clean and new and so is filled with wonders. And when I say I have a friend, the homeliest fellow that I know, and his tongue is put in backwards, and when he wants a drink he absorbs it through his skin, and he sings with his mouth closed, and he is covered with warts, I get them right away. They know it is the toad, and after that they will watch a toad with new interest instead of killing it. (p. 8)

Thus the principal function of personification is, for Burgess, to bring the animal into the social sphere of the child. But in order that the animals in this sphere may serve as a means of conveying a story that will be retained and believed, the essential facts of the animals' lives must not be altered.

Premise 5. It is possible to remain true to natural essentials yet to convey human moral lessons through symbolization. In addition to his discovery of a universal interest in animals and birds, Burgess also notes:

The second discovery was that nature study is unequalled as a vehicle for conveying information of all kinds. The driest of facts if imbedded in a nature story written so as to appeal to the imagination will not only be unhesitatingly accepted but will be permanently retained. (1922b, p. 137)

Just what Burgess means by "information of all kinds" is explained in "Nature Study the Key to Knowledge." Here Burgess writes:

There is a psychology in nature study for children which many teachers fail to understand, and which makes it the most perfect vehicle for conveying to the child mind, in a way that is at once understood, practically all those things which it is desirable to teach. . . . Would you teach the meaning of love? The birds in the nesting season are living examples which cannot be misunderstood. . . . Whitefoot, the wood mouse, and Timmy, the flying squirrel, come forth after dark because it is safer for them then. Stories of these timid little wood folk have cured children of all fear of the dark. . . . Paddy, the beaver, is a living example of the joy of constructive work and cooperation. The bees in their hive illustrate without comment how the individual cannot live for himself alone. (1924b, p. 48)

Thus, more than merely introducing the child mind to facts of nature, Burgess applies meaning to these facts in human terms. "Right here," says Burgess, "lies the psychology of the animal or nature story as an educational medium" (1922b, p. 138). It is because the child knows it is superior to animals; says Burgess, that they can become a medium for any lesson which would not otherwise be retained. Burgess explains:

The old-time story with an obvious moral aimed at the reader will not be read by the average child of today. The child has no greater liking for a preachment than the average adult. A story containing an obvious moral and centering around human characters immediately becomes personal. There is instant recognition that that moral is intended for the reader. It is resented.

On the other hand an animal story may have a moral introduced in the very beginning without giving the slightest offense. I have written hundreds of animal stories, each with a conspicuous moral, without bringing a single protest from my readers. Yet, should I write one of these stories with no change whatever save of substituting human characters for the animal characters, the story would not be read. (1922b, p. 138)

"If Peter Rabbit does something wrong, they want him to be punished," says Burgess of his child readers. "And when that happens, they think they understand the lesson even better than Peter does" (Levine, 1967, p. 103).

The conclusion that Burgess derives from these observations is:

Nature study should begin the kindergarten and progress step by step through all the grades. Instead of the secondary subject which it now is, it should be a primary subject. It will, above all subjects, create the love of truth and beauty without which the life of the individual is starved no matter to what heights of learning he may attain. (1922b, pp. 139-140)

"Nature study," writes Burgess (1924b), "is a basic element of education. It is the golden key to the vast storehouse of knowledge."

Through nature study, Burgess concludes:

The imagination cannot fail to be stimulated, and given interest and imagination, the doors of knowledge swing open. Without imagination there can be no progress. Vision is but imagination governed by logic. (p. 49)

Burgess seeks to justify this belief in "Nature as the Universal Teacher," when he writes:

There is little affecting human life which has not an analogy in the lives of the lower orders. It is because of this and my conviction of the universal interest in animals plus the universal attitude of the child mind in regard to its superiority that I am convinced of the truth of the premise of my earlier statement that nature study should be the foundation of all education.

The child mind is colorful. Dry facts make no impression. The young mind cannot retain that in which it has no interest. Present those facts in such a way that the imagination may seize upon them and they will be impressed upon the memory forever. Nature presents an

interest which is inherent. It remains but to capitalize [sic] this by presenting that which it is desired to impart in such form that the imagination becomes but a setting for the truth. (1922b, p. 139)

These beliefs led Burgess to define his "recipe" for accomplishing this end. It is presented in his autobiography as follows:

INGREDIENTS--One fact, a liberal amount of imagination with truth, a moral lesson, plenty of good action, adventure or lively dialogue, humor or pathos as desired, sometimes both, and a reasonable amount of simple English.

These are best compounded on paper by means of a typewriter, preferably one that is old, dusty and rich in service. Use the fact as a foundation. Stir in the imagination blended with truth, taking care that the latter is not dissolved in the former. Spice highly with action adventure or snappy dialogue, whichever best suits your purpose. Add a dash of humor or pathos or both. Pour the whole over the moral lesson and serve at bedtime in short sentences composed almost wholly of simple words. One or two big tongue-rollers may be introduced occasionally. A judicious amount of repetition is desirable. (1960, p. 218)

Rather than describing an architectural plan to which he adheres as he writes, Burgess is here explaining what happens naturally as he writes. The next paragraphs explain this:

When I write a story it has a plot--afterward, not before. Of course I am wrong, but I am right--for me. When I have one end of a ball of twine and want to get the other end, I simply unwind until I get to it. (1960, p. 219)

In summary, Burgess' approach to writing stems from these five premises and may be stated as follows: The child's mind, characterized as indeterminate in its potential, bears an intrinsic interest in animals. Coupled to an intuitive sense of superiority to the animals, these characteristics make it possible to convey to a child reader "practically all those things which it is desirable to teach" through the medium of a factually correct animal story. This approach taps the imagination of the child while basing that imagination in fact, thus allowing the potentiality to be actualized in such a way that

"imagination becomes but a setting for the truth."

Burgess' (1960) autobiography remains the most comprehensive single source of these premises. In "The Gold Mine I Discovered When I Was 35," Burgess (1919d) describes his success in applying these premises to a career of writing for children.

#### Background and Critical Literature on Burgess

Wright's (1979) descriptive bibliography contains substantial material on Burgess' publishing history. Occasional brief analytic passages punctuate an otherwise prosaic display of information. The work is essentially a collector's guide to Burgess books.

Lovell (1974) provides abundant background information on Burgess' ancestry as well as his Sandwich, Massachusetts, childhood environment. However, aside from a brief chapter on his writing career after 1892 and the 10-page bibliography contributed by Titcomb, little information on Burgess' writing is contained. This work takes the form of a genealogy and family album.

Commire (1979) gives a compact abridgement of Burgess' autobiography and a listing of his publications. The work is largely biographical and contains no critical material.

Other sources of biographical information include works by Shepherd (1920), Walsh (1927), Tante (1931), Publisher's Weekly ("Burgess Publishes," 1944; "Thornton W. Burgess," 1944), and Carlson (1969). Brief biographies are also included in obituaries (all in 1965) in Time, Newsweek, The New York Times, Publisher's Weekly, and Library Journal.



Burgess' long association with Alice Rebecca Cooke, known to his radio audience as "Aunt Sally," is recounted in Aunt Sally's Friends in Fur (Burgess, 1955) and also by Furman (1948). These works provide a personal glimpse of Burgess not to be found in other writings.

Noncritical human interest articles on Burgess have appeared regularly in trade magazines such as Life, Nature, and Audubon since 1920. Noteworthy among such articles are those by Bryan (1940), Life Magazine ("Life Visits," 1944), Froman (1947), Kenney (1948), Harris (1956), O'Neil (1960), Nordell (1960), Fox (1964), Levine (1967), Saltford (1973), O'Donnell (1978), and Pettingill (1983).

Insight into the promotional aspects of Burgess' career and his radio appearances may be found in an advertisement in Saturday Review ("The Man Who," 1937, p. 16A) and an article in Literary Digest ("The Burgess Radio," 1925).

Three trends are identifiable within the critical literature:

- (a) naturalists and biologists who acknowledge both Burgess' precision in reporting natural facts and the influence his stories have had,
- (b) a body of nonspecialists who acknowledge Burgess' success as a writer on the basis of his prolific output but reserve opinion on his factuality for some particular reason, and
- (c) children's literature specialists and librarians who are split approximately equally on the literary merit of the Burgess corpus. The scarcity of material in this third category denies real basis for conclusion, however.

Among the first group, American Museum's Clyde Fisher, as quoted by Brooks (1980), says:

What an achievement! It would be difficult if not impossible to overestimate the value of [his] work in nature education and in conservation. (p. 218)

Walsh (1927) quotes William Hornaday, at the time director of the New York Zoological Society, in this way:

Any man who can find his way into the hearts of a million children is a genius. If he carries a message of truth he is a benefactor. Thornton W. Burgess is both. (p. 8)

Personal testimony from those who grew up reading Burgess books is found in several places. Spies (1966) writes:

Thornton W. Burgess was my mentor and very best friend, but he didn't know it. I read his works as fast as they were published, and all of those writings put together had a great influence on me. They developed my whole attitude toward animals, and I started seeing, or trying anyway, from the animals' viewpoints. This in turn matured into a feeling of companionship for all the animals I've ever known. (p. 17)

And Pettingill (1983) concludes his essay on Burgess in this way:

Today I remember Thornton W. Burgess as a popular figure, admired for his accomplishments in educating young people about nature and conservation, and I remember him as a person, warm-hearted, entertaining and outgoing. And, just as important, I remember him with everlasting gratitude for introducing me early in life to the natural world that has given me so much satisfaction ever since. (p. 101)

Not all readers of Burgess have applauded him, however.

Representing the nonspecialist critics of Burgess, Ogden Nash (1955), writing in The New Yorker, questions Burgess' veracity with the poem, "Mr. Burgess, Meet Mr. Barmecide." "Oft in the sleepless night," Nash writes, "I play a game that is of interest only to me: I try to think of the character in fiction who I would rather not be." The following conclusion "emerges," he says: "I would most of all rather not be Yowler the Bobcat in the Nature Stories of Thornton W. Burgess." His reason, as revealed a few lines later, is that "unless someone pilfered an installment to wipe out an ashtray with, Yowler hasn't had a bite to eat in twenty years" (p. 26).

The question of unsuccessful predation in Burgess' nature stories is likewise posed by The Outlook in the article, "When Do We Eat?" (1922):

At the crucial moment there is always Sister South Wind or Brother Bluebird or Father Sun who warns the intended victim. What a profitable and delightful business it would be to write life insurance on the creatures of the forest who are working seven days a week as characters in these latest attempts to portray nature as she is not! (p. 330)

Criticism centering around this point Burgess dismisses with the claim that, as Nordell (1960) quotes him, "tragedy comes into a child's life soon enough, and I don't believe in bringing tragedy into a child's life." To which Burgess adds, "If Old Man Coyote did eat it would be a case of when do I eat?" (p. 11).

Among literature specialists, Meigs, Eaton, Nesbitt, and Viguers (1953) characterize Burgess' writing in this way:

A certain amount of disapproval pertains to the term "bed-time stories." . . . In recent years, some of this disapprobation may have rubbed off on the seven [sic] volumes of the Old Mother West Wind (1910) series. These books afford a good illustration of the frequently ill-defined line between an idea well handled and an imitation weakly handled. Thornton Burgess' . . . Old Mother West Wind stories are told simply and with charm. The personification of animals and the tales of their lives in the meadows are successful because they are convincing and interesting. The imitations are maudlin, artificial and monotonous. (p. 368)

Krutch (1960) calls Burgess "the most read nature writer who ever lived," noting with respect to his personifications:

Official science is notably impatient with popularizers, and to most scientists "anthropomorphism" is the unforgivable sin. Yet Mr. Burgess has a gold medal from the New York Zoological Society and another from the National Conservation Society, as well as approval from . . . the eminent naturalist William T. Hornaday. Perhaps the answer is that the "Bedtime Stories" distinguish fact from fancy so clearly that even the childish mind knows perfectly which is which. They are no Aesopian fables. For the most part the natural history is sound. The

dramatis personae do not usually do things real animals would not do. And if they talk about them as only human beings could, the convention is too patent to be misleading. (p. 18)

Agosta (1983) provides a 14-page critical analysis of the Burgess writings, pointing to what he terms "literary flaws," but acknowledging Burgess' success and continued following:

Although Burgess's [sic] reading public was large and faithful, spanning several generations, he gained few admirers among critics of children's literature. The reason, perhaps, is that his works are so obviously formulaic. . . . The anthropomorphic, supra-zoological animal characters who act in these little morality plays are too often without any real complexity, each usually embodying a single emblematic characteristic. In addition, the formulaic nature of the stories frequently insured stock treatment of both situation and character and often led to racial and sexual stereotyping as well. . . . [T]he stories often seem dated, relics from a past era, even though Burgess's [sic] concern for natural conservation, effectively expressed in many of his works, is probably more common now than it was in his day. (p. 86)

"But," Agosta (1983) adds, "Burgess's [sic] large reading audience obviously judged his works by a different set of criteria" (p. 86). A review of Burgess' autobiography given in Newsweek ("One Man's Kingdom," 1960) leaves little question of what Agosta is saying:

Three generations of Americans have been raised on the fictionalized nature lore of Thornton Burgess, and his astounding output of 15,000 stories enjoys a sentimental esteem which--for most adults--makes the question of their literary worth a matter of gross irrelevance. (p. 122)

#### Literature on the Philosophy of Symbolic Forms

A bibliography of the writings of Ernst Cassirer is provided by Klibansky and Solmitz in Klibansky and Paton (1963, pp. 338-353). They also include a chronological listing of Cassirer's "principal works." A similar bibliography and listing are given by Schilpp (1958)

in the Library of Living Philosophers edition on The Philosophy of Ernst Cassirer. This bibliography, however, is current only to 1946 and thus does not include the more recent translations.

Schilpp (1958) also includes 72 pages of biographical material on Cassirer; 23 critical and descriptive essays on his philosophy; and Cassirer's reply essay, "'Spirit' and 'Life' in Contemporary Philosophy." This volume offers a comprehensive overview of Cassirer's contribution to philosophy.

As a general introduction to his philosophy of culture, Cassirer wrote An Essay on Man (1966a), noting in the preface that it is to be taken as only an introduction. "My critics should . . . be warned," he writes, "that what I could give here is more an explanation and illustration than a demonstration of my theory" (p. viii). As an introduction this work is sufficiently general to include treatment of all the major symbolic forms he has defined: language, myth, art, religion, history, and science and mathematics.

