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A STUDY OF THE USE OF NATURE
IN THE RELIGIOUS EDUCATION OF CHILDREN

by

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INTRODUCTION

INTRODUCTION

A. Statement of the Problem and Its Importance

Nature is mysterious, incomprehensible, yet common and simple. Nature's ways have been sung by poet and discussed by philosopher; her beauties have been painted by artists; her harmonies have been transcribed into song by musicians; her patterns have been copied by designers. In her moods of peace, joy, gaiety, and terror, nature has always called forth a response from the human heart. In her immensities, manifoldness, pervading order, interrelations, persistence, change, adaptation, progress, and beauty, sages and saints have marvelled and worshipped.¹ In nature is that which makes us sing, for nature is full of joy. There is that which gives peace, for nature's ways are calm and resting. There is that which lifts in exaltation, for the majesty and glory of nature can pierce the heart. There is that which imparts knowledge, for nature teaches by her prevailing presence. There is that which brings terror, for nature is cruel and relentless. There is that which inspires worship, for in nature are combined all those elements of quietness, beauty, and mystery, which make

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1. Cf. Thomson, J. Arthur: The Bible of Nature, pp. 9-21

the worshiper look beyond into a higher realm.

God is in nature, "For the invisible things of him since the creation of the world are clearly seen, being perceived through the things that are made, even his everlasting power and divinity..."¹ The Hebrew singers recount the glory of the God of creation:

"The heavens declare the glory of God;
And the firmament showeth his handiwork."²

"Behold, God is great, and we know him not;
The number of his years is unsearchable.
For he draweth up the drops of water,
Which distil in rain from his vapor,
Which the skies pour down
And drop upon man abundantly."³

J. Arthur Thomson quotes Kant:

"Everywhere around us we observe a chain of causes and effects, of means and ends, of death and birth; and as nothing has entered of itself into the condition in which we find it, we are constantly referred to some other thing, which itself suggests the same inquiry regarding its cause, and thus the universe must sink into the abyss of nothingness, unless we admit that, besides this infinite chain of contingencies, there exists something that is primal and self-subsistent, something which as the cause of this phenomenal world secures its continuance and preservation."⁴

Men have loved nature, learned of her, and have stood in her temples and worshipped. To whom does nature have a message? Only for the philosopher, the scientist, the poet, the artist? Does she speak to the common man

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1. Romans 1:20
2. Psalms 19:1
3. Job 36:26-28
4. Thomson: op. cit., pp. 46-47

or woman? Does she speak to the child? Byron writes of the experiences of many who have never studied philosophy, who have never painted a picture, written a poem, or composed a song:

"There is a pleasure in the pathless woods,
There is a rapture in the lonely shore,
There is a society where none intrudes,
By the deep Sea, and music in its roar:
I love not man the less, but Nature more,
From these our interviews, in which I steal
From all I may be, or have been before,
To mingle with the Universe, and feel
What I can ne'er express, yet cannot all conceal."¹

Nature is for the child. Bruce says, "Nature is more than a prime friend of childhood; Nature is a prime teacher of childhood as regards love of the good, the beautiful, and the true, as regards, in fine, love of God."² Bertrand Russell tells of the natural love of children for nature when he relates the story of a small child who had been kept indoors all his life because of illness. When he was freed and allowed to run about independently, he joyously ran out of doors and put his cheek against the dewy grass. A writer of nature says:

"A child's realm is the colorful beach and the open country, its meadows spread with daisies and buttercups, its air gay with butterflies and bees. Trout streams, swimming pools under willows, trees, birds, squirrels, nuts, berries, fruits,--all call to boys and girls."³

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1. Byron, Lord: "Childe Harold's Pilgrimage," Byron's Poetical Works, p. 172
2. Bruce, H. Addington: Your Growing Child, p. 199
3. Olcott, Frances J.: Our Wonderful World, p. vii

"No one can love nature and not love its Author," says Hodge.¹ And there are many ways in which children may learn to know the Author of nature. The history of God's dealings with His people brings the child into a knowledge of God, influences from the lives of others make Him known, but nature too can teach.

According to McCallum, "All education is religious when it recognizes God as the source of life, and his power in all growth, and works with God for the highest spiritual development of the individual."² "Everything that affects a child's life," says Lewis, "is part of his religious education ... A bird note, the flaming colors of autumn, the great river, the games he plays, may be truly a part of his religious education."³ In the light of these defining thoughts of religious education and in the light of the message of nature, it is clearly evident that the teachings of nature have a place in the religious education of children. The problem, therefore, of this thesis is to discover the place nature may occupy in the religious education of children and to discuss its use.

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1. Hodge, Clifton F.: Nature Study and Life, p. 30
2. McCallum, Eva B.: Character Guidance and Occupations for Children, p. 19
3. Lewis, Hazel A.: Methods for Primary Teachers, p. 47

B. Limitation of the Subject

In a study of the use of nature a full discussion of a program of content would be useful, but in dealing with such a vast subject as nature it is found necessary to limit the study at this point, especially since the field of nature study has been scientifically investigated. Direct nature study is important in a religious approach, and its contributions will be briefly reviewed.

Because nature has all the qualifications for interesting every normal being, a consideration of its use for adolescents and other age groups would constitute a worth while study. However, the study has been limited to children from the ages of four to twelve, the beginners, primaries, and juniors.

A selection of poems, of songs, and of stories to be correlated with a study of nature in religious education might compose a series of interesting investigations, which would add to the success of a nature program.

The use of the Bible in a study of nature will be considered from the standpoint of the contribution of the Bible to an understanding, appreciation, and religious interpretation of nature. This subject suggests a study of the contribution of a nature program to a study of the Bible. This thesis, however, deals with nature

study, not Bible study, but it has been found that the relation of the use of nature in religious education to the Bible is a unique field for original discovery.

C. The Method of Procedure

A study of the use of nature in the religious education of children requires a consideration of the psychological equipment of the child in regard to his capacities and abilities which qualify him as a fit subject for nature's teachings. Chapter I will deal with the religious consciousness of children, showing their need of nature study, and with the characteristics of children, to show their need of and receptivity to nature's teachings.

Chapter II will present the values of nature which are based on its religious significance and applicability, on the inherent qualities of nature, and on a knowledge of the child's personality.

Chapter III will be a discussion of the place of nature in the religious education of children. In the light of the opportunities for its use in the church school, broad areas of experience in nature will be surveyed. Nature study activities and projects will be suggested. The use of the Bible will be considered, mainly through a selection of passages related to nature and

adapted to the child. Following this there will be presented a summary of the present study with conclusions.

D. The Sources of Data

The contributions of the original investigations of G. Stanley Hall in Aspects of Child Life and Education and of Pierre Bovet in The Child's Religion have been of inestimable value in establishing the religious characteristics of children. Besides Hall's contributions in the general study of child psychology, others have been found valuable, particularly the following: The Dawn of Character in the Mind of the Child by Mumford, Your Growing Child by Bruce, and Psychology for Child Training by Weeks. Separate studies of the beginner, primary, and junior child were found most profitable in the following books: For beginners, The Worship of the Little Child by Baker and The Beginners' Worker and Work by Beard; for primaries, Primary Method in the Church School by Munkres and Methods for Primary Teachers by Lewis; for juniors, Junior Method in the Church School by Powell and The Psychology of Childhood by Norsworthy and Whitley.

The Education of Man by Froebel and The Nature Study Idea by Bailey have clarified basic values and meanings in nature and its relation to childhood. J. Arthur Thomson in The Bible of Nature has a clear analysis

of the laws of nature, which must have major consideration in the study of nature.

Child and Universe by Stevens presents a scientific approach to the study of nature, based on years of experience. Handbook of Nature Study by Comstock and other books in nature study have contributed suggestions as to content and method. Three church school units on nature have been found useful: Let's Go Out-of-Doors by Milton for beginners, Exploring God's Out-of-Doors by Rice for primaries, and Our Wonderful World by Howe and Hutton for juniors. Sunday school quarterlies and general books on nature for children have been consulted. Portions of the Bible have been studied to make selections of passages with a view to their use in gaining a religious emphasis.