Cassirer (1966a) defines what he calls "the crisis in man's knowledge of himself":

No former age was ever in such a favorable position with regard to the sources of our knowledge of human nature. Psychology, ethnology, anthropology, and history have amassed an astoundingly rich and constantly increasing body of facts. Our technical instruments for observation and experimentation have been immensely improved, and our analyses have become sharper and more penetrating. We appear, nevertheless, not yet to have found a method for the mastery and organization of this material. When compared with our own abundance the past may seem very poor. But our wealth of facts is not necessarily a wealth of thoughts. Unless we succeed in finding a clue of Ariadne to lead us out of this labyrinth, we can have no real insight into the general character of human culture; we shall remain lost in a mass of disconnected and disintegrated data which seem to lack all conceptual unity. (p. 22)

Cassirer's work was essentially a quest for understanding of the source and possible solution of this problem. Following the lead of biologist Johannes von Uexküll, Cassirer arrived at the conclusion that the human world

forms no exception to those biological rules which govern the life of all other organisms. Yet in the human world we find a new characteristic which appears to be the distinctive mark of human life. The functional circle of man is not only quantitatively enlarged; it has also undergone a qualitative change. Man has, as it were, discovered a new method of adapting himself to his environment. Between the receptor system and the effector system, which are to be found in all animal species, we find in man a third link which we may describe as the symbolic system. This new acquisition transforms the whole of human life. As compared with other animals man lives not merely in a broader reality; he lives, so to speak, in a new dimension of reality. (1966a, p. 24)

This symbolic system, Cassirer discovered, takes many forms in man. As he continues:

Yet there is no remedy against this reversal of the natural order. Man cannot escape from his own achievement. He cannot but adopt the conditions of his own life. No longer in a merely physical universe, man lives in a symbolic universe. Language, myth, art, and religion are parts of this universe. They are the varied threads which weave the symbolic net, the tangled web of human experience. All human progress in thought and experience refines upon and strengthens this net. No longer can man confront reality immediately; he cannot see it, as it were, face to face. Physical reality seems to recede in proportion as man's symbolic activity advances. Instead of dealing with the things themselves, man is in a sense constantly conversing with himself. He has so enveloped himself in linguistic forms, in artistic images, in mythical symbols or religious rites that he cannot see or know anything except by the interposition of this artificial medium. (1966a, p. 25)

Man is thus for Cassirer that animal which represents experience in symbolic forms. And if the need to adopt the conditions of this fact constitutes the specific problem of man, the unification of the representative forms constitutes, for Cassirer, the solution:

In language, in religion, in art, in science, man can do no more than to build up his own universe--a symbolic universe that enables him to understand and interpret, to articulate and organize, to synthesize and universalize his human experience. (1966a, p. 221)

"Language, art, religion, science, are various phases in this process," concludes Cassirer. "In all of them man discovers and proves a new power--the power to build up a world of his own, an 'ideal' world. Philosophy cannot give up its search for a fundamental unity in this ideal world" (1966a, p. 228).

In his three-volume The Philosophy of Symbolic Forms, Cassirer refines this theory of man, treating language, myth, and science each in a separate volume. In the first of these volumes, Cassirer (1953b) traces the evolution of language and the philosophy of language through the phases of sensuous expression and intuitive expression to the expression of conceptual thought, eventually to the expression of the forms of "pure relation" which constitute logic and science. This volume also includes a 65-page introduction to Cassirer's philosophy of symbolic forms by Charles W. Hendel. In this introduction, Hendel notes the fact that Cassirer unites Kant's (1929) separate treatment of "form" and regulative "Idea." He quotes Cassirer (1953b):

We have acquired a new foundation for our investigation. We must go back to "natural" symbolism, to that representation of consciousness as a whole which is necessarily contained or at least projected in every single moment and fragment of consciousness, if we wish to understand the "artificial" symbols, the "arbitrary" signs which consciousness creates in language, art and myth. The force and effect of these mediating signs would remain a mystery if they were not ultimately rooted in the original spiritual process which belongs to the very essence of consciousness. We can understand how a sensuous particular, such as the spoken sound, can become the vehicle of purely intellectual meaning, only if we assume that the basic function of signification is present and active before the individual sign is produced, so that this producing does not create signification, but merely stabilizes it, applies it to the particular case. (pp. 105-106)

Thus, as Hendel himself observes,

Cassirer never forgets, it seems, the insight of Kant in the conception of schema. For every schema of understanding is a phenomenon of imagination which is at once intellectual and sensuous; thanks to the latter aspect there is sense or meaning . . . through reference to objects; thanks to the former there is agreement with the categories or forms through which anything whatever has meaning to the human mind. (Cassirer, 1953b, p. 52)

This leads Cassirer to the conclusion that, as he says in An Essay on Man, "the facts of science always imply a theoretical, which means a symbolic element" (1966a, p. 59); and, "We must refer our observations to a system of well-ordered symbols in order to make them coherent and interpretable in terms of scientific concepts" (1966a, p. 217).

"Thus," continues Hendel, "in every case 'symbolic form' is a condition either of the knowledge of meaning or of the human expression of meaning" (Cassirer, 1953b, p. 53). For art, significance is possible in virtue of the formal structures of painting, music, etc. But it is also the function of the individual style of the artist. As Hendel concludes:

Always some "universe of discourse" is involved in anything that has significance. Here then, as it is in organic life, the "whole is prior to the parts." Thus "like all the other symbolic forms art is not the mere reproduction of a ready-made, given reality. . . . It is not an imitation but a discovery of reality." (Cassirer, 1953b, p. 53)

For Cassirer, this creative principle, although showing itself most clearly and completely in the forms of art, is a part of all symbolic form. Hence, myth is a combination of theoretical and artistic creation. And science is a combination of symbols and relations, each of which has its basis similarly in a determined (external) element and a creative (internal) symbolic function. This



creative element of science is most clearly discerned in the hypothesis, which is not merely referred to experimental verification but must, first and foremost, be consistent with the form of the theory it seeks to enhance.

Thus, for Cassirer, the fundamental distinction to be made between science and myth lies in the creative aspect of symbolization.

As he says:

Whereas empirical thinking is essentially directed toward establishing an unequivocal relation between specific "causes" and specific "effects," mythical thinking, even where it raises the question of origins as such, has a free selection of causes at its disposal. Anything can come from anything. (1955, p. 46)

Moreover, science and myth share the same roots for Cassirer:

When we compare the empirical-scientific and the mythical world views, it becomes evident that the contrast between them does not reside in their use of entirely different categories in contemplating and interpreting reality. It is not the quality of these categories but their modality which distinguishes myth from empirical-scientific knowledge. The modes of synthesis which they employ to give the form of unity to the sensuous manifold, to imprint a shape on disparate contents, disclose a thoroughgoing analogy and correspondence. They are the same universal forms of intuition and thought which constitute the unity of consciousness as such and which accordingly constitute the unity of both the mythical consciousness and the consciousness of pure knowledge. (1955, p. 60)

And since they share the same roots, they must share the same preliminary form:

In this respect it may be said that each of these forms, before taking on its specific logical form and character, must pass through a preliminary mythical stage. (1955, p. 60)

"Thus, taken abstractly," says Cassirer, "both the mythical and the scientific explanations of the world are dominated by the same kinds of relation: unity and multiplicity, coexistence, contiguity and succession" (1955, p. 60).

What, then, distinguishes the more mature forms of science and myth? The beginning of this distinction Cassirer locates in the subject-object relationship:

In the sphere of pure knowledge, it is true, progress consists above all in the differentiation of the principle of knowledge from its content, of the knower from the known; but mythical consciousness and religious feeling embrace a still more fundamental contrast. Here the I is oriented not immediately toward the outside world but rather toward a personal existence and life that are similar to it in kind. Subjectivity has as its correlate not some outward thing but rather a "thou" or "he," from which on the one hand it distinguishes itself, but with which on the other hand it groups itself. This thou or he forms the true antithesis which the I requires in order to find and define itself. (1955, p. 175)

And it is only in the maturation of the personal identity that empirical-scientific thinking can come to maturity, as Cassirer explains:

In the earliest stages to which we can trace back this development we find the feeling of self immediately fused with a definite mythical-religious feeling of community. The I feels and knows itself only insofar as it takes itself as a member of a community, insofar as it sees itself grouped with others into the unity of a family, a tribe, a social organism. Only in and through this social organism does it possess itself; every manifestation of its own personal existence and life is linked, as though by invisible magic ties, with the life of the totality around it. This bond can relax only very gradually; only gradually can there develop an I independent of the surrounding spheres of life. And here . . . myth not only accompanies the process but mediates and conditions it, constituting one of its most significant and effective motifs. (1955, pp. 175-176)

Thus, for Cassirer, scientific thinking must pass in its development through a fundamentally mythical stage which "mediates and conditions" the evolution of the self (subject) to a point where it can begin to determine the forms of "cause" and "effect" in the externally perceived non-self.

The categorical distinction between "I" and "not-I" proves to be an essential and constant function of theoretical thinking, whereas the manner in which this function is fulfilled, the boundary between the "subjective" and "objective" contents varies with the level of cognition. For theoretical science, the enduring and necessary elements in experience are "objective"--but which contents are said to be enduring and necessary depends on the general methodological standard applied to the experience and on the level of cognition at that time, that is, on the totality of its empirically and theoretically assured insights. Seen in this context, the way in which we apply the conceptual opposition of "subjective" and "objective" in giving form to the world of experience, in constructing nature, appears to be not so much the solution to the problem of cognition, as its perfect expression. (Cassirer, 1953b, pp. 90-91)

The movement of science is thus movement toward an end in which all elements are enduring and necessary. In its origin, that "preliminary mythic stage" through which it must pass, the predominance of elements are neither enduring nor necessary, but largely the product of creative imagination, of the subjective element. Here, as Cassirer (1953b) points out, are to be found the first historic elements of this evolution in the western rational tradition. Heraclitus of Ephesus, saying ἐδελησάμην ἐμεωυτόν<sup>2</sup> (I searched out myself), nevertheless refers to an objective governance when he also says, οὐκ ἐμοῦ ἀλλὰ τοῦ λόγου ἀκούσαντας ὁμολογεῖν σοφόν ἐστὶν ἔν παντα εἶναι<sup>3</sup> (Harkening not to me but to Logos, it is wise to agree that one is all). Cassirer interprets such statements in this way:

For Heraclitus, the logos is the "helmsman of the cosmos." Like the cosmos which it governs, it was created by god and no man, but always was and always will be. Yet though Heraclitus still speaks the language of myth, an entirely new tone is discernable within it. For the first time the mythical view of the cosmic process is clearly and consciously confronted by the fundamental philosophical-speculative idea that the universe is subordinate to a unified and indivisible law. (1953b, p. 119)

But for Heraclitus this objective is characterized as one. It is composed of neither enduring nor necessary elements. Only in its

oneness does it endure and have its necessity. Anaximander, whose sole remaining fragment of writing begins documented philosophy, terms this ἀρχή (causal principle) τὸ ἄπειρον (the "indefinite"), saying of it, ἐξ ὧν δὲ ἡ γένεσις ἐστὶν τοῖς οὖσι, καὶ τὴν φθορὰν εἰς ταῦτα γίνεσθαι 'κατὰ τὸ χρεῶν'.<sup>4</sup> (From that which is the genesis of existing things, also originates their destruction, "according to necessity . . ."). The last three words, precisely those whose authenticity is in least philological dispute, speak exactly to Cassirer's point. It is the perception of an external necessity which marks the beginning of science, the escape from a strictly subjective formulation of the world. For Anaximander, this necessity must remain "indefinite." It is the role of science to increasingly define the elements of this "necessity," and the history of science records precisely that process.

Mythical consciousness stands, on the other hand, at a point before this objectification of necessity. To achieve its unity of representation, myth cannot therefore rely on an externally perceived necessity. Cassirer explains:

The mythical consciousness does not form species by composing certain elements into a unity on the basis of immediate sensuous similarity or of a mediated causal relation between them; the unity of mythical species is rather of a fundamentally magical origin. Those elements which belong to one and the same field of magical efficacy, which fulfill a certain magical function in common, always show a tendency to fuse, to become mere manifestations of an underlying mythical identity. (1955, p. 181)

A clear example of this is found in totemism, as Cassirer

notes:

If we apply this principle of mythical concept formation to the relation between man and animal, a path opens by which we may arrive at an understanding of at least the fundamental form of totemism, if not of its special variants and ramifications. For in this relationship we find at the outset an essential factor, a central

condition of mythical unity. The original relation between man and animal in primitive thinking is neither exclusively practical nor empirical-causal: it is a purely magical relation. For the primitive view, animals seem more than any other beings to be endowed with magical powers. (1955, p. 182)

Levi-Strauss (1962)<sup>5</sup> has made an extensive study of this primitive form of thinking. Quoting Simpson, he notes that "the most basic postulate of science is that nature itself is orderly." But he refuses to limit this demand for order to the purely scientific realm:

Or, cette exigence d'ordre est a la base de la pensee que nous appelons primitive, mais seulement pour autant qu'elle est a la base de toute pensee: car c'est sous l'angle des proprietes communes que nous accedons plus facilement aux formes de pensee qui nous semblent tres etrangeres. (p. 17)

It is on the basis of this similarity that Levi-Strauss can reach the same conclusion as Cassirer, that science and myth (la pensée magique) are not contrary but parallel, differing principally in their modality:

La pensee magique n'est pas un debut, un commencement, une ebauche, la partie d'un tout non encore realise; elle forme un systeme bien articule; independant, sous ce rapport, de cet autre systeme que constituera la science, sauf l'analogie formelle qui les rapproche et qui fait du premier une sorte d'expression metaphorique du second. Au lieu, donc d'opposer magie et science, il vaudrait mieux les mettre en parallele, comme deux modes de connaissance, inegaux quant aux resultats theoriques et pratiques (car, de ce point de vue, il est vrai que la science reussit mieux que la magie, bien que la magie preforme la science en ce sens qu'elle aussi reussit quelquefois), mais non par le genre d'operations mentales qu'elles supposent toutes deux, et qui different moins en nature qu'en fonction des types de phenomenes auxquels elles s'appliquent. (1962, p. 21)

Levi-Strauss is here referring to the mature forms of myth and science and, although he refuses to characterize myth as "une forme timide et balbutiante de la science," he acknowledges that myth operates on the basis of limited repertoire. It is thus that mythic representations such as the totem appear, as Levi-Strauss characterizes

them, as a sort of "bricolage," the associations in which are founded not on reason but on imagination.

As to the meaning in such associations, Cassirer says:

Indeed, those totemic systems that have been most accurately observed and studied offer numerous indications that originally the choice of a totem animal was by no means purely outward and accidental, that the totem is no mere "heraldry" but rather that a specific life attitude and spiritual attitude is represented and objectified in it. (1955, p. 186)

And, as he further notes, "sharp as these differentiations may gradually become for mythical feeling and consciousness, the idea of the unity of life persists in them undiminished" (p. 187).

"Accordingly," notes Cassirer, "the conception of Mother Earth, or the corresponding conception of the earth as father, represents a central and original idea which has shown its power again and again, from the beliefs of primitive peoples down to the highest productions of the religious consciousness" (1955, p. 190).

"Thus," concludes Cassirer, "myth expresses all natural reality in the language of human, social reality and expresses all human, social reality in the language of nature" (1955, p. 192).

"The very existence and form of human society itself requires such a foundation," writes Cassirer.

For even where we suppose that we have society before us in its empirically earliest and most primitive form, it is not something originally given but something spiritually conditioned and mediated. All social existence is rooted in concrete forms of community and of the feeling of community. And the more we succeed in laying bare this root, the more evident it becomes that the primary feeling of community never stops at the dividing lines which we posit in our highly developed biological class concepts but goes beyond them toward the totality of all living things. Long before man had knowledge of himself as a separate species distinguished by some specific power and singled out from nature as a whole by a specific primacy of value he knew himself to be a link in the chain of life as a whole,

within which each individual creature and thing is magically connected with the whole, so that a continuous transition, a metamorphosis of one being into another, appears not only as possible but necessary, as the "natural" form of life itself. (1955, p. 194)

Only gradually, in the course of cultural evolution, does human consciousness emerge from this fundamental sense of unity, says Cassirer, the unmistakable symptom of this passage being that crisis in the development of human self-consciousness which gives birth to science.

Language is Cassirer's index to this transformation, and his example that of Helen Keller. Only when the pure function of representation is no longer attached to concrete sensation (in this case, touch alone) can the true significance of names, and thus of concepts, dawn on the mind. "When the representative function of names has thus dawned on a child," writes Cassirer, "his whole inner attitude toward reality has changed--a fundamentally new relation between subject and object has come into being" (1957, p. 113).

This process has its parallel in the historic development of science, says Cassirer, although

even for man it is evident that long after he has learned to live in images, long after he has completely implicated himself in his self-made image worlds of language, myth and art, he must pass through a long development before he acquires the specific consciousness of the image. In the beginning he nowhere distinguishes between the pure image plane and the causal plane; over and over again, he imputes to the sign not a representative function but a definite causal function, a character not of signification but of efficacy. (1957, p. 112)

This long process, for Cassirer, is thus a universal one in consciousness, dictated by the principles of symbolic form itself, so that as he says "ontogeny faithfully reproduces phylogeny." That is, the same slow process of concrete representation giving rise

to abstract conception obtains for the history of the culture as for the history of the individual. In either case, "the moment in which any particular sensory impression is used symbolically and understood as a symbol," says Cassirer, "is always the dawn of a new era . . ." (1957, p. 122).

But in this dawning of a new era a new problem has arisen. Conscious now of the representation, of the named concept, man is no longer able to unify it immediately with the whole. The sum of experience has become fragmented; each concept has become an isolated datum. Cassirer explains the significance of this:

The logical form of conception, from the standpoint of theoretical knowledge, is nothing but a preparation for the logical form of judgement; all judgement, however, aims at overcoming the illusion of singularity which adheres to every particular content of consciousness. The apparently singular fact becomes known, understood and conceptually grasped only in so far as it is "subsumed" under a general idea, recognized as a "case" of a law or as a member of a manifold or series. (1953a, pp. 25-26)

Thus, whereas in mythic consciousness there is no need of judgment, from the standpoint of science or "theoretical knowledge," judgment is now the sole means of achieving a unified representation of the whole. Thus, all the concepts of physics, says Cassirer, "have no other aim than to transform the 'rhapsody of perceptions,' by which the world of sense is actually presented to us, into a system, a coherent epitome of laws" (1953a, p. 27). And the sole means at the disposal of this science is the mode of judgment.

Each of man's symbolic forms has a social function for Cassirer. As he says in The Myth of the State:

In all human activities and in all forms of human culture we find a "unity in the manifold." Art gives us a unity of intuition; science gives us a unity of thought; religion and myth give us a unity of feeling. Art opens to us the



universe of "living forms"; science shows us a universe of laws and principles; religion and myth begin with the awareness of the universality and fundamental identity of life. (1946, p. 37)

Cassirer's philosophy of myth is elsewhere treated in Language and Myth (Cassirer, 1953a); The Myth of the State (Cassirer, 1946); and Symbol, Myth and Culture (Cassirer, 1979). In these works the philosophy of myth is applied specifically to respective cultural institutions.

Cassirer's philosophy of language is also represented in Language and Myth (Cassirer, 1953a) and in Schilpp (1958).

Cassirer's philosophy of science and concept formation is represented in such works as The Problem of Knowledge (Cassirer, 1960); Substance and Function (Cassirer, 1953c); and Determinism and Indeterminism in Modern Physics (Cassirer, 1956).

Additional background on Cassirer's philosophy and its development may be gained by reading Kant's (1929) Critique of Pure Reason and those works by Cassirer which interpret philosophers figuring prominently in his philosophic development; for example, Rousseau, Kant, Goethe: Two Essays (Cassirer, 1947); The Question of Jean-Jacques Rousseau (Cassirer, 1954); and The Individual and the Cosmos in Renaissance Philosophy (Cassirer, 1963).

Also of value in interpreting Cassirer is Langer (1974), whose work on the philosophy of language, art, symbol, and myth stems in large measure from her study of Cassirer.

It is the principles outlined in the preceding section which are carried in chapter 4 to the analysis of Burgess' writings.

## CHAPTER III

### Development of the Study

#### Burgess' Conception of Nature

"Nature," wrote Burgess in 1922, "was the first teacher of the human race." And he adds that "with this statement no one can take issue" (1922b, p. 209). These words, along with much of the original article in which they appeared, were repeated verbatim in his 1960 autobiography. He explains his assertions in this way:

It was not until our prehistoric ancestors began to observe the workings of nature and tried to discover the laws governing the manifestations which they observed, that they began to rise above the animals surrounding them. Every upward step since is traceable directly to increased knowledge of the laws governing life, and these laws are the laws of nature and have existed from the beginning. Nature was the first teacher and still is the universal teacher. (1922b, 1960, p. 209)

Reflecting back to his childhood, however, Burgess recalls a different relation to nature:

My first observation in the realm of Nature was completely in error. I found it out long, long ago. Nevertheless, whales never have looked right since. . . . It is sometimes pleasant, even helpful, to ignore the hard facts of science and exact knowledge and instead, gazing into the crystal globe of imagination, to see red-and-white whales. Who shall say that we are not the better for so doing? (1960, p. 8)

This statement, made in recalling his first observation of a whale--a 74-foot Blue Whale beached off Cape Cod when he was five years old--presents a different side of Burgess' conception of nature,

as he himself declares:

Though in my writing I strive not to deviate from the prosaic facts as Mother Nature presents them, I cannot avoid seeing them myself in the enchanted atmosphere in which I made my first field observation and whales became red-and-white for all time. Looking back through the years, I wonder if it was not then that the pattern of my life was set. (1960, p. 5)

The whale that Burgess observed in 1879 was being "fleshed out" when Burgess, a cousin, and his grandfather ascended to the crest of the beach dunes to view it. The fleshing knives, as he explains now, had exposed in stripes "like a barber's pole" the alternating layers of red flesh and white blubber.

This characteristic dichotomy of views--the factual and the "enchanted"--permeates all aspects of the Burgess corpus. "Old Dame Nature" (later "Old Mother Nature") often intervenes in the early stories, and when she does all the creatures in the Green Forest, Smiling Pool, and Green Meadow are absolute in their obedience at court--unless they have something to hide. In the latter case, they soon discover that "you can't fool Old Mother Nature, and it's of no use to try," as this oft-repeated moral is stated. Thus, predominantly in the Mother West Wind stories, Old Dame (or Mother) Nature serves, as Agosta (1983) describes her, as "interlocutor, judge, and general mistress of morals, naming the disruptive crime, accusing the perpetrator (who always attempts to elude her), lecturing him pointedly, and then meting out appropriate justice" (p. 78).

Meanwhile, Jimmy Skunk carries around a "little bag of perfume which [he] doesn't object to in the least, but which makes most people want to hold their noses and run" (Burgess, 1918b, p. 20). He also is nocturnal, occasionally raids Farmer Brown's henhouse

(or the nests of Old Gray Goose or Mrs. Quail) in search of eggs, "never hurries," and is most often to be found wandering down "the crooked little path" in search of "fat beetles"--all of which characteristics are consonant with skunk biology as described by Burt (1972):

The striped skunk comes out from his daytime sleep shortly after sundown and starts his search for insects, grubs, mice, eggs, berries and a variety of small animal life that he may encounter in his wanderings. (p. 75)

Burgess' accuracy with respect to such details is often quite precise. For example, Burt describes the effect and use of the skunk's scent-spraying mechanism:

The skunk is a fearless animal, apparently depending on its scent-spraying mechanism for protection. This is used only in emergencies. If a person is so unfortunate as to be sprayed in the eyes, he need fear no lasting deleterious effects. His eyes will burn, and he will be blinded temporarily, but within a few minutes the tears will have washed the eyes clean, and the painful effects, albeit not the odor, will have disappeared. (1972, p. 76)

In comparison, Burgess' version presents the same facts. He describes Jimmy Skunk's use of that "little bag of perfume" as follows:

he never uses it, except when he is angry or in danger, but when he does use it; his enemies always turn tail and run. That is why he is afraid of no one, and why every one respects Jimmy and his rights. (1918b, p. 20)

And he describes the effect (when Reddy Fox has overturned the barrel in which Jimmy is taking his daytime nap) of its use:

He used it now, and he didn't waste any time about it. He threw some of that perfume right in the face of Reddy Fox before Reddy had a chance to turn and say a word.

"Take that!" snapped Jimmy Skunk. "Perhaps it will teach you not to play tricks on your honest neighbors."

Poor Reddy! Some of that perfume got into his eyes and made them smart dreadfully. In fact, for a little while he couldn't see at all. And then the smell of it was so strong that it made him quite sick. He rolled over and

over on the ground, choking and gasping and rubbing his eyes. . . . You see that terrible perfume which Jimmy Skunk had thrown at him clung to his red coat and he knew that he couldn't get rid of it, not for a long time anyway. (1918b, pp. 20, 24)

For Burgess, nature is thus at once a source of "hard facts," to be presented accurately, and a universal overseer, teacher, and moral judge to whom all must answer and from whom none can hide the truth.

This combination is often compactly presented, as in "Mr. Toad's Old Suit," from Mother West Wind's Children (Burgess, 1911, 1962).

In this story, Old Mother Nature is coming to inspect "the kingdom of old King Bear," and all the little folk "hasten to pay their respects to Old Mother Nature and to strut about in their fine clothes--all but Mr. Toad." Burgess continues the narrative:

Late in the afternoon, Mr. Toad stopped to rest. He had just cleared his cabbage patch of the slugs which threatened to eat up his crop and he was very tired. Presently he happened to look up the road, and who should he see but Old Mother Nature herself coming to visit his garden and to find out why Mr. Toad had not been to pay her his respects.

Suddenly Mr. Toad remembered that he had on his working clothes, which were very old, very dirty and very ragged. For just a minute he didn't know what to do. Then he dived under a cabbage leaf and began to pull off his old suit. But the old suit stuck! He was in such a hurry and so excited that he couldn't find the buttons. Finally he got his trousers off. Then he reached over and got hold of the back of his coat and tugged and hauled and finally he pulled his old coat off right over his head just as if it were a shirt.

Mr. Toad gave a great sigh of relief as he stepped out in his new suit, for you remember that he had been wearing that new suit underneath the old one all the time.

Mr. Toad was very well pleased with himself until he thought how terribly untidy that ragged old suit looked lying on the ground. What should he do with it? He couldn't hide it in the garden, for Old Mother Nature's eyes were so sharp that she would be sure to see it. What should he do?

Then Mr. Toad had a happy thought. Everyone made fun of his big mouth. But what was a big mouth for if not to use? He would swallow his old suit! In a flash he dived under the cabbage leaf and crammed his old suit into his mouth.

When Old Mother Nature came into the garden, Mr. Toad was waiting in the path to receive her. Very fine he looked in his new suit, and you would have thought he had been waiting all day to receive Old Mother Nature, but for one thing--swallow as much and as hard as he would, he couldn't get down quite all of his old suit, and a leg of his trousers hung out of the corner of his mouth.

Of course Old Mother Nature saw it right away . . . .  
(1962, pp. 98-100)

Here again, although a mythic Old Mother Nature remains universal overseer, what seems at first a bizarre tale turns out to be based entirely on fact, as Oliver (1955) reports:

Toads are known to shed their skins every three to ten days . . . [and they] habitually eat the shed skin, tearing it off with the mouth and swallowing it. (p. 285)

And as Noble (1931) makes evident, again even the subtlest of factors has been taken into account:

The movements of throat and forelimbs assist in peeling off the old skin, that of the limbs being turned inside out. (p. 140)

Agosta (1983) notes that "Old Mother West Wind is clearly Burgess's [sic] apprentice work," adding that "certain stories in this collection forecast themes, techniques, and intentions which characterize his subsequent books" (p. 74). Burgess admits his uncertainty at this stage, in mailing the first stories of Old Mother West Wind to the publisher:

I think that never have I had less faith in anything, or less expectation, than when I mailed these fourteen stories. And I don't think I have ever had a more complete or happy surprise than was the contract which arrived within a week. With it came a letter asking for two more stories to fill out the volume. The two stories were written, and when they were completed I told the folks at home that I had written the very last animal story that was in me. (1919d, p. 89)

Burgess describes the origin of these stories:

They were written when my small boy went to Chicago with his grandmother for a visit. Every night while he was gone I

wrote and mailed him a story, or some verse. Wanting to inculcate in him the love of nature, and also to correct certain little faults of his, I created the animal characters which have since become so well known. (1919d, p. 89)

Thus, rather than an "apprentice work," Burgess at the time of its writing conceived Old Mother West Wind as his first, last, and only such creation. Soon, however, he was faced with a newspaper syndicate contract for 312 such stories (a minimum of six stories per week for one year) and the demand of his publisher for a second volume. It was these demands which compelled Burgess to evaluate those stories written at first only for his son, and to seek a technical refinement of their formative principles. The result of this evaluation Agosta (1983) describes in this way:

He apparently judged the three explanatory tales ("Why Grandfather Frog Has No Tail," "Why Jimmy Skunk Wears Stripes," and "How Sammy Jay Was Found Out") in the first collection as his most successful, because in them he was able to locate his narrative in a primordial past when animals had to learn those lessons important to their own and to human survival as well. Consequently, Burgess increased the number of these explanatory tales in his second collection, Mother West Wind's Children, to seven out of fifteen stories. (p. 77)

This constitutes a turning point in Burgess' method toward greater reliance on natural fact for the starting point of his tales so that by 1912, when he was producing two or more books per year, explanation of natural facts and animal characteristics had become thematic. Thus, the last four of the eight books of the Mother West Wind series are entirely "explanatory tales," telling the child reader "why" (Burgess, 1915f), "how" (Burgess, 1916e), "when" (Burgess, 1917c), and "where" (Burgess, 1918d) such facts came to be.

For example, "When Old Mr. Grouse Got His Snowshoes" (Burgess, 1917c, 1945) explains the peculiarity of toe bristles in wintering

grouse:

Very proudly Mrs. Grouse held out one foot for Peter to look at. Instead of the slim toes he often had admired Peter saw that the bottom of each was covered for its whole length with queer-looking, horny little points that prevented the foot from sinking way down in the snow as it would have done without them. (1945, p. 38)

This peculiarity is described by Bull and Farrand (1977) no less figuratively:

In winter, the grouse grow comb-like rows of bristles on their toes, which serve as snowshoes. (p. 631)

Burgess (1945) continues this story with the explanation that these snowshoes were given to the "great-great-ever-so-great grandfather" of Mr. and Mrs. Grouse by Old Mother Nature, adding, however, that "when spring came, Old Mother Nature came around and took them away, because he no longer had need of them; but when next winter came, she returned them to him" (p. 45). This gift of Old Mother Nature Burgess explains as Mother Nature's reward to the grouse for its patience. In this way, Old Mother Nature remains omniscient overseer, as in the earlier tales. But in Burgess' start from natural fact for the purpose of explanation in story form, he has been compelled in all such stories to designate meaning for these facts in order to create the stories. Furthermore, the designation of such meaning is always attributed to the authority of the whole--Old Mother Nature.