CHAPTER I
THE RELIGIOUS CONSCIOUSNESS AND CHARACTERISTICS
OF CHILDREN RELATED TO THE USE OF NATURE

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A consideration of the religious consciousness of the child is related to a study of the use of nature in religious education, because an understanding of this area of child life and thought illustrates the need for a certain type of instruction which is supplied by nature teaching. The ideas of God which are the product of early philosophical speculation of children as young as four years old¹ give evidence of a yearning for religious knowledge. The distorted ideas of the universe show that there is a basis for receiving true ideas of the universe. Misconceptions, which are discovered in the religious consciousness of children, are important because they present the necessity for true interpretations in the realm of nature.

The characteristics of the child show that he is well equipped for much that nature has in store. Those areas of personality to which nature makes its appeal are significant and well-defined.

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1. Cf. Baker, Edna Dean: The Worship of the Little Child, p. 33

A. The Religious Consciousness of Children
Related to the Use of Nature

1. Religious Feeling

"A capacity for religious life," says Mumford, "is innate in all children..."¹ Though perhaps just a germ, or a seedling, and in many cases a thriving plant showing possibilities of great strength, religious consciousness is present in the child, and as is true in the case of adults, it is more manifest in some individuals than in others. A child possesses impulses, capacities, and tendencies which are significant in the development of religion.² Bovet says that the great variety of religious experience which surprises us in adults is already to be discovered in children:

"The feeling of the sublime when in the presence of the grand spectacles of nature, the mystic intuition of the presence of an invisible and beneficent being, the tragic conviction of short-coming, are already present in the inner lives of little children; and in numbers of these experiences we are compelled to recognise with astonishment that we are dealing with original facts and that imitation plays no part whatsoever."³

At every age the individual needs a sense of God. There are some children who are far more sensitive than others and who search earnestly, while others do

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1. Mumford, E. Read: The Dawn of Character in the Mind of the Child, p. 170
2. Cf. Baker: op. cit., p. 19
3. Bovet, Pierre: The Child's Religion, p. 9

not. Even very early periods of childhood are rich years when a knowledge of God can be planted deeply, inclosed in protective earth, and rooted with power of growth. "There is also a hunger of faith," says Beard, "that reaches for something beyond oneself. A young child is seeking, seeking, seeking... And this seeking leads to a faith in the Unseen."¹ This urge to know God is a sublime thought. The greatness of this thought is increased when we realize that even in the little child is this urge to know Him.

a. Sense of Worship

Reverence is a major feeling in the experience of worship. Reverence is one aspect of the religious consciousness of the child. The beginnings of an attitude of reverence may be found early in child life.² It arises from a recognition of the invisible. It grows out of the awareness of the Unseen. Wonder, reverence, and gratitude may be aroused by the mysterious world around the child. Fear and awe enter into the feeling of reverence. Baker describes how the child is brought to worship through wonder.

"That which is strange or unknown arouses the curiosity of the child. If, upon investigation, the mysterious aspect of the object or phenomena remains,

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1. Beard, Frederica: The Beginner's Worker and Work, p. 26
2. Cf. Mudge, E. Leigh: Our Pupils, p. 188

or if upon first presentation that aspect is strange, the child is filled with a feeling that we call wonder... It is certainly true that God draws near as he wonders. It is only a step from wonder to worship, for the answer to the riddle of life is God."¹

Baker states further:

"The little child stops spellbound with the wonder of a robin's song or a cricket's chirp and spontaneously adores the Wonder-Maker. The character of the one who is worshiped and the content of the worship experience, the emotions aroused, and the ideals inspired may be the result of education, but worship itself is an 'inward compulsion,' an inner urge toward the divine."²

Such study evidences the fact that the child's sense of worship might be considered an outgrowth of his feelings toward the Unknown.

b. Religious experience

The child is capable of religious experience. Cases have been cited which show that mystical experience among children appears in varying degrees. The feeling of communion with nature, the feeling of sin, the perception of the ideal, the feeling of helplessness and despair, conversion and joy in salvation are in the realm of childhood religious experience.³ Lofty experiences are exceptional among children, just as they are among adults. Three noteworthy examples of children who had early deep religious experiences are Saint Teresa at six,

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1. Baker: op. cit., p. 31

2. Ibid., p. 14

3. Cf. Bovet: op. cit., p. 101

Saint Catherine of Siena at six, and Count Zinzendorf at three. Bovet quotes from the autobiography of a ten year old boy who describes his religious experiences.

"I must tell you of a striking occurrence which is something of a miracle. It happened yesterday morning. While I was writing quietly, I suddenly felt that above me there was an immense power, and unconsciously, almost in spite of myself, I began to pray. It was the most splendid moment of my life. I saw God and I talked with Him... I felt that He would help me just as certainly as if He had been before me and had said to me--'I will keep you.' I rose up again completely happy. A true happiness, great and peaceful! I felt myself pardoned and full of courage. ... I am now full of joy. It has been a revelation to me. I am so happy, so happy..."¹

There is within the child a great potentiality for religious expression. The springs of religious life, which often flourish in adulthood or dry up, are early full of vitality and freshness. The child is religiously sensitive and awake. He manifests the power to respond to religious force. He shows a recognition of that which is beyond. Already present is the ability to respond to the promptings of God.

2. Religious Thought

Although a child is capable of religious feeling before he is capable of religious thought,² he begins to think in religious terms at an early age. G. Stanley

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1. Bovet: op. cit., pp. 103-104

2. Cf. Mumford: op. cit., p. 169

Hall lists questions of a religious nature which children as young as three and a half years old have asked.¹ Baker gives illustrations of early religious speculations of children four and five years old.² Religious thought continues through later childhood. Special concern about the nature of God and the universe is common among older children. Mudge states the evidences of undeveloped religious thought: "I have examined statements from several hundred children from six to fourteen years of age and of these seventy-seven per cent seemed to have a clearly visual and anthropomorphic imagery of God."³

Because the child's knowledge is limited, because his experience is meager, because his reasoning power is undeveloped, his conceptions are often distorted. These conceptions are a source of interesting investigation and study. Attention will be given to three types of religious conceptions: the filial conception, or the transfer to parents of the divine perfections learned from religious teachings, called paternization; animistic and artificialistic conceptions. Animism is the tendency of children to regard inanimate objects as living and conscious.⁴ Artificialism is the tendency to look upon

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1. See Hall, G. Stanley: Aspects of Child Life and Education, p. 108
2. See Baker: The Worship of the Little Child, p. 33
3. Mudge: op. cit., p. 189
4. Cf. Piaget: The Child's Conception of Physical Causality, p. 262

nature as fabricated by man himself by process similar to human crafts.¹

a. The Filial Conception

The filial relationship is one of the earliest sources for the child's idea of God. It is an interesting fact that to many children the parent is God. The child's first knowledge of love and strength comes through his experience with his father and mother. The combined authority and love of parents are often a child's first introduction into what is thought divine.² What is all wise, what is great, what is good, what is all knowing and seeing, the child associates with his parents, in most cases with the father. "Of the members of this trinity of perfections--omniscience, omnipotence and all-goodness--which the child spontaneously attributes to his parents," says Bovet, "it is difficult to say to which the first place should be assigned."³

In childish theology we find the equivalent of the classic dogmas of omnipresence and eternity.⁴ Bovet quotes the following:

"The child has in his life a period--rather a long one--during which he believes that the whole world depends on his parents, or at least upon his father.

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1. Cf. Piaget: op. cit., p. 262
2. Cf. Beard: op. cit., p. 31
3. Bovet: op. cit., p. 27
4. Ibid., p. 26

And so he asks for fine weather just as he might ask for a toy."¹

b. Animistic and Artificialistic Conceptions

At the age of ten Helen Keller asked, "Who made the sky, the sea, and everything?" At the age of eight Ballard, a deaf and dumb boy, who had received no religious instruction, asked, "How comes the world into being?" Many children have asked this same question and have formed their own opinions. And these opinions have sundry variations, which fall into two classes--animistic and artificialistic. Bovet says:

"As far as they attribute to the planets, to the wind, to water, to clouds, a consciousness and a life which makes them intelligent--wise, one may say--persons, so far is the current of their thought animistic. As far as they believe all that exists on the earth and in the sky, the land, the trees, the mountains, the sea, the rivers, the clouds, the sun, to be the product of human activity, so far is the current of their thought artificialistic."²

D'Estrella, a deaf and dumb boy, constructed for himself a theory of God and the universe, jointly animistic and artificialistic. From his animistic description of the moon it is evident that it occupied for him the place of God. The moon watched over him and followed him. Its influence was beneficent and conducive to good behavior. The sun is a common object of worship among children. A boy of eight was once questioned about

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1. Bovet: The Child's Religion, p. 35
2. Ibid., pp. 79-80

his beliefs concerning the sun. He answered with full conviction that the sun was alive. When it rained, it went into another country. It heard those who prayed. It was kind.

"Paidmorphism" is a word used to denote the imagination of children who think of God as a big infant, having the feelings, characteristics, and reactions of a child. This phase of the child's thought is significantly grotesque and puerile. According to Bovet:

"This is because, in the great majority of cases, they are not the original product of spontaneous thought. They are the imperfect reproduction of the badly understood statements of adults. The child's own activity is here shown, not by adventurous thinking, but in defective apperception."¹

How many children think of God as a man with long white hair and a long moustache. Many children elaborate this idea. These elaborations do not surprise us, because they are so common. One child said, "God is a man who sits comfortably all day in a splendid armchair, who only disturbs himself in the evening to make the moon and stars go out into the sky." While walking along the street, a little girl said to her aunt, "God must be amused up in the sky. He cannot see what is beneath my hat. He can only see a big circle and two little feet." One child had a picture of God sitting in a red carpeted

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1. Bovet: op. cit., p. 92

library among His books.

B. Characteristics of Children Related to the Use of Nature

In considering the use of nature, it is necessary to think of the child--his receptivity to what can be taught of nature, his impressionability. What laws of the child's mind contribute to a fitting response to the subject of nature in its varied presentations? DuBois states:

"The child is the pivotal point of his own education. He grows from within by assimilation, not from without by accretion. Therefore, as Coe well puts it, 'the laws of the child mind yield laws for educating the child, laws as to method and laws as to material. Education is not to press the child into any prearranged mold, but to bring out his normal powers in their own natural order.'"

The child is the ultimate standard of measurement. His interests and needs should form the criteria for what is taught.

The key to successful teaching is interest. Through interest attention is gained and sustained, and a learning situation is developed. No effective teaching can be done without attention. With the interest of the child the avenues of learning are opened. If the laws of the child's mind are properly understood, use

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1. DuBois, Patterson: The Natural Way in Moral Training, p. 30

can be made of them in reaching the child. An understanding of certain of these laws is necessary in finding the place of nature in the religious education of children. What is there within the child which can respond to nature? There are four characteristics of the child which are important in a consideration of the mental equipment of the child for receiving nature teaching. These characteristics are: perceptive powers, imagination, curiosity, and an esthetic sense. Among the numerous traits of children these four are outstanding as avenues through which nature is understood and appreciated.

1. Perceptive Powers

The mind of the infant is described by Mumford as holding nothing more than a "vague mass of indistinguishable sensations and feelings."¹ By the time the child has reached his first birthday "sensations become more definite."² Hall says, "In the development of normal children active observation begins to play a prominent part toward the close of the first year."³ The child learns of the world about him through his senses. As the child becomes older, his perceptions become clear-

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1. Mumford; op. cit., p. 21
2. Ibid., p. 23
3. Hall: op. cit., p. 97

er. His memories and experiences increase. When meaning is attached to a perception, there is apperception. In the experience of very young children, there is much that is new, hence, there is pure perception. But later on through experience and learning, the child is able to attach meaning to much that he sees.

The senses are avenues of the mind. Through sight, touch, hearing the child "absorbs from his environment."¹ Concrete sense perception contributes to the child's early intellectual life.² To quote Bruce:

"Contact education, to state the facts as simply as possible, has its basis in, and derives its power from, the circumstance that every object in a child's environment, every inanimate as well as animate object, every thing as well as every person, is of suggestive value to the child."³

Close, attentive observation is a necessity in gaining a knowledge of nature. Nature's first appeal must come through the senses. Froebel is emphatic in his statement of this fact:

"Moreover, the so-called higher Knowledge usually rests on Phenomena and Perceptions which the simplest Person is able to make; ay, on Observations which, if we have but Eyes to see, we can make with little or no Expense, more beautifully than by the most costly Experiment!"⁴

Children do not always have eyes that see. Sim-

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1. Beard: The Beginner's Worker and Work, p. 12
2. Ibid., p. 12
3. Bruce: Your Growing Child, pp. 10-11
4. Herford, William H., ed.; The Student's Froebel, p. 81

ple perception is of little value. Only when correct meanings are attached to objects, when there is apperception, is observation worth while. Children may see many beauties of nature and yet fail to perceive them. No emotion is stirred. No real value is received. Children often see much that is of value and yet remain ignorant and untouched. Froebel says:

"Children and Boys who are continually running about in the open Air, may yet see, guess, and feel, Nothing of Nature's Beauties and their Operation on the human Mind. Just as happens to those who have grown up in very beautiful Scenery; they often feel Nothing of its Beauty and Influence (till some stranger, perhaps, points them out)."¹

The child needs guidance in perception and guidance in seeking information which gives meaning to what is seen. What the child learns comes through his own observations and thinking. To quote Froebel again:

"The Matter is to introduce the Boy to the Objects themselves; that he may learn the Qualities which they put forth and express; that he may know the Object to be that identical Thing which, in its Form, and so forth, it declares itself to be ... The one Thing needful is clear Sight, and Recognition (of the thing itself)."²

Lewis expresses what is commonly accepted: "A child's heart is naturally open to sensations. He needs only the guidance and interpretation of his experiences that a reverent mother, father, or teacher may give."³

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1. Herford: op. cit., p. 76

2. Ibid., pp. 80-81

3. Lewis: Method for Primary Teachers, p. 69

The child needs an introduction to nature. In its multiplicity of forms, its details and variations, the child can be guided to observe that nature is a whole. It is through guidance that the child is made to see with the mind's eye a deep-lying law in all things.¹

2. Curiosity

Three stages of curiosity surprise, wonder, and curiosity have been distinguished by Ribot. Surprise consists of mere shock. Wonder is more stable than surprise; it may persist until worn away by familiarity. Curiosity is an attitude of investigation.² The child's curiosity about the universe has already been discussed in dealing with the early concern of children with the origin and nature of the world. Thomson calls wonder "one of the saving graces of life ... It lies at the roots of both science and philosophy, and it has been in all ages one of the footstools of religion."³

"A child has naturally a strong feeling of curiosity; the investigating spirit is active in him. He must peek and peer."⁴ DuBois thus states an obvious but important truth. Hartshorne calls curiosity "the inde-

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1. Cf. Herford: op. cit., p. 78

2. Cf. Hall: Aspects of Child Life and Education, p. 86

3. Thomson: The Bible of Nature, p. 3

4. DuBois: The Natural Way in Moral Training, p. 101

fatigable investigating desire."¹ The inquisitiveness of the child makes him pry into all that is unfamiliar. The new and strange world to the child is a source of great wonder. The unknown is a stimulus to seek and to discover.

Children are curious about the things of nature. Hall says:

"Active interest in nature, though unfortunately too often repressed by unfavorable surroundings, develops rapidly after the first year. Children of kindergarten age (3 to 6 years) respond readily to any stimulus in this direction, whether of plant or animal life. The desire to touch and handle things at this age is so great that we have numerous instances of seeds regularly dug up to watch their growth, flower buds picked or blown open, and the eyes of puppies and kittens rudely exposed to light before the proper time, as well as numerous other attempts to assist nature in ways which, though detrimental to her processes, are nevertheless inspired by a genuine though mistaken zeal for finding out her ways."²

Von Wyss describes the development of curiosity toward nature in a growing individual:

"All the earliest phases of nature study teaching concern themselves with this aspect of intercourse with nature--viz., to wonder, to inquire, to make acquaintances, and to find meaning. But soon further signs of growth and change are noticeable. General curiosity has led to many discoveries and to a considerable range of knowledge, and the child becomes more self-reliant with ever-increasing physical strength and prowess. More and more daring does he become. Investigation and pulling to pieces 'to see the wheels go round' are extended into exploration and adventure. The spirit of ad-

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1. Hartshorne, Hugh: Childhood and Character, p. 70
2. Hall: op. cit., p. 98

venture is now fully awake."¹

Related to the child's desire to know, see, feel, handle, and understand is the desire to possess. Children like to collect. Norsworthy and Whitley state, "There is a tendency in every child to approach any attractive object, seize and carry it off if it is not too large."² Furthermore, they claim, "It is found that objects of nature precede both literary and esthetic objects as materials for collection."³ The collecting instinct is at its height from ten to eleven.⁴