Table 1 illustrates this relation of fact and meaning in several cases.

Wright (1979), observing this trend, divides the Mother West Wind stories into two types:

Tales of the adventures of Green Meadow and Green Forest animals and Burgess-created legends, fanciful explanations of natural phenomena usually put into the mouths of wise creatures such as Grandfather Frog. The stories of the last four books are nearly all of the legendary type. (p. 19)



Table 1

Illustrations of Burgess' Early Relation of Fact and Meaning

Natural Fact	Mother Nature's Reason
Chipmunks have stripes.	"There's a stripe for every tear made in your coat by the claws of Mr. Bob Cat the day you saved Mr. Meadow Mouse. They are honor stripes . . ."
Rabbits do not fold their forepaws like squirrels.	"Hereafter, Mr. Rabbit, you and your children and your children's children will never again be able to sit with folded arms until you have learned to work."
Foxes have red coats.	"And so that you may know who to watch out for, from now on never trust the one who wears a bright red coat . . ." (Punishment for marauding)
Blue jays have blue feathers.	"Sammy Jay's fine coat isn't a reward for goodness, as is Winsome Bluebird's, but is to help the other little people of the Green Forest and Green Meadows to protect themselves, and keep track of Sammy when he is sneaking and snooping and looking for mischief."
Muskrats build their homes in water.	". . . it was a reward for trying to be content with his surroundings and making the best of them."
Snakes cannot wink.	". . . you and your children and your children's children forever will have no eyelids, that all the world may know that those who make a wrong use of the things given them shall have them taken away." (Punishment for lying)

Note. Drawn from Mother West Wind "Why" Stories (Burgess, 1915f).

The key words in Wright's analysis are "fanciful" and "legend," for whereas Burgess adheres strictly to fact for his starting point in

these tales, the explanations derived--that is, the meanings--typically have little or no basis in the facticity of naturally presented phenomena. They are instead moral determinations unequivocally injected by Burgess, and as such address in the reader's imagination that "enchantment" factor in which, to use his example, "whales become red-and-white for all time."

Burgess was aware of the tenuousness of any possible claim that such conclusions as these tales present could be attributed logically to the facts in themselves. He explicitly states both his reliance upon basic facts and his call to imagination:

When I began writing animal stories for children it was with the sole purpose of teaching the facts about the forms of animal life most familiar to American children. I endeavored to do this by stimulating the imagination, which is the birthright of every child, at the same time holding absolutely to the truth so far as the facts concerning the subject of each story were concerned. (1922b, p. 137)

This breach between an absolutely factual base and moral conclusions derived by imagination, Burgess attempted to narrow by a further refinement first exemplified in his Bedtime Story-Books, which began appearing in 1913. In these stories animals are presented as central figures whose daily lives are lived out in a systematic exposition of the natural facts. Here, the animals tell their own stories, revealing through and in the narrative the facts of their daily lives. But here also, although distinct moral conclusions are frequently explicitly stated often in verse form as preface to the chapters, the plots of these stories are also designed to guide the child reader in arriving at these moral conclusions through a systematic synthesis of the natural facts. In these stories, neither the fact nor the moral is Burgess' starting point; but his conception

of their potential relationship which, through the medium of the story he "unwinds," is actualized in a synthetic unity.

Exemplary of this sort of story is The Adventures of Jimmy Skunk (Burgess, 1918b). In this book, Jimmy is presented as usual, ambling along looking for "fat beetles," marauding Farmer Brown's henhouse in search of eggs, and finding himself trapped in the henhouse when Farmer Brown's boy comes to feed the hens. But these facts of skunk behavior, unlike those of the Mother West Wind series, are not merely stated and explained. Rather, they are woven systematically into the plot of a morality play. Here, Peter Rabbit plans a joke on his archenemy, Reddy Fox, tricking Reddy into a chase which results in the upsetting of Jimmy Skunk's daytime dormitory, as previously described. While Reddy is assisting Jimmy in a factual rendering of the skunk's use of his scent-spraying mechanism, Peter slips into an unoccupied woodchuck hole, thinking he has gone undetected. He soon discovers that this is not the case, however, for the old woodchuck hole, although unoccupied by woodchucks, is now the home of a nest of Yellow Jackets. Burgess continues:

Poor Peter! What could he do? He didn't dare go out, and he simply couldn't stay where he was. [He] scrambled to his feet and scurried down the long hall, and as he ran, he cried "Ouch! Ouch! Oh! Ohoo!" Those sharp little lances were very busy, and there was no way of fighting back. At the end of the long hall was a snug little room, very dark but cool and comfortable. It was just as he had hoped; the Yellow Jackets did not follow him down there. They had driven him away from their home, which was right near the entrance, and they were satisfied.

But what a fix he was in! What a dreadful fix! He ached and smarted all over. My goodness how he did smart! And to get out he would have to go right past the Yellow Jacket home again.

"Oh dear, I wish I had never thought of such a joke," moaned Peter, trying in vain to find a comfortable position. "I guess I am served just right." (pp. 31-32)

And, as Burgess helps the child to conclude, "I rather think he was, don't you?"

Chapter 1 in this series of events opens with the following verse:

The Imp of Mischief, woe is me,  
Is always busy as a bee.

The full significance of this moral, however, is not revealed to the child reader until well into chapter 6, 29 pages later.

Another conspicuous factor in the Bedtime Story-Books is that Old Mother Nature rarely appears in person. When she does appear, it is typically only in a brief and indirect reference, as the source of explanation of a particular animal trait. On the other hand, Farmer Brown's Boy, who rarely appears in the Mother West Wind series, now appears at some point in nearly all of these stories. At first he is feared by all the creatures of the Green Forest and Green Meadow, setting traps for them and threatening their lives with his "terrible gun." But after a conversion effected in Tommy and the Wishing Stone (Burgess, 1915g), in which Tommy Brown learns through a series of metamorphoses what it is like to be an animal in the wild, he becomes both animal benefactor and conservationist. Thus in the later Bedtime Story-Books, his frequent appearance serves as Burgess' tool for expanding the scenes and action in the tales to include the human realm in a harmonious light.

This new scheme of relationships reaches its greatest clarity in the three series titled Green Meadow (1918-1920), Green Forest (1921-1923), and Smiling Pool (1924-1927). These tales, as Agosta (1983) notes, "round out the books on individual animals" (p. 79), extending the basic style and form of the Bedtime Story-Books by 12 more titles while confining their principal characters to particular ecosystems,

all of which now include the human element. Here, Burgess' conception of nature is presented in balanced form. Human and animal alike participate in the acting out of morality plays whose natural elements remain soundly rooted in natural fact.

Each of the books in these series represents a balanced whole. Agosta (1983) describes Burgess' aims for these books in this way: "He hoped in these later works to render each animal in the round, to follow it about its pursuits and observe its habits and pastimes" (p. 79). Key words here are "in the round," for they emphasize the unifying ingredient which is explicitly absent but implicitly omnipresent--Old Mother Nature as a whole. In Whitefoot the Wood Mouse (Burgess, 1922c), for example, Old Mother Nature is overtly referred to but once, as the source of Whitey the Snowy Owl's white coat. But taken in sum the events of this book represent to the reader all the elements of nature, human or animal, "in the round." Food, shelter, health and survival, reproduction (Whitefoot has a family), friends, and enemies are seen from the particular perspective of one creature.

Each of the books in these three later series accomplishes a similar, unique perspective on the whole of nature, while leaving this whole conspicuously absent in the form of a personified entity. Each of the elements--what the principal character eats, how it gets its food, where it habitually lives, what trials it faces, how it overcomes these trials, what enemies and what friends it has, etc.--is treated in some way or another in each volume. But the whole itself, the sum of these parts, is left to the reader to unify on his own. It is nowhere explicitly defined or presented. It is his

repeated creation of this conception of the whole with and for the reader that is the key to understanding Burgess' own conception of nature and to recognizing the means by which he conveys it to his reader.

Massachusetts Audubon Society President Charles Roth (cited in Burgess, 1968), in introducing the 1968 reissue of Mother West Wind's Children, describes the effect of that recognition on himself:

I am among the millions for whom Burgess's [sic] key unlocked new worlds. Along with others I learned the basic facts about the lives of our wild neighbors from these stories. I also learned much, quite unwittingly, about such human traits as curiosity, kindness, thrift, courage and wisdom. Animal nature was the warp of these tales, human nature the woof. (p. ix)

For Burgess, nature is neither merely the sum of facts about animals and their lives nor merely what is of human relevance in them. Nature is an inseparable whole in which both animals and humans participate and in which no figure or relation is isolated from the remainder. Moreover, in Burgess' conception of nature as such, are to be found examples of every sort of relationship: theft and its punishment, honor and its reward, fear and its consequences. And these relations, like all others within the whole, cannot be separated artificially into strictly human or strictly animal spheres of significance. As he says, "There is little affecting human life which has not an analogy in the lives of the lower orders" (1922b, p. 139). Thus, the thrift of Happy Jack Squirrel, exhibited in caching nuts, is for Burgess nothing but a lower order of the thrift of a human being depositing money in a savings account. It is not of primary consequence to Burgess that a biologist may experiment and discover that caching nuts is not the result of conscious planning on the

squirrel's part--that thrift is not the squirrel's conscious purpose in hiding them. What Burgess conceives as important is that in the squirrel's activity there is something which can have meaning for humans. That is, if the squirrel were human (and therefore rational), it could recognize that its own habit of caching nuts amounts to thrift.

If humans are to learn anything from nature, it must somehow display meaning in human terms. Mere facts, given without such meaning, only beg Burgess to discover a meaning for them by putting them into a meaningful context which represents the wholeness that he perceives in nature itself.

Nature is thus for Burgess a unified whole in which the human is that part which ascribes meanings to experience. But it is no less the whole which provides the raw material for those meanings, the "hard facts" as he calls them. And it is this aspect of the whole, this inexhaustible provision of the raw material for meanings, coupled with the human need for meanings and the human capacity for imagination, which gives Burgess to call nature the "universal teacher."

#### Burgess' Conception of His Child Reader

In his role as a storyteller, Burgess also conceives himself as a mediator of the child's learning from this "universal teacher." "Gradually I realized," he writes, "that I had in my charge an instrument for education with undreamed of potentialities. It was in the nature of an unsought for and unexpected personal trust" (1960, p. 145). Tracing the evolution of Burgess' conception of nature also reveals a progressive development of his conception of both this "trust" and the child's mind in relation to it.

He summarizes both his conceived position and his conception of the nature of the child's mind in the following passage:

The child of today with plastic mind is the citizen of tomorrow with fixed ideas. The time to make sure that the ideas are right is before they become fixed. World peace and the future of the human race are in the children of today. The story is the most acceptable and effective way of conveying knowledge and guidance to the child mind and establishing them therein. The animal story, because of the psychological factor involved, the intuitive feeling of superiority on the part of the child, is the most effective form of story. Thus I much, much prefer to write for children. In so doing I feel a greater sense of real power than could ever be mine were I a writer for adults or in high political office. (1960, p. 337)

The child's mind is thus, for Burgess, not merely to be characterized by its indeterminacy and potentiality, but also by its impressionability. The child's mind is "plastic," and it is this quality which Burgess addresses in his writing. He seeks creatively to shape this "plastic" mind in accord with nature, that unified whole which includes it. And he seeks to do this in both factual and "enchanted" frames:

I endeavored to do this by stimulating the imagination, which is the birthright of every child, at the same time holding absolutely to the truth so far as the facts concerning the subject of each story were concerned. (1922b, p. 137)

His metaphoric descriptions of the child's mind as "plastic" and "colorful" signify Burgess' insight that the child is not merely a receptacle for facts and ideas, but is himself a whole, shaped progressively by experience. His insight that the child must grow to operate in a world of facts leads Burgess to employ facts as his foundation. But simultaneously he realizes that the child's mind, in and because of its indeterminate beginnings, first views these facts in an "enchanted atmosphere." This leads him to present raw facts in the



framework of a fictional story. "The child mind is colorful," he writes. But, as he continues,

dry facts make no impression. The young mind cannot retain that in which it has no interest. Present those facts in such a way that the imagination may seize upon them and they will be impressed upon the memory forever. (1922b, p. 139)

That is, the inexperienced mind, which has no context in which to structure factual data, must be given a context. This context is the story which Burgess creates around the facts.

And to this understanding Burgess adds the insight that it is not the story per se which first interests the child, but the subject matter of nature, in which both facts and the child are truly imbedded. He writes:

Nature presents an interest which is inherent. It remains but to capitalize [sic] this by presenting that which it is desired to impart in such form that the imagination becomes but a setting for the truth. (1922b, p. 139)

Burgess' stories thus present themselves in the forms defined earlier. They are either colorful explanations of singular facts, as in the Mother West Wind stories, or progressive revelations of several facts related into a plot, as in later tales. And while the natural setting of the facts provides an "interest which is inherent," it is the story itself with which Burgess "seizes" the child's imagination and leads him to retain the facts in a new context. This Burgess conceives as possible because the interest of the child is fulfilled by virtue of his having been given not only the fact but the context for it, that is, "imagination has become a setting for the truth."

Burgess early discovered that this could be achieved by mere "fanciful" explanation in the case of his youngest readers. But when

some of these readers began to write to him questioning his veracity, he recognized the need of older children for a broader factual base-- for a greater degree of proof. His response to this recognition was the evident shift from the "explanatory tales" of the Mother West Wind series to the revelatory form of the later works. Burgess had realized that the "plastic" mind of the child was already being shaped by experience. In order for the child to judge something as true, he realized, both the facts and their context in the stories must accord with the emerging shape of the child's mind. In Burgess' words, the ideas of these older readers had begun already to "become fixed." Burgess records one of his early encounters with this phenomenon, not in relation to a story, but to an accompanying illustration:

Most diplomatically they pointed out that it is Mr. Quack's tail, not Mrs. Quack's, that has two upcurled feathers in the tip. I looked up the newspaper with the illustration in question. Sure enough, Mrs. Quack sported two tiny upturned feathers in her tail. They were so small I had not noticed them at all. Thus I learned anew that no error can be so small as to escape the sharp eyes of children. (1960, p. 322)

This demand for verity shifted Burgess' emphasis away from fictional explanations to fictional plots based on carefully certified facts. The result was that the field of imagination, which in the Mother West Wind stories often had included the whole of the story outside a single axial fact, was shifted to a plot-line upon which now several facts were strung in a single story. This shift added a new dimension to Burgess' storytelling approach and to his responsibility.