Curiosity motivates learning. The question is the index to curiosity. Weeks states a well-known fact: "The ideal moment for teaching is when the mind of the learner has reached the climax of a question."⁵ Because the child is eager to know, because he seeks and yearns for the satisfaction which comes from a knowledge of things about him, this impulse needs guidance and direction. This impulse, rightly understood and guided, seeks to know God in all His works.⁶

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1. Von Wyss, Clotilde: The Teaching of Nature Study, p. 10
2. Norsworthy, Naomi and Whitley, Mary T.: The Psychology of Childhood, p. 52
3. Ibid., p. 54
4. Cf. Ibid., p. 299
5. Weeks, Arland D.: Psychology for Child Training, p. 50
6. Cf. Herford: The Student's Froebel, p. 40

3. Imagination

Imagination and curiosity are closely related. The child's curiosity leads to discovery and the gaining of new ideas, which are food for the imagination. Reproductive imagination is memory. According to Weeks,

"Creative imagination, like memory in its picture presenting function, differs from memory in that the pictures formed are new and different from any real perception, though made up necessarily of elements of former experience."¹

This power of forming new pictures and making new connections leads the child to inquire into the cause and origin of things.²

There are different types of imagination. The concrete appeals to children. Visual imagination is most common among children, although auditory and tactile images may predominate.³ Imagination is power. Through it children create romance for themselves. In the realm of nature is much that kindles the imagination. For the young child the animate and inanimate world is endowed with life. Flowers and animals talk and act like human beings.⁴ The child watches the brook and wonders where it goes. The weeds and waves suggest a romantic fairy life in their depths. The wood creatures are little

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1. Weeks: op. cit., p. 172

2. Cf. Mumford: *The Dawn of Character in the Child*, p. 53

3. Cf. Waterhouse, Eric. S.: *An A B C of Psychology for Religious Education*, p. 75

4. Cf. Munkres, Alberta: *Primary Method in the Church School*, p. 15

people.¹ Through imagination children find joy in imitation.

Children do not prefer the more fantastic and nonsensical interpretations of nature. There is a practicability about most children which makes them prefer the true rather than the absurd. As children grow older, this is significantly true. Norsworthy and Whitley describe this change:

"As they grow older, between ten and thirteen perhaps, most children become more matter of fact. Their productive imagery loses its fanciful characteristics and becomes more bound by the laws of the possible. The imagery of children of this age is more practical..."²

Wild fancy differs from a poetic interpretation of nature. The latter is dependent upon accurate observation and true insight. The teacher's contribution is in guiding a poetic interpretation. The need is to present large pictures and ideas which stimulate, not minutiae. Bailey gives an interesting illustration of the use of imagination in getting a true concept, and in getting the essence of the fact. He was criticized for describing "How the Squash Plant Gets out of a Seed." Said one literal professor, "It should be stated, 'How a Squash Plant Gets out of the Integument.'" But the

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1. Cf. Bruce: *Your Growing Child*, p. 185
2. Norsworthy and Whitley: *The Psychology of Childhood*, p. 155

large idea, the imaginary situation is more appealing and leads to real understanding.¹

4. Esthetic Sense

Curiosity, imagination, and feeling are closely related. Bailey says, "The child interprets the world through imagination and feeling and sympathy..."² "The appreciation of beauty is an emotional or feeling experience."³ Children possess the original tendencies which are built up into the esthetic emotions. Satisfaction is found at first in glitter, color, rhythm. From these crude beginnings develops the enjoyment of nature, of art, of poetry. But what the individual considers beautiful is a matter of education.⁴ "From the enjoyment of the crude and elemental," Norsworthy and Whitley state, "the child must be raised to enjoyment of the artistic and complex."⁵ The craving for beauty, which Bruce calls "one of the instinctive heritages of the race,"⁶ needs to be developed, for "appreciation can be developed and refined."⁷ And here again nature makes her contribution along with art and music. Later the

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1. Bailey, L. H.: The Nature Study Idea, p. 55

2. Ibid., p. 35

3. Mudge: Our Pupils, p. 121

4. Cf. Norsworthy and Whitley: op. cit., p. 87

5. Ibid.

6. Bruce: op. cit., p. 128

7. Mudge: op. cit., p. 122

truest religion that lives in the child's soul is the feeling for the aspects of nature: dawn, twilight, hills, mountains, lakes, rivers, heavenly bodies, clouds, rain, sun, dew, wind, trees, animals.

C. Summary

A study of the religious consciousness of children reveals the following facts: Children are capable of religious feelings beginning at an early age. A sense of worship and religious experience are expressions of the religious consciousness of the child. Early philosophical speculations revealed in filial, animistic, and artificialistic conceptions characterize the religious thought of the child.

A study of the religious consciousness of children leads to the conclusion that the child needs a true knowledge of God. Children themselves are conscious of the personal need of God, and they should be made to believe that there is a controlling and guiding power in the universe. Mumford states well what has been said by many: "The child needs the help of a Power outside himself, Whom he believes is always with him, knows his inmost thoughts, understands him, loves him."¹

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1. Mumford: op. cit., p. 182

The child needs to be trained to recognize the great, loving Unseen. The child needs to be encouraged to worship the One to Whom he so readily responds in the presence of nature.

The child needs a sane presentation of nature, of the facts of the universe, of God's place in nature, and the presence of His Spirit in the works of creation. The fact that children's errors in thinking are commonly in the field of nature reveals the necessity of nature teaching which is religious and interpretative.

Perceptive powers, curiosity, imagination, and esthetic feeling are qualities of the child which show his need and capacity for learning from nature. Through these channels it is possible for nature to make its appeal. When the love of nature comes into the life of a child, at first, it is a thing of slow growth. It gathers force as time passes and with proper guidance, it never ceases. Because religion is not an experience that comes full grown into the life of an individual but develops from simple beginnings of childhood wonder and faith, so this love of nature, which is part of religion, slowly develops by means of the expanding powers of the child--his growing power to perceive, to search, to re-define, and to feel.

CHAPTER II
VALUES INHERENT IN NATURE

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Nature alone can teach little, because children's minds must be prepared. But once their minds are able to receive, once an apperceptive basis for understanding nature has been established, there is opportunity for interpretation on the part of child and teacher which must lead to new revelations. The values of nature can not be realized if there is not sufficient observation of nature, that is, sufficient first-hand contact with nature. The religious values of nature can not be realized unless there is a true interpretation of nature. Nature is valuable to the child because it makes its impress upon the whole personality. The following study will show the values of nature as it affects significant areas of childhood experience.

A. Development of a Religious Sense through Nature

1. A Sense of God

To the child's question, "Who made the world?", there is an answer through nature rightly observed and interpreted in the light of what is revealed to us through science, the Bible, and the manifestations of

nature itself. We have seen how the child from early years is curious about origins and about the objects of nature. As he grows older, he continues to wish for truth. In his quest for God both revelation and nature point to Him. Goodchild says, "God has given us two Bibles. One of them is the book of Nature, the other is the book of grace. The book of Nature is just as much God's word as the Bible is."¹

It is taken for granted that an understanding of nature alone can not lead the child to an adequate relationship with God. It is limited in that it does not reveal Christ, but it has a unique field of its own in clarifying a child's knowledge of God, not by an abstract idea, but through the concrete. The child can see the works of nature--water, plants, birds, animals, rocks, and so forth. A child is naturally interested in what is around him. He has a natural interest in nature, and he learns best through the senses. Nature is the open book for the child. His first lessons of God, the Creator, are to be found there. First stirred with the question, "Who?", the answer is there before his eyes, in concrete form--"God made." God is not an abstraction if He is known through His works. He is not

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1. Goodchild, Frank M.: God in Everything, p. 3

some vague far-off being who has no place in life. The God of the heavens, earth, and sky is a present God, because His works can be seen. Nature has a vital contribution to make to the child's conception of God. On the basis of the child's capacity, the demand for an appeal to the concrete is met. Froebel says:

"From every point, from every object of nature and life, there is a way to God. Only hold fast the point, and keep steady on the way, gather strength from the conviction that nature must necessarily have not only an external, general cause, but an inner living cause, efficient in the most trivial detail; that it proceeds from one Being, one Creator, one God, in accordance with the self-evident, necessary law by which the temporal is an expression of the eternal, the corporeal a manifestation of the spiritual."¹

The first value, then, of the use of nature in developing a true sense of God is its appeal to the concrete sense of children, which rightly approached is an ally in forming a conception of God, as Creator of all they see.

In the second place, nature is a fit instrument for revealing God, for in nature the character of God is wonderfully manifest. Power, life, greatness, unchangeableness, concern, and beauty are revealed. In an impressionable mind and heart the glories of nature can be made to reflect its Maker. Abundance of power

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1. Froebel, Friedrich: The Education of Man, pp. 202-203

can be recognized in the solar system, tides, and winds; abundance of life, in thousands of animal and plant species; immensities, in the depth of season and height of mountains; manifoldness, in variety of resources; intricacy, in the body of an ant, the wing of a butterfly; pervading order, in the clockwork of the heavens; interrelations, between the earthworm and soil; universal flux, in the transformation of water from seas to rain; persistence and change, in the growth of flowers; drama of animal life, in migration and mating; adaptation, in structure and habit; progress, in plant and animal development; and beauty, in form, color, and design, found in the world of the animate and inanimate.¹ Bertha Stevens' book, Child and Universe, is a beautiful presentation of the truth, which has been verified by her own experimentation, that the universe belongs to the child. It is his natural realm. It is his to know, love, understand, and appreciate. What is revealed of law, order, beauty, persistence, change, and so forth, is his to grasp. Facts alone mean nothing. For religious education the value of learning from nature is not found in its revelation of law, order, and beauty alone, but in the revelation of the divine principle, the Cause. Froebel in his definition of the purpose of the whole

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1. Cf. Stevens, Bertha: Child and Universe, pp. 10-11

field of education assigns a significant place to nature and emphasizes what has just been stated. He says:

"Education, in instruction, should lead man to see and know the divine, spiritual, and eternal principle which animates surrounding nature, constitutes the essence of nature, and is permanently manifested in nature.."¹

In the second place, then, the manifestations of nature are of importance in revealing the character of God. Here is the child's realm, the visible, where there is much that can be handled and seen to establish these great truths.

God as the source and giver of life is for the child the God who made the world, the God who cares for it, the God who sends rain, wind, and storm, who gives harvest, who waters the earth, who feeds animals and plants. They learn that He is full of goodness, because His sun shines and His rain falls, because His laws are fixed and His ways are mysterious. They know that He is a God of wisdom, for the regularity of night and day, the adaptations of plants and animals, and all instances of law and order reveal this. He is a God of love, for He makes provision for life. Just as the spirit of an artist is present in his work, so the child finds that God's Spirit is present in the universe.

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1. Cf. Froebel: op. cit., p. 562

Just as the soul of an artist can be judged by his creation, so the child can learn of God through His creation.¹

2. A Sense of Worship

Beautiful surroundings and noble thoughts are conducive to worship. A consciousness of God's presence, a consciousness of a relationship with Him, and a response in quietness, song, thanksgiving, praise, or petition are expressions of this sense of worship. The child's worshipful attitude is often expressed in the presence of nature. G. Stanley Hall says that the mystery and lawfulness of nature everywhere inclines to religious awe and reverence.² A child's sense of the mysterious and of the unknown becomes apparent among the works of creation. In nature are those esthetic qualities--beauty, serenity, color, and mysterious greatness, which call forth the natural response of reverence and worship. This response is not always spontaneous but must be cultivated. A beautiful hillside, the seashore, the forest have those essential qualifications which inspire worship. Hughes says:

"Nature is the most sacred temple for the child. In it the child gives its truest worship, unconsciously overflowing with adoration and receiving into its life silent streams of reverence and ele-

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1. Cf. Froebel: op. cit., p. 162

2. Cf. Hall: The Love and Study of Nature, p. 152

ments of vital truth direct from the centre of life, to strengthen its soul as naturally as the trees and flowers around it are nourished by the material elements that give them life and growth."¹

DuBois tells of an interesting incident of worship related by Wilhelmina Mohr. In a walk she took in the Taunas forest of Germany with a girl of eleven years, she describes how they both heard soft strains of music. They listened, wondering, and soon saw a large number of children with their teacher coming up the hill, singing and holding in their hands baskets filled with berries and wild flowers. They stopped at the summit of the hill to look into the valley. The teacher took off his hat, and they all bowed their heads and sang an evening hymn.² Hughes cites an example of a five year old who said aloud, "Thank you, God," when his heart overflowed in the presence of nature.³ Children respond readily to a study of the stars which enlarges their vision and broadens their thinking. Taylor's picture, When I Consider Thy Heavens, connected with a study of the stars, according to Stevens, has never failed to promote interest and reverence among children.⁴

The contemplation of nature not only inspires the act of worship but makes the child reverently

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1. Hughes, James L.: Froebel's Educational Laws for All Teachers, p. 269
2. Cf. DuBois: The Natural Way in Moral Training, p. 122
3. Hughes: op. cit., p. 270
4. Cf. Stevens: op. cit., p. 46

thoughtful of underlying meanings. When children have formed the habit of keenly observing, when they have been exposed to such truths in nature as infinity, organization, sequence, and cycles of growth, when they have become aware of the endless unfolding of nature, a feeling of thoughtful reverence is bound to occur. In this process it is possible for the child to discover that man is at one with the universe. This is something not learned but felt. From a sense of God's presence in nature comes this feeling of unity, that man is subject to the same law as natural objects and is responsible for bringing himself into natural harmony with it.¹

The expanse of nature brings the child away from people into a new realm, a realm of quietness and thought, where even a very young child should go. In intimate touch with all that is around there is felt, in a sensitive soul, release and calm wrought by the Spirit of God in nature.

Nature is valuable to the child because through it he comes to possess a truer knowledge of God and he is brought to reverence His works and to worship Him.

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1. Cf. Stevens: op. cit., p. 8

B. Development of Personality through Nature

Nature makes its contribution to the whole personality. The individual must be thought of as a whole, not as a being whose personality can be easily divided into separate compartments. The influence of nature is in the world of thought and feeling, in the development of a religious sense--a sense of God and a sense of worship. Its influence is also in the field of volition. In the fields of thought and feeling other aspects besides the religious must be considered.

1. Intellectual Development

Nature is a stimulus to the child to look and to think. Stevens says:

"The study of the earth evokes and arrests thought and gives it wings. It brings children into the realm of what is unchangingly true and basic for all people everywhere under the sun; and it provides on every side concrete illustration of the cosmic order. It opens up vistas of wonderfulness and beauty. It makes children desire to be active in knowing the truth, because they have had a glimpse of some of the rewards."¹

When children are urged by interest and have formed the habit of observing nature, their perceptions grow keener and a zest for truth is the natural outcome. When they have been exposed to the order of nature, mental expansion is bound to take place. As they become aware of

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1. Stevens: op. cit., p. 6

natural forces around them, mental growth is inevitable.¹ One real value of contact with nature is its impetus to the unfolding of thought. Froebel gives nature a large place in the education of the child. He says that nature is important in forming an apperceptive basis for new perception. Nature investigation, he says, will form in the mind "rootlets of feeling, thought, knowledge, and skill, which form apperceptive centers for a perfect development of feeling, thought, knowledge, and skill in school, college, university, and life-work."² Professor E. R. Downing of the University of Chicago, who writes of nature study, illustrates this. He states:

"The sensations registered in our childish brains are the raw materials we later transmute into imagery and ideas. For all our thinking and the resulting mature judgments come to be built upon the foundation of our sensory impressions. Read your Shakespeare and stop to see how dependent you are on the stored-up sensory impressions for an appreciation of the meaning. If the words are anything more than senseless hieroglyphics it is because they are connected up with significant sensory memories."³

In this connection we are reminded of the imagery of the Bible and are lead to think of the contribution that a knowledge of nature makes in grasping the great thoughts that are expressed by the prophet, the Psalmist, and by Christ.