Whereas the facts of the Mother West Wind stories had typically been readily evident matters of characteristic appearance or

habit--skunks and chipmunks have stripes, Bald Eagles have white heads, muskrats live in water, etc.--those of later stories are relatively more complete revelations of habit and relationship. Thus, the presentation of these facts and their relations is no longer clearly a matter of factuality or of fictionality. That is, the distinction between what is purely factual and what is imaginative interpretation is no longer clear, even to the discerning child reader. Because they constitute natural characteristics and phenomena which present themselves decisively, the simple facts of the Mother West Wind stories may easily be verified by the child outside the context of the stories. Thus, as Krutch (1960) notes, these stories "distinguish fact from fancy so clearly that even the childish mind knows perfectly which is which" (p. 18). But in the causal relations given through the plotting of the later tales, it is not immediately evident in terms of possible later experience where the facts end and the fiction begins. The new factor in this shift is the form of interpretation. Certainly interpretation is present in the Mother West Wind stories. But there it is clearly a product of pure imagination, indeed may even assume the air of a fairy tale. In later writings, however, interpretation takes on the guise not merely of imagination, but also of judgment. That is, the elements of relation of the facts in the plot are of two sorts. The first are those of factual relation. That otters eat fish, that flying squirrels are nocturnal, and that toads travel in the rain are examples of such scientifically factual cause and effect relations as Burgess weaves into the plots of these later stories. The judgments are those of science. The second sort of relation, however, is freely

interpretive, based not on science or recognized fact, but on imagination. These interpretations are Burgess' own, the judgments shared with the child. Exemplary of this sort of relation are the warnings creatures give one another in dangerous circumstances, the cooperation of dissimilar creatures in effecting a task of mutual benefit, or the conscious transmission of information beyond the context of immediate time or circumstances. In these cases, Burgess is careful in his narrative not to portray creatures as doing things they might not otherwise do. But his interpretation of their reasons for doing them are often clearly not in the sphere of scientifically recognized causes for such behavior.

For example, in Blacky the Crow (Burgess, 1922a), from the Green Forest series, Blacky opens the book during winter, with the discovery of eggs in an old nest of Redtail the Hawk. This is an example of type one behavior, and is consistent with crow activity in biological terms. Blacky cannot "believe" there is a nest of eggs at this time of year, however. This is type two behavior, for it presupposes that crows can make such analytic judgments, a possibility which science would be hard-pressed to verify. Blacky discovers by observation, however, that the nest is now being used by Mr. and Mrs. Hooty Owl, as science substantiates, in late winter. Again, these are type one relationships and behaviors. But in his desire to get at the eggs (type one behavior, for crows eat eggs), Blacky schemes on other pretenses (type two behavior) to get other crows to drive Mrs. Hooty off the nest so that he can have the eggs to himself. All the results in the ensuing scenario are consistent with recognized animal behavior, and might easily be observed by a watchful child.

But the reasons Burgess gives for these behaviors are often of the type two sort. In a word, they are anthropomorphic. This example is typical of later works of the revelatory sort.

Early among the Bedtime Story-Books, The Adventures of Jerry Muskrat (Burgess 1914a) records a journey shared by Jerry, Billy Mink, Little Joe Otter, Grandfather Frog, and Spotty the Turtle (occasionally assisted by Ol' Mistah Buzzard). This group of ecosystem comrades travels upstream to discover why the Smiling Pool is shrinking and the Laughing Brook is no longer laughing. They discover a dam built by Jerry's cousin, Paddy the Beaver, and then persuade Paddy to make a hole in his own dam in order to restore their home.

While it is not unlikely that such creatures would all travel upstream during a drought, it cannot be considered factual that a turtle and a mink, for example, would confer with a buzzard or that either would persuade a beaver to apologetically destroy its own work. Here, Burgess technique for synthesizing facts is still in its formative phase. But by the time of Longlegs the Heron (Burgess, 1927), last of the Smiling Pool books, obviously interpretive plot elements are reduced to Peter Rabbit's warning (by thumping his foot) to Grandfather Frog that he is about to be speared by Longlegs' beak and purposive communications between Peter, Grandfather Frog, and Sammy Jay. Other plot elements in this book include a realistic tête-à-tête between Peter and Reddy Fox, the credible entrapment of Longlegs' young offspring, and Tommy Brown's rescue and treatment of the young heron's injured leg.

Burgess justifies the frequent purposive and often rational conversations between his characters in this way:

The only concessions to pure imagination are the speech put in their mouths and the license of the illustrator in clothing them. The former is necessary in order to make a story, and does not mitigate the truth or in the smallest degree offend those seeking the truth because there is general recognition of the fact that there is some means of communication between animals. The clothing of the characters by the illustrator merely serves to more firmly establish them as real personalities. (1923c, p. 136)

Biology will concede some form of communication among animals. But it has not demonstrated any instance in which a turtle and a buzzard reflectively conversed about the whereabouts of a beaver dam. That is, the content of animal conversations is precisely that area in which Burgess' imaginative interpretation digresses furthest from recognized fact. Here, and in the reflective actions of the characters, which are clearly anthropomorphic, are Burgess' principal avenues to manipulation of plot elements so as to weave them in the desired direction. If someone is needed to save Happy Jack from Shadow the Weasel, Tommy Tit the Chickadee needs only to direct Jack's attention to Farmer Brown's Boy, upon whose shoulder he may take refuge (Burgess, 1918c, chap. 15). None of the narrative elements in such a scenario is subject to question, but it would be difficult to justify the scientific facticity of such altruism on the part of a chickadee.

This general trend, then, is visible within the Burgess corpus: In the first stories of the Mother West Wind series, a preponderance of imaginative interpretation is used in each tale to explain a single fact or characteristic. Adjusting this scheme on the basis of a recognition of the demand of his readership for greater factuality,

Burgess shifted to the form of synthesis of facts within a plot in which he retained a smaller and less conspicuous measure of interpretive freedom. This shift eventuated, in its most refined state, in the production of tales the interpretive elements of which are restricted to the rational behavior and speech of the characters, which the illustrator depicts in clothing. Otherwise these characters behave in a manner consistent with recognized biological interpretation.

#### Burgess' Moral Teachings

As Burgess' recognition of the role of judgment in interpretation advances, there appear two separate fields of its application to his writing. In the first, which may be traced to the accent on facts as a foundation, judgments made by science are presented accurately by Burgess, his sole interpretive act being to place them in a context. This field represents the "fixed" portion of his plots. In the other field, however, judgment is given directly to the child reader. Elements in this field are freely created by Burgess, and through the mode of their presentation the child is led to determine their correctness on the basis of his own judgment. That is, the child participates in the interpretive synthesis of facts into a logical whole. It is upon this foundation that Burgess rests his moral lessons. They are lessons of relation, and the principal forms the relations take are those of community.

These moral lessons, especially in the Mother West Wind books, accent primary values--honesty, obedience, compassion, and the like. In later stories, specific themes are treated--thrift, learning, and friendship, for example. Where it is consistent with biological fact, creatures behave in such a way as to demonstrate the moral lesson.

But where biology has not furnished sufficient information for such demonstration, Burgess intervenes with his own creative interpretation. The child reader is presented with a base sufficiently factual that it may serve as a foundation, but he is now led to synthesize through judgment the relation of facts given to Burgess' interpretation. Thus, it is evident that Burgess is not solely concerned with reporting facts of nature in a way that they will be retained, but also is interested in offering moral guidance to the child. In directing the child's synthesis of facts along such lines of meaning, Burgess refuses to separate these two avenues of teaching. They occur simultaneously. That is, the two faces of each story--the fact and its meaning--are two aspects of the same whole.

The key to Burgess' justification of this lies in his reasons for bringing the animal into the social sphere of the child in the first place:

The subjects were lifted above the general classification of mere animals, birds and reptiles. They became at once personalities, and as personalities became important and interesting characters in the child world. (1923c, p. 135)

The principal function of the animals here, and the function of the relations in which they participate, both in nature and in the stories, is that they possess the potential for meaning in the child. This potential for meaning, unique to human interpretation, is coincidental with the indeterminate potential of the child's mind for Burgess. It remains for him to unite them. If the facts of nature are to be retained, they must for Burgess have a context in which to "become fixed." These facts must be accurate, for they are what nature--as created--predictably presents. But the context for these facts is what nature--as creative--has not yet determined in



the child. "The time to make sure that the ideas are right is before they become fixed," writes Burgess (1960, p. 337). This is as true for him with respect to the mere implantation of facts as it is for the moral instruction. What is right with respect to facts is what is accurate. What is right with respect to moral teaching on the other hand is a matter of human interpretation.

The child mind is, for Burgess, a blank slate. To be retained, facts must have a meaningful context in the child. And the child, as he continues to assimilate facts, must be guided not only to the facts but also through the process of building this context. The facts are determined. The context is freely to be created. Moreover, any context of meanings whatever is uniquely constituted in the human aspect of nature and thus subject to human guidelines. But in order that human life may accord itself with nature, may remain part of the contextual whole which is nature, these meanings must result in a community of natural and human spheres. This is Burgess' principal aim for the child. This is what he means when he calls "imagination but a setting for the truth."

Whether human guidelines be rational, emotional, or artistic, their function is to designate meaning to the facts presented in experience. Burgess perceives his position in this process as presenter of facts and guide in determining meaning. This second element of his teaching must, as he recognizes in his personification of animal characters, begin with what is familiar to the child, what belongs to his own social sphere. Thus, fundamental human values are his main focus, fundamental animal facts the determinate ground of his exemplification. Burgess' masterstroke is his recognition that

"there is little affecting human life which has not an analogy in the lives of the lower orders" (1922b, p. 139). It is this realization which allows him to combine moral teaching and biological fact with a minimum of contradiction.

## CHAPTER IV

### Analysis of Data

In the Mother West Wind stories, Burgess presents "hard facts" and at the same time Old Mother Nature as the governing entity who determines, explains, and gives meaning to the facts. This presentation is direct, and the principal source of unification of the presentation is Burgess' own imagination, shared with the child through the story. Here the child reader is given only the freedom to agree or disagree with what is presented. When it is asserted that "you can't fool Old Mother Nature, and its of no use to try," why this is so is not open to question. Nor is question expected. The story is not a means for the child to discover the truth of such a conclusion for himself. Instead, he is simply told the conclusion. These stories take the form, "This is so because . . . ." No judgment is expected of the child.

On the other hand, the later stories progressively evidence a transfer of the responsibility for conclusive synthesis to the child reader. Here, the direct assertion of a moral premise is characteristically given in verse form, separate from the story itself. It is the story which is constructed so as to give the reader evidence of the correctness of the explicitly stated moral dictum.

It was Burgess' recognition of the respective roles of imagination and judgment in learning which led him to develop this second technique.

Evidence of the development is his abandonment of a personified Old Mother Nature and his progressive withdrawal from making any direct reference to the whole. That is, the responsibility for unifying the facts into a representative whole Burgess transfers from himself to the child reader.

At the same time, Burgess' role becomes increasingly that of presenting the facts in such an order and relation that the child's natural inclination to construct such a unified whole--his desire to understand--will be enhanced and directed toward the desired conclusion. The overt moral becomes a suggestion, a pointer which the child tests with the events of the story which follows it. The moral thus amounts to a hypothesis which the child validates through the medium of the story. And it is this which led Burgess to make the emphatic declaration that "always there must be rigid adherence to truth and fact." For, as he continues, "it is because the child recognizes that the stories are true in all essentials that the lesson is at once taken home" (1922b, p. 139). That is, if the hypothesis (i.e., the moral lesson) is to be assimilated into the child's understanding of the world, it must have been tested by the child himself against verifiable data, must survive empirical test. These verifiable data are those presented by nature itself, not in the guise of a personified overseer. Thus, it is that real nature, presented accurately, replaces Old Mother Nature, presented figuratively.

By contradistinction, in the Mother West Wind series, Old Mother (or Dame) Nature presents both the fact and the conclusion: "Jimmy Skunk, as everybody knows, wears a striped suit," writes Burgess (1910, p. 36), proposing that it was not always so and that skunks

were originally entirely black. But, when Jimmy has stolen all of Mrs. Grouse's eggs and then denied the deed, Old Dame Nature steps onto the scene and, as Burgess continues, explains her reason for giving him stripes:

"Jimmy Skunk," said Old Dame Nature, "because your handsome black coat of which        are so proud has made it possible for you to move about        the night without being seen, and because we can no longer trust you upon your honor, henceforth you and your descendants shall wear a striped coat, which is the sign that you cannot be trusted. Your coat hereafter shall be black and white, so that when you move about in the night you will always be visible. (p. 36)

However true it may be that stripes are an identification mechanism for nocturnal skunks, in attributing their origin and significance to the authority of a fictional and personified Old Dame Nature, Burgess has diverted the child away from any factual basis for a moral lesson. The moral lesson thus presented, one about stealing and lying, is therefore founded on a fictional, an "enchanted" basis.

It is evident that Burgess intends to present such a moral lesson in this story, for Old Dame Nature progressively unravels the evidence, accounting for the nocturnal whereabouts of all the creatures of Green Meadow and Green Forest, at last presenting this evidence in a detailed corpus delicti to all assembled at the Great Pine. Old Dame Nature's resulting judgment, given previously, is clearly one against stealing and lying, in both of which crimes Jimmy has been caught and proven guilty. Authorship for this judgment rests entirely with Old Dame Nature, not with the child.

This manner of presentation characterizes all the early "explanatory" tales: A single fact is presented, and the remainder of the story is a fictional account of the origin and imagined reason for

the fact. Any moral lesson is given within this fictional frame.

In the later stories, however, it is the moral that is presented first to the reader; and the facts become the evidence which supports the moral. For example, in Little Joe Otter (Burgess, 1925, 1953), one of Little Joe's children is admonished by his father not to eat any dead fish because there are traps about the brook which are baited with them. The young otter loses a toe in the process of discovering--and evidencing to the child reader--the validity of the moral given at the beginning:

Youth too often scorns advice  
And in the end must pay the price. (1953, p. 152)

The missing element in this example, as in other of the later tales, is the explicit judgment and jurisdiction of Old Dame Nature. The judgment is the child's to make for himself. It is Burgess' recognition of the need to transfer this responsibility which results in the aforementioned shift from "explanatory tale" to "morality play."

Another distinctive element in the Mother West Wind series is the frequency of assemblies of all characters. In "How Sammy Jay Was Found Out" (Burgess, 1910), Old Mother West Wind herself convenes a meeting of all the creatures in order to discover who has stolen Happy Jack Squirrel's hidden nuts. Friend and foe alike gather at the foot of the Lone Pine for a midnight feast in "Why Reddy Fox Has No Friends" (Burgess, 1911). Such meetings invariably include all creatures from the Burgess cast of characters (except Farmer Brown's Boy), even archenemies. Thus, such meetings represent concretely to the child not only the totality of Mother Nature's realm, but its overall community.