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1. Cf. Stevens: op. cit., p. 15
2. Quoted from Hughes: op. cit., p. 215
3. Downing, E. R.: Teaching Elementary School Subjects, p. 345

Madame Montessori says that if for the physical life it is necessary to have the child exposed to the vivifying forces of nature, it is also necessary for his psychical life to place the child in contact with nature in order that he may be directly educated by the forces of nature.¹

Schmucker gives as a valuable result of an early intelligent contact with nature the acquiring of the type of thinking which we call scientific. The individual learns to see in nature the constant connection between cause and effect.²

In the world of fancy nature feeds the imagination. Through nature the child is introduced into a better wonderland than that of fairies. It is a wonderland in the domain of truth, where the strange facts of a mysterious universe are unfolded.³

2. Emotional Development

It is a well-known saying that "to love nature is the first step in observing her." But to know nature is to love her. Enjoyment of nature does not spring up suddenly but may become a process of long

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1. Cf. Montessori, Maria: The Montessori Method, p. 155
2. Cf. Schmucker, Samuel C.: "The Philosophy Underlying Nature Education," Proceedings of the National Education Association, 1932, p. 469
3. Cf. Bigelow: How Nature Study Should Be Taught, p. 108

growth beginning in childhood. No education is complete without a cultivation of the finer feelings, without a love for beauty. Music, art, literature, have their contribution to make, but there is a knowledge of nature which leads us to see the beautiful.

The value of an interest in nature is inestimable in the child's life. It opens the eyes to the beauty of the world, to the beauty of law and order. It makes the child impressionable to countless beauties of the commonplace. Carroll DeWilton Scott, nature study supervisor of the San Diego city schools says:

"I view the effect which nature has on personality, equal to that of the fine arts. One may enrich his life with nature as with music... It contains all of the elements of surprise, variety, human appeal, inexhaustibleness, loveliness, and exaltation to capture and hold the mind. It is the only power that administers to body, mind, and soul at the same time."¹

The child who has been led into an appreciation of nature has finer feelings. He feels at home in his world if he appreciates it. Every lowly creature and every plant has meaning and significance and adds some joy to the child's life.

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1. Scott, Carroll DeWilton: "Esthetic Value of Nature Study," Proceedings of the National Education Association, 1931, p. 569

3. Volitional Development

The real test of the value of a thing is in its effect upon life. If the values of nature are only in the realms of thought, then its religious significance is not very great. In so far as the concept of God affects character, so far is nature valuable. In so far as true knowledge affects character, so far is nature valuable. In so far as refined feelings affect character, so far is nature valuable. It has been shown that nature enters into areas of thought and feeling and develops and enriches them. As to the ethical implications of nature Stevens says:

"It is certain that no authorization is provided by science for attaching to nature any ethical qualities... But when the mind is able in some degree to grasp the working of a force or principle through a considerable part or all of known nature, then some thought of value to an individual, according to his own view of it, may come through."¹

Hodge says, "nature study is"learning those things in nature that are best worth knowing, to the end of doing those things that make life most worth living."² More than one writer claims moral value for the study of nature. J. C. Medd in an address on the educational values of nature stated:

"The study of nature has its moral value also. At every step she teaches patience, truthfulness, and

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1. Stevens: op. cit., pp. 13-14
2. Hodge: Nature Study and Life, p. 1

reverence. The more we penetrate her mysteries the more shall we be imbued with the grace of humility. Over all who are in sympathy with her she exercises a strange humanizing and refining influence."¹

C. Summary

In this study of the values of nature, it has been seen that nature observed, understood, and interpreted is of value in developing a true sense of God, because it appeals to the concrete sense, through which the character of God can be more easily understood in viewing the manifestations of nature which reveal Him. In the second place, it has been shown that nature affects the entire child and makes its impress upon the intellectual, emotional, and volitional life.

The influence of nature is upon the whole child, not just upon one aspect of child thought, feeling, and conduct. That which aids the child in building a true concept of God and a true sense of His presence, that which develops intellectual powers and brings a knowledge of the environment and cultivates a sympathy with it, that which cultivates the higher nature of the child--spiritual, ethical, and esthetic, is of inestimable importance.

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1. Medd, J. C.: The Educational Values of Nature, p. 15

CHAPTER III
THE USE OF NATURE
IN THE RELIGIOUS EDUCATION OF CHILDREN

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The place of nature in the religious education of children becomes better understood when there is a clarification of the aims, principles, and content of a nature program. There must be guiding aims in any teaching procedure. There are principles which must be observed to make nature study a success in religious education. There is a wide area of experience in observation and activity which must be a matter of selection. There is opportunity for religious emphasis. The following chapter will deal with these factors arising out of the place of nature in the religious education of children.

A. Religious Aims in the Presentation of Nature

The aims of nature units for the church school were found to be the same. There was no set of specific aims for beginners, another for primaries, and another for juniors. There was agreement in general objectives, purposes, and goals. These may be summarized and stated in one comprehensive aim--to lead the child to know God.

This aim comes naturally from a consideration of the subject of nature. "The Bible," says Macmillan, who writes on Bible teachings in nature, "contains the spiritual truths which are necessary to make us wise unto salvation, and the objects and scenes of nature are the pictures by which these truths are illustrated."¹ Froebel states that the purpose of all creation is to make God known. He says:

"What religion says and expresses, nature says and represents. What the contemplation of God teaches, nature confirms. What is deduced from the contemplation of the inner, is made manifest by the contemplation of the outer. What religion demands, nature fulfills. For nature, as well as all existing things, is a manifestation, a revelation of God. The purpose of all existence is the revelation of God."²

Major aims are included in the statement of a comprehensive aim; so in leading the child to know God through nature, the following specific aims may be stated: To lead the child to a recognition of universal laws which will bring him to a recognition of the wisdom, power, and love of God. To guide the child in developing an attitude of reverence and trust, which will be the result of the recognition of the wisdom, power, and love of God.

Downing suggests social and individual aims of

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1. Macmillan, Hugh: Bible Teachings in Nature, p. xv
2. Froebel, Friedrich: The Education of Man, pp. 151-152

nature study. Under individual aims he has two divisions, physical and spiritual. He defines the spiritual aims thus:

"Moral.--To inspire such a companionship with nature as will lead to high ideals and moral integrity.

Esthetic.--To implant an appreciation of the beauty everywhere revealed.

Intellectual.--(a) To know nature, that the commonplace environment may have significance.

(b) To learn to reason to correct conclusions on the basis of one's own observations.

(c) (Possibly to provide a fund of experience as the basis for later science work.)"¹

It is evident that these aims thus stated contribute to the realization of more fundamental aims. In guiding children, a leader must take into consideration immediate aims and seek to progress to those more comprehensive. In approaching the study of nature from a religious standpoint, the great aim to know God should be a guide in every contact that is made with nature. To keep the approach strictly religious, it is necessary to have religious aims foremost in the leader's mind.

When the teacher has in mind the establishment of certain conceptions and attitudes, she should never lose sight of the fact that she is seeking the enrichment of young life, the establishment of firm character, and a reverent attitude towards the great Power

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1. Downing, E. R.: Teaching Elementary School Subjects, p. 342

about us. The aim to create strong character is important. This aim is included in the statements of the major aims, for any effort to lead the child to know God implies the influencing of character. Hutton says,

"But knowledge, no matter how correct and worthwhile it may be, is not enough ... Knowledge to be of real worth, must work over into attitudes; it must have conduct control value, if it is to be worth the trouble that it costs to acquire it."¹

B. Guiding Principles in the Presentation of Nature

From a variety of sources have come principles in the use of nature. The derivation of these principles grows out of the knowledge of childhood needs and capacities, of nature and its religious implications, of the child's relation to nature, and of the teacher's relation to the child and to nature. These principles rise in perspective from a broad view of a wide variety of materials, which suggest directly and indirectly those points to be immediately considered.²

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1. Hutton, Jean Gertrude: Our Wonderful World, Teachers' Manual, p. 17
2. There was emphasis on principles in Stevens, Bertha: Child and Universe; Froebel, Friedrich: The Education of Man; Downing, E. R.: Teaching Elementary School Subjects; Hutton, Jean Gertrude: Our Wonderful World, Teachers' Manual; Milton, Jennie Lou: Let's Go Out-of-Doors; and Rice, Rebecca: Exploring God's Out-of-Doors

1. Recognition of Natural Laws

There are underlying laws in nature which should be in the teacher's mind, which she should attempt to illustrate simply, and which she should seek to make the children recognize. She should go farther, though, and show what lies behind the works of creation and the power of the universe.

Froebel speaks of the things of nature as the most beautiful ladder between heaven and earth.¹ It is this ladder which Thomson praises in telling of the wonders of the universe, when he describes the greatness of the workings of mighty principles in nature. These have already been stated,² but they are so comprehensively defined that it is necessary to refer to them more fully. Thomson's treatment should clarify the teacher's mind as to ideas in guiding nature study. There follow a brief summary and illustration of his presentation.

Abundance of power is found in the solar system, the tides, the dewdrop, and the crystal. Abundance of life may be observed in the numerous animal and plant species and the number of individuals within a single group. Immensities are best illustrated by the unfath-

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1. Cf. Froebel: op. cit., p. 203
2. Ante, pp. 1, 36

omable sea, the solar system, and the stars. Manifoldness is everywhere seen--in the stars that differ in brightness, mountains which display individuality, various minerals, varieties of birds, shells, snow crystals, and plants. Intricacy is best revealed by the microscope and telescope which present the design of the ant, the butterfly, and the bee. Pervading order is descriptive of the Cosmos, where regularity may be observed in the change of seasons and in the numerous cycles of the animate and inanimate worlds. The network of interrelations may be observed in the related activities of the higher insects and the flowering plants, or the relation between the earthworm and the soil. Universal flux is everywhere evident--in rainfall that goes finally to the sea, up into the clouds, and back to earth again, and in living things that die and provide for new life. Persistence and change is to be noted in the age histories of plants and animals. The drama of animal life is set forth in the struggle for existence, in migration, and mating. Adaptations make for that all-pervading fitness which aids plant and animal in carrying on the processes of life. Progress is revealed in the changes of the earth and its increasing suitability for life through the ages. Beauty is found in every normal thing; beauty is in utility and

design.¹

Conscious of these wonders, the teacher should proceed, with values and aims clearly in view, knowing the child as he is--his capacities and needs; knowing nature, and seeing in its manifestations the revelation of God; knowing God, and seeking to make Him known.

2. Contact with Nature

Before spiritual aims can be realized, the child must first be brought into contact with nature and into a love for nature. Before a child can know and love and trust God through nature, he must be brought to love the objects of nature. And so the first task of the teacher is to lead the child, taking advantage of his keen perceptive powers, his imagination, curiosity, and esthetic sense, to see nature and to love it. The investigating spirit of the child is best directed by means of field trips, which should be frequent and purposeful, not only for discovery on the part of the child, but also for investigation suggested by the teacher. Investigation should be carried out in the spirit of adventure, in the spirit of a quest for what is attractive, meaningful, and desirable to know about. The field trip has abundant satisfaction for the child. Motivated by

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1. Cf. Thomson, J. Arthur: The Bible of Nature, pp. 6-29

curiosity, his senses are alive to find out about the surrounding wood or meadow. The smell of the rained odors of the fresh earth, the odor and texture of the flowers, the stony path, the strident note of the bird song, and all the voices of the out-of-doors call to him.¹ The play spirit should be recognized at all points. Stevens has listed some interesting things that children like to do:

"In the daytime let them play in the wind, and in a snowstorm, and even in a glorious rain. Let them climb trees, and jounce on branches, provided the branches are strong enough for safety and to prevent injury to the trees. Let them swing on wild grapevines, scramble over rocks, slide down hill-sides, and jump over brooks. Let them go barefoot, in season, or wear soft-soled shoes. Let them walk, and run, and wade, and skate, and swim. Enjoy with them the spirit of adventure. Follow a path wherever it leads, or the course of a running stream; and chase a tumbleweed wherever it blows. Let them find in nature an intriguing cooperator with their sense of humor and fun."²

3. Gradual Unfolding of Nature

Revelations of fundamental laws should not be strenuously sought, but their presence should be gradually unfolded by nature itself with the growth of the child's insight. All great truths should be allowed to unfold before the child. Downing says:

"The appreciation of beauty and moral significance

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1. Cf. Downing: op. cit., p. 345
2. Stevens, Bertha: Child and Universe, pp. 27-28

that poet and philosopher have seen in nature are difficult to impart, impossible, in fact, directly. The teacher cannot gush over the beauty of a flower with the avowed purpose of inspiring her pupils with its grace."¹

For the child to grasp anything of nature's beauty, wonder, and teaching, the principle of going slowly and of waiting for growth from within and for its expression needs to be strongly emphasized. Children should be unhurried and uninterrupted. They should be left to discover things for themselves, explore, and reach conclusions as to the beauty and significance of a thing. Stevens says, "Children should have time to live with an idea. Progress in understanding will come not from accumulation of ideas but through their gradual unfolding."²

4. Teaching at the Time of Aroused Curiosity

There are some things that must be taught. But there is a time to teach--a specific time indicated by the pupil, but which must be sought and watched for by the teacher. That is when the child asks a question. "Go with a genuine boy into open nature," says Froebel, "show the diverse natural objects, and he will soon ask you to indicate to him the higher, causal, living unity."³ Stevens says:

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1. Downing: Teaching Elementary School Subjects, p. 351
2. Stevens: op. cit., p. 23
3. Froebel: The Education of Man, p. 199

"It seems to be true that when little children reach the point at which they ask for facts, they are able to grasp the ideas which these facts involve, even though the ideas may be of a type commonly associated with maturer years. Knowledge sought can be appropriated when perhaps knowledge imposed could not be."¹

5. Psychological Procedure

The psychological procedure in nature study is to allow the child to explore and discover his own interests. This method is not always logical, and yet it is preferred to a logical approach. It is a safe guide to follow the interests of the child. After many years of experience Bertha Stevens has concluded that "a definite plan of procedure, learned from children, should underlie the presentation of subject material."² And Froebel, who always has a great deal to say about both nature and children adds,

"Let the boy's eye and mind be your guide, for you may know that a simple natural boy will not be satisfied with half-truths and false notions. Follow his questions thoughtfully--they will teach you and him."³

6. Opportunity for Creative and Religious Expression

Projects are effective in taking advantage of the natural inclinations of children. A wise teacher

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1. Stevens: op. cit., p. 22
2. Ibid., p. 22
3. Froebel: op. cit., p. 203

will allow a child or group of children to work along lines of specific interest. The project allows for self-activity, encourages pupil initiative, gives heightened meaning to the subject under consideration, and unifies learning processes.¹ "Creative expression," says Stevens, "is a natural outcome of vital learning."² A glimpse into nature, growing contact with it, and an increased appreciation of it stimulate the thoughts and feelings which seek expression in some creative activity. There are endless opportunities for constructive self-expression in the realm of nature. Nature provides subjects of inspiration which, according to the tastes and talents of the child, may be expressed in writing, painting, drawing, dramatizing, modeling, rhythmic motion, and music. This influence of nature on the higher centers of thought and feeling is of utmost advantage in religious education, because it provides a natural approach to worship. When the mind and heart are full, when fresh insight arises, when something new is discovered, when a new feeling has been stirred, when worthy impulses have been made alive, and when a new life has come within, then is the time to reveal and express the satisfying and transcendent truths of God. There is

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1. Cf. Hutton: Our Wonderful World, Teachers' Manual, p. 10
2. Stevens: op. cit., p. 41

a time to teach religious truths; there is a time to worship, and these times normally and naturally and effectively grow out of dwelling with and thinking upon nature.