These distinctive gatherings do not occur in either the Bedtime Story-Books or later tales. Here, instead, the cause and effect relationship of predation and evasion is kept strictly intact. In making the change of approach from fact-explanation to hypothesis-synthesis Burgess has recognized that his child reader perceives the incredibility of any peaceful meeting between fox and rabbit or heron and frog, and he has made the necessary adjustment in style. But the significance of this recognition reaches beyond this single adjustment, for it also entails for Burgess a recognition of the importance of judgment in the child's reaction to all aspects of the stories. Thus, if a shift from explanation to progressive revelation marks a significant shift of emphasis in method, the shift from an explicitly given, "enchanted" representation of the whole of nature to an implicit, unexpressed telos for factual synthesis represents a similar change in Burgess' conception of the child reader. The Mother West Wind stories represent nature to the child in a unified and concrete mythic form, whereas the later works represent nature in a theoretic and preliminary empirical-scientific form.

This discovery opens up an entirely new avenue for examination of Burgess' work, for it shifts the focus of analysis from the secondary issues of the validity of his "essential facts," the relativity of his morals, and the quality of his literary style to the more fundamental need of first examining the essential form of their presentation and its relation to his aims in writing.

Burgess in the Mythic Form---  
Old Mother West Wind

Cassirer has defined those elements necessary for the classification of a representation as mythic:

Myth . . . lives in a world of pure forms which it looks upon as thoroughly objective, indeed as objectivity pure and simple. But its relation to this world discloses no sign of that decisive "crisis" with which empirical and conceptual knowledge begin. . . . Here the nuances of significance and value which knowledge creates in its concept of the object, which enable it to distinguish different spheres of objects and to draw a line between the world of truth and the world of appearance, are utterly lacking. . . . Instead of the dialectical movement of thought, in which every given particular is linked with other particulars in a series and thus ultimately subordinated to a general law and process, we have here a mere subjection to the impression itself and its momentary "presence." (1955, p. 35)

Myth is thus, first of all, a world without the sense of a progression of cause and effect relations. It is, as Levi-Bruhl (1926) describes it, a "prelogical" world; and the mind which perceives it is a "prelogical" mind. Therefore, as Cassirer writes:

All the sanctity of mythical being goes back ultimately to the sanctity of the origin. It does not adhere immediately to the content of the given but to its coming into being, not to its qualities and properties but to its genesis in the past. . . . A conspicuous trait of nature, a striking characteristic of a thing or species, is held to be "explained" as soon as it is linked with a unique event in the past, which discloses its mythical generation. The mythical tales of all times and people are rich in concrete examples of this kind of explanation. (1955, p. 105)

These observations, coupled with Cassirer's recognition that these are universal principles of the development of consciousness--individual or cultural--open up the possibility of explaining Burgess' writings in terms of myth. Accordingly, Agosta notes of Burgess' Mother West Wind series:



Almost all of the stories posit an original golden age, as is clear in "How Howler the Wolf Got His Name," a tale from the Mother West Wind "How" Stories: "With Mr. Wolf, as with all the other animals, life was an easy matter at first. There was plenty to eat, and everybody was on good terms with everybody else. But there came a time, as you know, when food became scarce. It was then that the big learned to hunt the small, and fear was born into the world." (1983, p. 78)

Cassirer says of the mythic sense of time:

For myth time does not take the form of a mere relation, in which the factors of present, past, and future are persistently shifting and interchanging; here, on the contrary, a rigid barrier divides the empirical present from the mythical origin and gives to each its own inalienable "character." Thus it is understandable that the mythical consciousness . . . has sometimes been called a timeless consciousness. (1955, p. 106)

This parallels Burgess' statement that "all my familiar characters of the Green Forest, the Green Meadows, the Old Pasture and the Smiling Pool are of necessity ageless" (1960, p. 223). Thus, although in the "empirical present" skunks and chipmunks have stripes, it is in a timeless "mythical origin" that Burgess' explanation of their existence is found.

The possibility of this "ageless" presentation by Burgess lies in the fact that, as Cassirer says, "[mythic] consciousness is bound by its mere facticity; it possesses neither the impulsion nor the means to correct or criticize what is given here and now, to limit its objectivity by measuring it against something not given, something past or future" (1955, pp. 35-36). And thus, as he further notes, "anything can come from anything" (1955, p. 46), so that any explanation of the origin of stripes, characteristics, or animal habits is sufficient to the mythic mind.

This is not to say that the evident stripes of a skunk are not experienced in the same way as by the empirical-scientific mind,

but that the explanation of their origin, their meaning, need not be based on cause and effect relation. As Levi-Bruhl states it, "primitives see with eyes like ours, but they do not perceive with the same minds" (1926, p. 44). This is equally true of the child mind toward which Burgess directs his stories in the mythic form.

Levi-Bruhl's examination of the "primitive" or mythic mind concludes, in accord with Cassirer, that the key to understanding this difference lies in what he calls "the law of participation." Here not only can anything come from anything, but anything can actually be anything through "participation which is directly represented and actually felt," says Levi-Bruhl, adding that from this "it is an easy transition to the belief, which is so common in undeveloped races, in a relationship between men and animals" (1926, p. 93).

This form of consciousness therefore precedes any clear objectification of the self. Accordingly, the self can likewise actually be anything within the context of mythic unity. In fact, for Cassirer, the first objectifications of the mythic mind are as if "hybrids" of objectivity and subjectivity:

Subjectivity has as its correlate not some outward thing but rather a "thou" or "he," from which on the one hand it distinguishes itself, but with which on the other hand it groups itself. . . . In the earliest stages to which we can trace back this development we find the feeling of self immediately fused with a definite mythical-religious feeling of community. (1955, p. 175)

In its essence, the mythic consciousness, rather than merely sensing an objective and magical world of "pure forms" as somehow apart from itself, actually participates in that world as a part of itself. As these quasi-objective forms change, of necessity, with

experience, the very self of the mythic consciousness changes. In a word, the mythic mind is "plastic."

This is the "plastic" mind which Burgess addresses in his morally oriented tales of animal characteristics. It is for this reason that nature is presented as a totality and a community in these tales. It is only in community that the "plastic" consciousness of myth perceives itself as being. As Cassirer explains:

Only in and through this social organism does [the mythic mind] possess itself; every manifestation of its own personal existence and life is linked, as though by invisible magic ties, with the life of the totality around it. (1955, p. 175)

Moreover, at the same time as this "plastic" mind is progressively shaped by its experience, the life of the totality around it is also taking shape in what will become the objective form. Long before that "decisive crisis," as Cassirer calls it, there must first evolve a sense of the separateness of animal and human spheres. Cassirer explains this:

Only by a progressive concentration, only by a gradual narrowing of that universal life feeling in which myth originates, does it gradually arrive at the specifically human feeling of community. In the early stages of the mythical world view there is as yet no sharp boundary separating man from the totality of living things, from the world of animals and plants; particularly in totemism, the kinship between man and animal . . . is taken by no means in a figurative but in a strictly literal sense. In his actions and institutions, in his whole form and manner of life, man feels himself to be one with the animal. (1955, p. 179)

The progression of the sense of community thus moves first from that of a community of the whole, including animals, to a sense of the particular community that is human. It is from this that progressively and inexorably there dawns the conceptual distinction between "human" and "animal." Bound by the universal laws of the

form of consciousness, the mind gradually loses the sense of the community of all life only to seek a reunification, magically through "the law of participation." This is the fundamental principle of the phenomenon called totemism, and compulsion for unification is what drives it. This is the source of Burgess' premise that interest in animals is inherent and universal, one which Burgess terms "instinctive." As he says, "this interest has persisted . . . and probably always will persist" (1922b, p. 137). Animals, in their separate status as such, are now for the first time a separate, an objective, and therefore a fixed fact, but likewise, as Cassirer says, are "valid not insofar as they reproduce a given rigid being but insofar as they comprise a project for possible postulations of unity" (1957, p. 476). Viewed in this light, the Mother West Wind stories are to be classed as totemic postulations of the community of life.

"Where Little Chief Learned to Make Hay" (Burgess, 1918d) demonstrates these principles. Little Chief, a pika living in the mountainous west, is the subject of this story, which is told to Peter Rabbit by Old Man Coyote. Since Old Man Coyote is Burgess' principal emissary from the Far West, and since Burgess' principal exemplar of curiosity is Peter Rabbit, the fact that they are enemies is subordinated to the fact that Old Man Coyote knows all about pikas. Here is the principle that anything can participate in anything.

Of course, [said Old Man Coyote] Little Chief's father taught him how to make hay, and his father's father taught him, and so on way back to the days when the world was young and Old Mother Nature made the first Pika or Coney, whichever you please to call him, and set him free on a great mountain to prove whether he was worthy to

live or was so helpless that there was no place for him in the Great World. (p. 67)

Here is the mythic origin in a timeless past "when the world was young." In the remaining story, Little Chief learns to dry "hay" in the sun and thus to pass the knowhow on to his children and his children's children. Burgess' tool of employing the metaphor "hay" to describe the pika's habit of drying vegetation constitutes for his reader a "postulation" of the unity of life between pika and human. The pika is a totem for haymaking and its value in foresight and planning. The child reader thus not only learns a fact of animal life, but the community of life is reassured and a moral lesson is taught at a single stroke.

These totemic postulations of the unity of life are found throughout the explanatory tales of the Mother West Wind series: Animals possess traits or habits whose origin is in a timeless past. They are traits given in human terms, thus effecting the sense of community. They are traits which exemplify a human or moral code of behavior by which Burgess seeks to shape the "plastic" mind.

The principal function of the Mother West Wind stories is thus to guide the self of the child, to shape it in accord with nature, as it emerges in its own right as separate from nature, yet related to it. This inevitable emergence, which will be that "decisive crisis" which marks the beginning of reason and judgment in the child, marks the beginning of another phase in Burgess' presentation of nature to the child. No longer entirely mythic, this presentation also expects judgment on the part of the child. These stories are presented in the empirical-scientific form.

Burgess in the Empirical-Scientific  
Form--Later Works

If the principal objective of the explanatory tales is the shaping of the child's conception of self, the principal objective of the revelatory, or empirical-scientific, form of the later tales is that of shaping the child's conception of the objective world--the non-self. At some point in the development of the relation of subject and object, the object inevitably comes to be perceived as functioning on its own and by a separate causal principle. The "magic ties" which have heretofore linked it in community with the self are hereafter broken. To understand, to postulate a unity of cause and to verify it, now requires the mode of judgment. "In the beginning," writes Cassirer,

[man] nowhere distinguishes between the pure image plane and the causal plane; over and over again, he imputes to the sign not a representative function but a definite causal function, a character not of signification, but of efficacy. (1957, p. 112)

That is, for a long while the child participates in an absolute community with the animal world as presented by Burgess. As the child's ability to distinguish between separate causal agencies in the objective--as the self and the non-self emerge as separate--the compulsion for unification, the need to understand this separateness, must base itself not upon "magic ties" but upon a judgment about their causal unity. Here, the community of animal and human spheres must be proved. Community, to be achieved, must take the shape of a logical relation. Cassirer characterizes this new mode in this way:

Transcending objective time and experienced time, [the mind] must seize upon a permanent and stable content and posit it as identical with its self. Identifications of this kind--even if they do no more than establish and

postulate purely sensuous qualities--contain the germ and beginning of every form of concept formation. (1957, p. 115)

Thus, long before the actual recognition that the objective "other" is a representation, a collective artifact of experience, the child's mind perceives a certain objective necessity in the animal sphere. It is in his recognition that animals are of necessity different, that he is somehow causally separate from the animal, that the child at once distinguishes animal and human spheres and demands stable "proof" of their community. Here is the basis of Burgess' claim that children sense their inherent superiority to animals: Unable to understand the principles which determine the "fixed" nature of the objective, the child in recognizing his own creative freedom senses that he is "superior." Animals must "prove" their community with his.

At the same time, the demand for community, for unity in experience, compels the child to seek for such proof. Thus, his interest in animals is sustained. In light of the child's creative freedom, the field of this proof is entirely open. Burgess recognizes that the animal story is a "means for conveying information of all kinds," and that in this conveyance it is possible to offer moral guidance as well. Now in possession of the interpretive freedom inherent in imagination, the child himself assumes Burgess' role as synthesizer of facts. Eager for proof, his mind "seizes upon" the facts and, under Burgess' guidance, attempts to discover a logical relation for them--to establish their community.

The quest for proof in this form requires a starting point. Burgess offers this in the form of a moral hypothesis which, in virtue of its human relevance, the child seeks to prove in the animal.

sphere. Burgess then provides examples "from the lower orders" which are analogical to human life, thus fostering the child's discovery of the community of nature in logical--in empirical- scientific--terms. It is thus that unity is restored in experience, "imagination becomes a setting for the truth," and the child's approach to the objective realm takes shape in the form of scientific inquiry. While this is accomplished, Burgess has likewise fostered the acceptance of the moral hypothesis.

It is therefore evident that the issue of reconciling factual animal nature and moral instruction is, for Burgess, subordinate to the establishment of the fundamental form of reconciliation itself. This is the form of science per se. As Bronowski (1956) says, "Science is the search for unity in hidden likenesses. . . . The scientist looks for order in the appearances of nature by exploring such likenesses . . . finds order and meaning in our experience" (p. 23). Science seeks to reconcile experience into a consistent whole.

Before this is possible, the child must have firmly established a relation with the objective, that is, must have established the subject-object relationship itself, by and through which science does anything whatever. Only then can he establish the essential form of scientific inquiry: hypothesis, verification, interpretation, and synthesis.

It is these tasks, not merely the delivery of moral lessons, the establishment of factual knowledge, or the exposition of a proper linguistic style, which are Burgess' principal objectives in writing. He is teaching neither facts nor morals, but children.



From this assessment, it is now possible to make a definitive examination of Burgess' writing from the standpoint of education.

What Burgess Means by  
"Essential Facts"

The elements in Burgess' stories which he terms "facts" are those elements which Burgess knows the child will encounter outside the context of the stories. These elements must therefore be consistent with that experience. They must be reported accurately if the content of the stories is to be retained and accepted as true.

Every story involving such facts must be internally consistent. That is, the fact must form some link with the story so that it becomes, as it were, an "index" to the story and its meaning. This internal relation may be a mythic relation, based entirely on imagination--as, for example, that Old Mr. Toad eats his skin in order to present himself well-clad to Old Mother Nature. Fact and imagination must form a coherent whole. As Burgess says, "dry facts make no impression."

Facts are, for Burgess, the determined portion of his stories. They acknowledge human conceptual conventions which Burgess recognizes will form the foundation of the child's concept world. Accordingly, Burgess does not tamper with their facticity, with their determinate status as conceptual conventions.

In this way, Burgess employs facts as veridical referents to all past and future experiences the child may have. These referents carry the inferential meaning given them in the context of the stories he presents, but link this meaning to other experience. Facts thus become the structural pivots for the child's future concept formation.

The relative proportion of facticity and creative imagination in the construction of the stories is a function of Burgess' conception of the level of expression of the child's subject-object development. Where the child reader has not yet conceptually defined his "self," Burgess addresses him in mythic form, and the basis in fact is a single index. These are the Mother West Wind, or "explanatory" tales. The predominant plot elements in these stories are those of the imagined meaning of the fact. That is, the interpretation of the fact is predominantly fictional. Here, Burgess' interpretive freedom is greatest, and hence the facticity of the story is least.

In later works, as previously described, the basis in facticity is enlarged proportionately as the child's subject-object development has increased. Burgess' interpretive freedom is least, and is in fact shared in measure with the reader by suggestion.

The purpose of facts in Burgess' stories is to provide a veridical foundation for the child's future learning. As the child's growth evidences an increased need for veridicality, Burgess responds with an increase in this factual base.

#### The Role of Creativity in Burgess' Stories

Burgess conceives nature as a unified whole. He likewise recognizes that any representation of nature, mythic or scientific, aims at representation of this wholeness. The function of creativity in Burgess' stories is to effect this representation through a unification of the determinate factual base. In the case of mythic representation, this creative aspect, beyond the single foundational fact, is absolute. It takes the form of Burgess' imagination, the

guiding principle of which is interpretation. Although Burgess freely involves moral teaching in his interpretation, the fundamental purpose of the process is, as Cassirer describes the role of myth, to "accompany and mediate and condition" the development of the concept of self within the child's sphere of experience (1955, p. 176).

This is the source of Burgess' authority for moral teaching, for while the mode of creative imagination cultures the child's development of self-concept, this modality must have a content. The content Burgess creatively chooses is that of moral instruction. Although his principal aim is a singular one, his secondary aims are numerous. These secondary aims are based in the strictly human sphere of interpretation, and thus presage the child's own creative imagination, to be employed once the subject-object "crisis" has occurred. This is what Burgess means when he says that the child's mind is "plastic," for it is to be formed both in terms of its subjective sphere (as creative) and in its objective sphere (as created). Burgess' creative interpretations seek at once to culture both spheres, the former by example, and the latter by "accompanying, mediating and conditioning" its content. Because the subject-object distinction is, in the mythic stage of development, not yet absolute, this is accomplished at a single stroke.

#### The Free and the Determined in Burgess' Stories

The answer to the question of what is free and what is determined in Burgess' interpretation of nature rests upon the relation of facticity and creativity. As Cassirer has pointed out:

There is no such thing as sheer facticity, as an external and immutable datum: on the contrary, what we call a fact

must always be theoretically oriented in some way, must be seen in reference to a definite conceptual system, which implicitly determines it. (1957, p. 409)

Seen from this perspective, the answer to the question is that all is free. Theoretically speaking, this is an epistemological question of long-standing dispute. But for Burgess, the answer is a practical one. Some facts, however interpretive may be their ultimate origins, are sufficiently rooted in convention as to be incontrovertible. It is these which Burgess takes to be determined in and by nature. These are the "hard facts" of his description. They form the objective foundation of his work.

There are two areas of his work which remain free in the sense that interpretation is open to absolute creative imagination. These two areas are Burgess' own mind in the production of his writings, and the child's mind in its response to those writings. That is, the only determinate point of necessity shared by Burgess and the child is the field of "hard facts."

Burgess' response to this interpretive freedom is to select moral teaching as the mode of his interpretation, and to structure the relation of the facts so as to give evidence of the truth of the moral teaching. In this way, he is not only creating the story, but he is also creating the child's image-world on a morally sound base. This defines Burgess' conception of the role of a teacher. He not only interprets the subject, but he creates a relationship of that subject with and in the child. Both of these processes are "free," and assume a status as "determined" only insofar as they are actualized in objectivity, that is, as the story becomes written and the child's ideas become "fixed."

Burgess As Teacher

The role of teacher is therefore, for Burgess, primarily a creative role. More than a mere presenter of facts, Burgess is a guide to understanding the meaning of facts. In the earliest phase, the meaning of facts for the child is purely that they represent objectivity. At this stage, the sole purpose of teaching is to cultivate the development of the subject-object relationship in such a way that the greatest potential for future acquisition and interpretation of facts is sustained. In confirming the "hard facts" of this development, Burgess assures that future interpretation will not require the rectification of error. Through a presentation of such facts in a mythic frame, the creative potential of the child is reassured that unification (and eventually understanding) is possible and the natural reward of interest.

As the subject-object relationship becomes increasingly determined in the child, the role of the teacher shifts to one of fostering judgment. Interest takes the form of belief that judgment will provide a meaningful synthesis of facts, that facts are of value in such a synthesis. In this phase, Burgess shifts his emphasis to that of suggesting potential forms of relationship of the facts presented.

If teaching in the mythic phase of development has been proper, the potential for a logical relation of facts in the objective will already have been shaped into the very form of the child's concept of the objective sphere. If teaching in the second phase (the empirical-scientific phase of Burgess) has been proper, the process of creatively questioning the facts (hypothesizing) will be a part of the shape of child mind in all future learning.

Burgess' principal role as teacher is to provide the child with a maximal ability to continue learning for himself and with the tools for doing so.

The Relationship of Potentiality,  
Creativity, and Facts

Potentiality characterizes the essential form of the child's mind in its indeterminate beginnings. In contradistinction, facts are such by virtue of their absolute determinacy. Creativity is the determining link between these polar elements. Its mode is that of imagination.

Burgess' role as teacher is to introduce his child reader to facts which he is confident the child will be able elsewhere to encounter, and also to guide the child in creatively determining his own relation to the facts. In this process, the fact must remain determinate; and in its progression from potentiality to determinate status, the child's mind increasingly must assume authorship of creativity in determining this relationship.

In its earliest phase, Burgess' guidance takes the form of pure demonstration. Here are the Mother West Wind, or "explanatory" tales, which link the determinate fact to the indeterminate child mind through Burgess' own imagination. The child's interest is a function of his mind's natural demand for community with the animal subject of the story. It is, as Burgess says, "inherent."

With the determinate status of the fact of objectivity, creativity must assume the dual role of imagination and judgment, for the mind's relation to the objective fact is now a matter of logical relation--of proof. Two elements of relation now figure into the process: those of pure facticity (logical necessity) and those of the child's

own interpretation (hypothetic necessity). Burgess presents the possibility for both of these in the plot-lines of his stories. In the case of logical necessity, Burgess is careful to present only particular elements for synthesis and thus guides the child reader to a desired conclusion. In the case of hypothetical necessity, Burgess' guidance takes the form of suggestion.

In both cases, the child's interest remains a function of his demand for community (now synthetic unity); but it is now founded on the belief that facts given and their relations (logical or hypothetical) are a necessary part of the structure of that community. Interest has thus progressed from the stage of pure imagination to one of rational demand for proof. Proof is derived by analysis (confirmed logical necessity) and synthesis (confirmed hypothetical necessity).

When Burgess terms imagination "but a setting for the truth" (1922b, p. 139), it is with the recognition that "truth" is any internally consistent representative whole which is based on natural fact. This, then, is the source of his demand for "strict adherence to the truth" in biological terms. For whereas Burgess' interpretation of facts in mythic form is by demonstration, based on imagination, the child's own interpretation must progressively be based on conventional logical grounds--that is, on scientific truth--as he takes command of his own responsibility for structuring his "image-world." Thus, long after the "red-and-white whale" of youthful interpretation is sublated to the factual whale of biological truth, the same fundamental facts will unite these views in a structural whole. It is in this continuing reference, throughout life, to the singular facts as first presented, and in their status as indices to the moral teachings

with which they have been so intimately associated, that these facts at once retain their facticity and their human meaning. It is in the breadth of the ground between this "enchanted" original vision and the factual truth of the repeatedly verified biological datum that creative vision is sustained in the adult life. As Burgess says, "Vision is but imagination governed by logic" (1924b, p. 49). Thus, the early "enchanted" presentation, rather than endangering a later discovery of the truth, is actually the means for assuring future scientific creativity. As facts are assimilated into the child's "image-world," a maximum of continued creative imagination is assured at the expense of a minimum of potentiality. Without endangering the facticity of facts, Burgess is a teacher of scientific vision.

#### The Relationship of Symbolization, Interest, and Imagination

Interest occurs only in the absence of a unified representation of experience. It is the spur to imagination. Imagination is a non-veridical unification of experience in representation. In strictest terms, imagination is the construction, in the absence of logical necessity, of a unified image which represents experience and gives it potential meaning. The result is a symbol of experience, and the process by which imagination produces the symbol is termed symbolization.

In Burgess' writing, symbolization takes two forms: the mythic, based entirely on imagination; and the empirical-scientific, based on both imagination and judgment. In the case of mythic symbolization, the unified representation is a fiction whose veridicality is not a matter of concern. In the case of empirical-scientific symbolization,



the unified representation is a product of logical synthesis. In this second case, imagination takes the form of hypothesis. Judgment reconciles hypothesis and fact in a veridical unification, that is, a veridical symbol. Empirical-scientific symbolization is neither possible nor necessary until the mind has developed the conceptual distinction of subject and object.

#### Symbolization and Understanding.

Understanding is a function only of logical relation. Strictly speaking, the mythic mind does not "understand," for understanding bears the distinctive mark of logical necessity; and the mythic mind makes no distinctions that may in the strictest sense be termed logical. The symbolization which pertains directly to understanding is empirical-scientific symbolization. Understanding is the result of a recognition of logical necessity.

In the mythic frame, the function of symbolization is to "accompany, mediate, and condition" the content of experience in such a way that the subject-object distinction emerges with the greatest possible potentiality for future symbolization to be productive of understanding. This can occur when the emergent objective realm is conceptually structured in a way which already bears the essential forms of logical relation, and when the subjective realm retains the greatest possible potentiality for imagination.

Burgess addresses both these ends. Structured within his explanatory tales is the essential form of logical necessity:

When they had all gathered around the Great Pine, Old Mother West Wind pointed to the old nest way up in the top of it. "Is that your nest?" she asked Blacky the Crow.

"It was, but I gave it to my cousin, Sammy Jay," said Blacky the Crow.

"Is that your nest, and may I have a stick out of it?" asked Old Mother West Wind of Sammy Jay.

"It is," said Sammy Jay, with his politest bow, "and you are welcome to a stick out of it." To himself he thought, "She will only take one from the top and that won't matter."

Old Mother West Wind suddenly puffed out her cheeks and blew so hard that she blew a big stick right out of the bottom of the old nest. Down it fell bumpity-bump on the branches of the Great Pine. After it fell--what do you think? Why, hickory nuts and chestnuts and acorns and hazelnuts, such a lot of them!

"Why, Why-e-e!" cried Happy Jack. "There are all my stolen nuts." (Burgess, 1910, chap. 10)

In the empirical-scientific frame, the function of symbolization is to imagine a case of hypothetical necessity (create a hypothesis) which, when tested against experience, proves to be a case of logical necessity and thus produces increased understanding. The essential form of this process is already embodied in the example previously given, the principal distinction being that here Old Mother West Wind is the exemplar of the process for the mythic mind of the child reader. Once this child reader has taken responsibility for authorship of his own learning--his mind having emerged from the "crisis" of the subject-object distinction--the essential form of logical proof will, through such examples, already be structured into the objective framework of his mind. He will already possess the tools for understanding.

#### Summary

The specific characteristic which distinguishes human consciousness is that of symbolic representation of experience. The aim of all symbolic forms is a unified representation of experience. The mythic form achieves unified representation through imagination, without need

of logical relation. The empirical-scientific form, on the other hand, aims at unified representation through the combined steps of imagination (hypothesis) and judgment (synthesis). Development of the empirical-scientific form must progress through a preliminary mythic phase, and the emergence of the subject-object distinction--in both individual mind and cultural history--marks the beginning of empirical-scientific representation. The essential form of empirical-scientific knowledge is "mediated and conditioned" by the essential form of the mythic representations which precede it.

From the comparative analysis of Burgess on these grounds, the following epistemological premises emerge:

1. In the education of a pre-logical mind, it is necessary that representations be mythic (i.e., unified) in order that maximum future creative potential be ensured.
2. In the education of a pre-logical mind, it is necessary that mythic representations be logically coherent in order that maximum potential for future scientific understanding be assured.
3. As learning progresses, both objective determinacy and responsibility for judgment increase respectively in the learner.
4. Objective content of representations need be factual only in proportion with the learner's empirical-scientific development, but the essential form of empirical-scientific thought must be consistent throughout development.
5. Content must form an unbroken link between what is familiar to the learner and what it is desired that he acquire in the way of determinate knowledge if interest is to be sustained.

## CHAPTER V

### Discussion and Conclusion

Suppose that someone wished to give his whole life to science. Suppose that he therefore sat down, pencil in hand, and for the next twenty, thirty, forty years recorded in notebook after notebook everything that he could observe. He may be supposed to leave out nothing: today's humidity, the racing results, the level of cosmic radiation and the stock market prices and the look of Mars, all would be there. He would have compiled the most careful record of nature that has ever been made; and, dying in the calm certainty of a life well spent, he would of course leave his notebooks to the Royal Society. Would the Royal Society thank him for the treasure of a lifetime of observation? It would not. It would refuse to open his notebooks at all, because it would know without looking that they contain only a jumble of disorderly and meaningless items. (Bronowski, 1956, pp. 24-25)

In giving this example, Bronowski is making the point that science cannot be considered a mere aggregate of factual data. As he says, "Science finds order and meaning in our experience" (1956, p. 25).

That this is essentially a creative process, he leaves little doubt:

There is a likeness between the creative acts of the mind in art and in science . . . you cannot have a man handle paints or language or the symbolic concepts of physics, you cannot even have him stain a microscope slide, without instantly waking in him a pleasure in the very language, a sense of exploring his own activity. This sense lies at the heart of creation. (1956, pp. 14, 16-17)

What is the essential form of this creative process? Bronowski concludes:

All science is the search for unity in hidden likenesses. . . . The scientist looks for order in the appearance of nature by exploring such likenesses. For order does not display itself of itself; if it can be said to be there

at all, it is not there for the mere looking. There is no way of pointing a finger or a camera at it; order must be discovered and, in a deep sense, it must be created. (1956, pp. 23, 24)

This creative demand for unity is to be found at the root of every scientific endeavor, from the quest for a unified field theory in physics, to the Newtonian hope of explaining what links the falling apple and the orbiting moon, to the biological search for the reason that the larvae of Edward's Hairstreak prefer to live with ants. For educators, the principal question, however, is neither whether nor why this is so, but how the process may be cultivated in the growing child: What are the principles by which one cultivates the productive growth of this creative quest in the mind of the child?

Like Bronowski, Burgess rules out facts as the motivator. "Dry facts make no impression," writes Burgess (1922c, p. 139). It is not in the facts themselves that interest is sustained and meaning found, but in their creative relation to what is already known. Meaning resides not in the data of science, but in their relationships. That apples fall and that the moon orbits the earth have no meaning in themselves, as mere data of experience. It was in the possibility of their causal relationship that interest lay for Newton. It was Newton's discovery of the law which links these processes, in which he determined between them a conception of causal unity, that produced the scientific meaning of these data. Science is a quest for meaning.

The young child also lives out a quest for meaning. As Burgess notes, the child's meanings are at first "enchanted" and run through with magic. Yet the child is already a potential scientist, asking

"why?" at every turn. Like Newton, the child must define answers to his "whys" in terms of his own familiar world. Dry facts make no impression. Like Newton, the child has imagination. Add one fact, reasons Burgess, stimulate this imagination to seek an answer to "why" this fact is so, lay out an "empirical" path toward discovery of an answer--in terms familiar to the child--, and the essential form of science is born.

There is no difference, in terms of essential form, between this process and that recounted of Newton by Bronowski:

In this eager, boyish mood, sitting one day in the garden of his widowed mother, he saw an apple fall. . . . What struck the young Newton at the sight was not the thought that the apple must be drawn to the earth by gravity; that conception was older than Newton. What struck him was the conjecture that the same force of gravity, which reaches to the top of the tree, might go on reaching out beyond the earth and its air, endlessly into space. Gravity might reach the moon: this was Newton's new thought; and it might be gravity which holds the moon in her orbit. There and then he calculated what force from the earth would hold the moon, and compared it with the known force of gravity at tree height. The forces agreed. (1956, p. 26)

Replace Newton with Old Mother West Wind, the question of what holds the moon in her orbit with that of who stole Happy Jack's cache of nuts, and the conjecture that it is the force of gravity with that of the presence of those nuts in the old nest; add a little calculation (remove a stick from the bottom of the nest); and "Why, why-e-e! There are all my stolen nuts!"

Einstein has said that "the whole of science is nothing more than a refinement of every day thinking" (1950, p. 59). From this it follows that science education is the guidance of that refinement--beginning with "every day thinking." The "every day thinking" of a child has little to do with the subject matter of mature science--with

concepts like "species," "atom," and "gravity." In its earliest stages, this "every day thinking" is mythic in form, as Cassirer has demonstrated. Even here, Burgess recognizes, the essential form of scientific thought may be laid down as a foundation, indeed without even the conscious knowledge of the child. Progressively the child may be led to assume responsibility for applying this form of thought, but always in terms of his own interest and imagination. "Nature presents an interest which is inherent," notes Burgess. "It remains but to capitalize [sic] this by presenting that which it is desired to impart in such form that the imagination becomes but a setting for the truth" (1922b, p. 139).

"Science," writes Einstein, "is the century-old endeavor to bring together by means of systematic thought the perceptible phenomena of this world into as thoroughgoing an association as possible. To put it boldly, it is the attempt at the posterior reconstruction of existence by the process of conceptualization" (1954, p. 44). The result of this process is ever in flux, and, as Bronowski asserts, "it admits no sharp boundary between knowledge and use" (1956, p. 15). "What a scientist does," Bronowski continues, "is compounded of two interests: the interest of his time and his own interest" (1956, p. 16).

Is it fair to expect the child to subordinate his own interest to the interest of his time in history? The answer to this question is at the foundation of the philosophy of science education. The answer will reveal whether the child's culture, through its education system, conceives the role of science to be that of fulfilling the child's own native interest in the world, or that of fulfilling the

interests of the culture. It will likewise reveal whether the culture conceives science to be an independent quest for truth or an expedient to some end. In a word, it will reveal the degree to which the culture conceives the chili to be free.

The history of science displays immense shifts in the conception of reality--the "Copernican revolution," the advent of atomic and relativity theories, for example. Science begins with Thales' hypothesis in the sixth century B.C. that δὲ τῶν πάντων ὕδωρ ὑπεστήσατο<sup>6</sup> (of all things water is the substance), and reaches a culmination in Einstein's unifying conception of the relation of matter and energy:  $E = mc^2$ . However mythic the form of Thales' hypothesis may be, in intention it is scientific, for as Allen notes:

Thales' question, understood through its answer, assumes that at least two things are true: that all things have a source, and that the source of all things is one thing. The universe is bound to a single principle, the primordial water, by a single relation, that of derivation. Nature is one whole, with unchanging ways of its own, to be accounted for in terms of a unitary principle of explanation. Thales appears to have been the first man in history to suggest that there is an order in nature which the mind can comprehend. (1966, p. 2)

Through numerous shifts these products of creative quest have passed--from the "red-and-white whale" of Thales' ὕδωρ to the "fleshed out" Sibbaldus musculus of Einstein's universe. The key to these shifts has been the interplay of creative freedom and logical necessity. Thus has the single λόγος of Heraclitus been increasingly defined and determined in what science terms natural law.

Cassirer's philosophy of symbolic forms demonstrates that this progression is, in terms of form, recapitulated in the individual. In the beginning, the mind is "plastic," its representations mythic. In its progress, the mind increases the determinacy of its



representations through the interplay of hypothesis and judgment. A new dimension is added in the case of the modern individual, for there exist, as never for Thales, the determinate products of science. Education is faced with the question: Is science education the transfer of these determinate products (i.e., facts) or the progressive culturing of creative freedom in scientific form?

Burgess' answer to this question is that it is both. His children's nature stories are his practical contribution to education of both sorts, at the foundation. The degree to which they are in accord with the determinate facts of biological science and with Cassirer's conception of the development of empirical-scientific form is an indication of Burgess' depth of insight not only into the child mind but into the essential form of the process of science itself.

Burgess' animal stories reveal more than this, however, for they also give evidence that there is a progression of the degree of importance of determinate facts in science education. Subordinate to the essential form of science itself, facts in the beginning are merely indices to moral lessons given in mythic form. Later they are axial points in a systematic proof of moral principles. Finally they will be the starting points, as they were for Newton, of the processes of hypothesis and judgment through which the body of mature scientific knowledge grows. Burgess has recognized that the foundation of science education is the essential form of science itself, not merely its inventory of conceptual products. Moreover, he has recognized that the content of this form of science must, for the child as for the scientist, belong to what is already familiar to him. Hence the accent on primary human values, human moral lessons, the fundamental

content of the child's life, and the substance of his "every day thinking."

#### Application of Findings

There are three areas in which these findings are of importance: (a) the analysis of children's nature literature, (b) the creation of nature literature for children, and (c) the development of curriculum in preliminary science education for preschool and elementary grades. From the five epistemological premises derived in chapter 4, the following five principles of application are construed.

Beginning nature literature and science curriculum for children should concretely represent nature as a unified whole. Burgess accomplishes this in his early stories in the concrete personification of Old Mother Nature, whose frequently assembled dominion includes "all the creatures of the Green Meadows, Green Forest, Old Pasture and Smiling Pool." The function of such representation is that it "conditions and mediates" future creative inquiry as a search for unified meaning. As Cassirer has observed, "facts are valid not insofar as they reproduce a given rigid being, but insofar as they comprise a project for possible postulations of unity" (1957, p. 476). This accords with Einstein's description of the aim of mature science:

The aim of science is, on the one hand, a comprehension as complete as possible, of the connection between the sense experiences in their totality, and, on the other hand, the accomplishment of this aim by the use of a minimum of primary concepts and relations. (Seeking, as far as possible, logical unity in the world picture, i.e., paucity in logical elements.) (1950, p. 63)

The objective of the earliest stages of science education is to firmly establish this idea of unity at which science aims and without which science would neither be coherent nor possible.

Beginning nature literature and science curriculum should link this unified representation to the child's "image-world" in terms already familiar to the child. This unified whole must be defined in terms familiar to the child's own life, and its essential form must therefore be that of myth. If Einstein's formula,  $E = mc^2$ , is taken to be a near approximation to the unified representation of nature in mature scientific terms, then Old Mother Nature is Burgess' personification of the conceptual unity inherent in the genesis of that formulation. It is a personification precisely because it must be in order to have meaning for the child. Its meaning is unity nonetheless, its concreteness merely a necessary function of the mythic nature of the child's mind.

Early nature literature and science curriculum should represent to the child a body of logical relations within the unified whole. While a unified concrete representation sustains the creative potential of the child, internal logical consistency in the relation of elements within the whole assures future precision in judgment. Burgess accomplishes this through the plots and story lines in his tales. Logical elements at this stage need not be those of mature science, but they must be internally consistent within the whole, representing accurately the essential form of proof. The fundamental model of logical coherence within the whole is that of justice. Within his ἄπειρον, Anaximander notes that ταῦτα . . . δίδονται γὰρ αὐτὰ δίκην καὶ τίσειν ἀλλήλους τῆς ἀδικίας κατὰ τὴν τοῦ χρόνου τάξιν<sup>7</sup> (Things bestow justice and compensation upon one another for injustice, according to the arrangement of time).

As in the world of Anaximander, in the natural realm of Burgess' tales concrete proof takes the form of justice:

If Peter Rabbit does something wrong, [children] want him to be punished. And when that happens, they think they understand the lesson even better than Peter does.  
(Levine, 1967, p. 103)

Logical elements within Burgess' stories are his means of cultivating in the child the belief that a character has been justly treated, that retribution has occurred. Justice is logical balance for the child, as it was for Anaximander. Within the whole of a story, justice represents and anticipates a logical balance and order within nature, one and the same order for which Bronowski notes that science is searching.

Nature literature and science curriculum for children should progressively transfer responsibility for determining these logical relations to the child. Once the idea of a unified whole of nature has been firmly adopted by the child, and logical coherence has been determined to be the necessary form of unification, the next step in science education is to transfer responsibility for judgment to the learner himself. This process, in Burgess' writings, is achieved through suggestion and systematic revelation. Here, Burgess is emphatic that the essential elements of synthesis must be factually correct. Not only must the responsibility for judgment now be the child's, but also the subject matter judged must now be the actual material of nature. There remains at this phase the need for derived meanings to be forged in terms of the child's own familiar world. The hypotheses furnished are therefore moral hypotheses which treat issues familiar to the child's "every day thinking."

It is at this level of development that most of Burgess' writings are aimed, although in The Burgess Bird Book for Children (Burgess, 1919c); The Burgess Animal Book for Children (Burgess, 1920b); The Burgess Flower Book for Children (Burgess, 1923a); and some later works, he stepped beyond this level to generate hypotheses of a purely scientific nature.

Nature literature and science curriculum for children should eventually lead the child to form his own creative hypotheses about relations within the whole of nature. In this final phase, responsibility not only for judgments but also for creation of his own hypotheses should be transferred to the child. Once this has been accomplished, the child will be in possession of all the essential abilities necessary to perform independent scientific thinking. He will be able, in response to his own questions, to create hypothetical answers aimed at unification, to logically judge the validity of his experiences within that framework, and to adjust his determinate knowledge on the basis of his conclusions. His "every day thinking" will have been refined to the essential form of mature science.

#### Need for Further Study

The present investigation has been merely exploratory, and while the premises derived are consistent with Cassirer's philosophy and reveal Burgess' application of the principles of symbolic form, much work remains to be done if these premises are to be refined to the point of a thorough understanding. Three areas in particular remain to be examined:

1. Are there measurable behaviors which will indicate a child's level of development along the lines defined above, and if so, what

are they? Burgess' presentation of nature was largely without feedback, and the result of a systematic examination of its long-term effect in development of scientific literacy would be a valuable contribution to education research. Testimony of a number of nature writers who read Burgess as children (Pettingill, 1983; Ross, in Burgess, 1968; Spies, 1966) indicates that he was a strong force in their development as naturalists.

2. What other patterns of logical construction are definable within the "representative wholes" which Burgess has created? Justice and its resulting balance is the most readily apparent recurring motif within the framework of Burgess plots. There are others, however. In numerous of the later works there is the motif of mystery, search, and solution--for example, the search in The Adventures of Jerry Muskrat (Burgess, 1914c) for the reason the Smiling Pool is drying up, or the question in Blacky the Crow (Burgess, 1922a) of why there are eggs in a hawk's nest in winter. This motif may suggest the beginnings of Burgess' cultivation of the skill of hypothesis in his child reader. A thorough analysis of such recurring internal motifs would be of considerable value in further defining Burgess' method.

3. What other children's nature literature accords with this method of science instruction? For example, are Kipling's (1978) Just So Stories to be classed as "explanatory tales" in the same sense as Burgess' Mother West Wind stories? Certainly they offer explanations of natural data, but do they do so in a way that is productive of future scientific thinking, or are they merely entertainment? A comparative analysis of Burgess and other writers of animal

and nature stories, or other analyses comparing them with Cassirer's principles, would be of value in further defining the role of children's nature literature in the development of scientific literacy.

### Conclusion

Without recognizing the symbolic form of his works, past critical descriptions of Burgess have reduced him to a writer for children whose nature stories are "charming," whose animal characters admittedly adhere to natural habit, but whose purpose in introducing them to the child is little more than to advocate the protection of wildlife from the "terrible guns." Certainly this was one of Burgess' aims, but bringing Cassirer's philosophy of symbolic forms to an investigation of Burgess reveals other and deeper aims. Indeed, through this approach there emerge two Burgesses: one the naturalist whom many have recognized, and the other a teacher whose insight few have understood. It is Burgess the naturalist who recognizes a universal interest in animals and birds, but it is Burgess the teacher who recognizes that because of this interest "nature study is unequalled as a vehicle for conveying information of all kinds."

The philosophy of symbolic forms reunites these Burgesses, revealing the fundamental unity of vision which pervades all his stories and which gives rise to their hidden potency. The principles of symbolic form reveal that it is not merely the obvious facts and events in Burgess' stories which "convey information" to the child, but their synthetic and symbolic unity--the synthesizing of which the child is given to share and the effect of which the child will carry long after the particular facts and events have been forgotten. This central concept of symbolic form determines the ground which

Burgess, nature, and the child share and which in a deep sense they create together.



FOOTNOTES

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<sup>1</sup>Dowhan (1977) lists 82 article titles with dates before 1910, and annually adds to this list as other titles are discovered. During this period Burgess served on the staff of Peoples Home Journal and wrote for several other magazines. See Burgess (1960, pp. 70-96) for further explanation.

<sup>2</sup>For original Greek text, see Diels (1954, p. 173). Parenthetic translation is the present author's.

<sup>3</sup>For original Greek text, see Diels (1954, p. 161). Parenthetic translation is the present author's.

<sup>4</sup>For original Greek text, see Diels (1954, p. 89). Parenthetic translation is the present author's.

<sup>5</sup>In the two passages which follow in the main text, Levi-Strauss' original French is preserved for the sake of accuracy. The following translations, rendered by the present author, are here given in the same order as they appear in the text.

Now, this demand for order is at the base of the thought we call primitive, but only inasmuch as it is at the base of all thought: for it is from the angle of common properties that we can accede more easily to forms of thought which seem very strange to us. (1962, p. 17)

Magic thought is not a rudimentary beginning, a rough sketch, or a yet unrealized part of a whole; it forms a well articulated system; independent, in this respect, from that other system which constitutes science, except for the formal analogy which reconciles them and makes the first a sort of metaphoric expression of the second. Therefore, instead of contrasting magic and science, it is preferable to put them in parallel, as two modes of knowing, unequal with regard to theoretical and practical results (for, from this point, it is true that science succeeds better than magic, although magic anticipates (preforme) science in that it also sometimes succeeds), but not unequal in the sort of mental operations that they suppose, and which differ less in nature than in the function of the types of phenomena to which they apply themselves. (1962, p. 21)

<sup>6</sup>See Diogenes Laertius (1980, p. 26) for original Greek text. Parenthetic translation is the present author's.

<sup>7</sup>For original Greek text, see Diels (1954, p. 89). Parenthetic translation is the present author's.

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