7. Enthusiasm of the Teacher

It is not necessary that the teacher be a trained scientist or an expert in technical knowledge. She must love nature and love children. Both will teach her. Froebel says of the nature teacher:

"Let not the teacher of a country school object that he knows nothing about natural objects, not even their names. Even if he has had the scantiest education, by a diligent observation of nature he may gain a deeper and more thorough, more living, intrinsic, and extrinsic knowledge of natural objects in their diversity and individuality, than he can acquire from ordinary available books."¹

The good teacher of nature will go thoroughly into the subject and will not be content with a mere surface knowledge. Only with an intimate, clear, concise, and accurate knowledge can she lead the child to see nature and understand its significant teachings. Froebel has a high standard for the true naturalist:

"Only the Christian, only the human being with Christian spirit, life, and aspiration, can possibly attain a true understanding and a living knowledge of nature; only such a one can be a genuine naturalist. True knowledge of nature is attainable by man only in the measure in which he is--consciously or un-

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1. Froebel: op. cit., p. 201

consciously, vaguely or distinctly--a Christian, i. e., penetrated with the truth of the one divine power that lives and works in all things; only in the measure in which he is filled with the one living divine spirit that is in all things and to which he himself is subject, through which all nature has its being, and by which he is enabled to see this one spirit in its essential being and in its unity in the least phenomenon, as well as in the sum of all natural phenomena."¹

8. Recognition of the Dangers of a Religious Approach

In presenting nature to children from the religious standpoint, there are certain dangers which must be recognized and avoided. They are the drawing of morals and analogies and the sentimentalizing of nature. Care should be observed to make religious teaching absolutely natural, direct, simple, and wholesome in its approach. Hutton says:

"Children are getting good nature study and instruction in most public schools to-day, and they are quick to detect any wresting of facts for the sake of teaching a moral truth. Not only do they detect such procedure, they resent it."²

Analogies have been used in a religious approach to nature, and it would seem that in some cases this form of teaching is unavoidable in a religious approach, just as moral emphasis is sometimes unavoidable. No fast rule is wise, and the judgment and skill of the teacher who has intimate knowledge of the pupils and the subject

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1. Froebel: op. cit., p. 152
2. Hutton: op. cit., p. 19

should be considered in deciding this point.

In avoiding sentimentalizing nature, the trinity of knowing, feeling, and doing should be taken into account. "... the hypertrophied emotional mood, unruléd and uncorrelated, uncurbed by science, unrelated to the practical problems of life, tends to become morbid, mawkish, mad," says J. Arthur Thomson.¹ From a scientific standpoint, though, we are justified in dealing with the subject of nature in a religious field. In this regard Thomson gives a clear statement:

"Even for its own sake, science requires to be continually moralized and socialized, oriented, that is to say, in relation to other ideals of human life than its own immediate one of making a thought-model of the Cosmos. Our science requires to be kept in touch at once with our life and with our dreams; with our doing and with our feeling; with our practice and with our poetry."²

In the use of nature in religious education the primary problem is that of presenting nature to the child, but it might be added that the fundamental problem is that of deriving a religious emphasis. Children must be brought into first-hand contact with nature. Before the fundamental problem can be solved the primary problem must be considered. Before children can understand the religious implications of nature, they must understand nature itself. Before universal truths can

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1. Thomson: The Bible of Nature, p. 39
2. Ibid., p. 40

be grasped, nature must be understood. Nature study and interpretation are inseparable. Nature can not be studied for very long without a recognition of those divine principles at work. The process is all one.

C. Content and Method in the Presentation of Nature¹

What are the nature materials to be studied? The answer is any. Earth, sea, rocks, stars, winds, clouds, plants, animals, birds, and insects are all subjects. What children find interesting should be a guide to the selection of material. However, there are certain subjects in nature which are more suitable to one age group than to another. The beginner will be interested in the care of pets, in investigating his immediate environment, in explorations of natural surroundings, in gardening, and in collecting leaves, flowers, stones, and so forth.² The primary child is also interested in these things, but his capacities, especially after the age of six, have greatly increased.

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1. Suggestions in content and method were derived from common sources, viz.: Froebel, Friedrich: The Education of Man; Stevens, Bertha: Child and Universe; Comstock, Anna: Handbook of Nature Study; Hutton, Jean Gertrude: Our Wonderful World, Teachers' Manual; Howe, Emery Lewis, Our Wonderful World, Pupils' Book; Milton, Jennie Lou: Let's Go Out-of-Doors; and Rice, Rebecca: Exploring God's Out-of-Doors. Sunday school quarterlies and general reading in the field of nature have yielded suggestions
2. Cf. Stevens: Child and Universe, p. 236

Bertha Stevens has showed that children seven, eight, and nine years of age are ready for a study of the earth in space, the inside of the earth, the surface of the earth, and the atmosphere of the earth--subjects which cover the knowledge of the stars, the sun, minerals, crystals, seas, rivers, plants, clouds, rain, birds, and so forth.¹ For six year old children she suggests a continuation of the kindergarten program, which has already been briefly suggested. For children seven years old she suggests for the school curriculum on the basis of children's selection and on the basis of her own experience the following: earth study, unity, order, and organization of the universe, unfolding variety, beauty of law, the earth in space, the earth's interior, plants, and animals, use of scientific tools, woods experiences, gardening, and care of animals.² For children eight years old: earth study, atmosphere, earth rhythms, cycles, sequences, changes, interrelations, conservation, panoramic conception of earth's topography, geology, physiography, meteorology, plant and animal life, marine life, woods experiences, gardening, care of animals, seashore experiences.³ For children nine years old: typography, climate, adaptations

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1. Cf. Stevens: op. cit., p. 236
2. Cf. Ibid., p. 236
3. Cf. Ibid., p. 238

to environment, and human modifications of it, agriculture, industry, experimentation, woods experiences, hikes, gardening, and care of animals.¹ For children ten years old: review of earth's origin, geological records of plant, animal, and human life, organic evolution, reproduction, geology, anthropology, biology, development of practical scientific invention, experiments in common science, care of animals, woods experiences, hikes, and camping. For children eleven years old: scientific experiments based on discoveries and inventions of the Greeks. These include sundial, compass, measurement of the earth's circumference, Archimedes' principle, geometry, the monochord, and perhaps the theory of dynamic symmetry. There were also suggested field trips, hikes, and camping.²

This list for each age group shows the wide scope and tremendous possibilities in a nature program. It also shows how limited must be a single unit of study in nature and how desirable is a progressive approach. It shows what is suitable for each age group. However, what is found suitable for the older children is based on a rich background of former teaching.

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1. Cf. Stevens: op. cit., p. 239
2. Cf. Ibid., p. 240

1. Introducing Children to Nature

With such a rich field, with a limited knowledge, and with limited materials, how is a teacher in the church school to lead a group of beginner, primary, or junior children into an understanding of nature? In the first place, the group should be organized for the purpose of nature study. There should be a unified and enthusiastic attempt to study nature and derive from it happiness and joy. The conscious purpose of the teacher to lead to the discovery of unfolding truth should guide the activities in the woods and fields and in the assembly room.

Whether with beginners, primaries, or juniors, individual and group interests should be discovered. There will be interests, observations, and individual experiences that will form a thousand leads. Early in the course a field trip should be planned. The territory to be covered should be known by the teacher, who should find objects of interest and information about them to show to the children.

There are many ways which the good teacher will find for organizing and controlling the group. When frequent field trips are taken, a certain degree of specific investigation is necessary in sustaining interest and in deriving fruitful results. Let the children go on a series of "sense expeditions." These will provide

for broad range in discovery. One day tell the children to be attentive to all the sounds. Tell them to remember the sounds. The older ones may like notebooks to record all they hear. On another day they may be sensitive to interesting things to touch. They will learn of form and texture. They will know more about prickles and down and soft moss. Later they may decide to look for colors and list them. These suggestions provide for concentrated group investigation as well as for individual discovery. If each child is told to observe a plot of ground of a few square inches or a few square feet for some minutes or over a period of days, he may discover much to contribute to the group. Further in the course, after there have been initial steps in discovering interests and in finding specific subjects to learn about, projects are desirable.

2. Areas of Experience in Nature

There can be no arbitrary decision as to subject matter suitable to beginners, subject matter suitable to primaries, and subject matter suitable to juniors. In all areas of nature there are objects of interest for each age group. It is true, however, that very young children are more interested in the animate world and in activities that center around simple observation and study of plant and animal life. In reviewing these suggestions, the teacher should think of the interests and

abilities of each age group, the possibilities for activity, and the limitations of time. She should be conscious of the laws of nature. She should see the religious implications of nature study and have in mind specific and ultimate religious aims and values.

Arising from the study of animate nature is the discovery of God's provision for life. Children learn about "God's care," but in intimate contact with plants, when they see parts that take up water, parts that receive light, parts that attract insects, and parts that make the fruit, when they see animals that have keen ears for hearing and swift legs for running, when they see how they tenderly watch over their young, then they have had lessons not only of wondrous law, order, interrelation, adaptation, and unity, but they have gained insight into the mind of God. To the child He is the God who cares.

A study of the inanimate has for a primary and junior child, and perhaps for the beginner, the message of a vast sustaining Power. The abundance of the earth's store, the majesty of earth's progress, which has left its imprint upon mountains, rocks, rivers, and seas, the forces of wind and cloud, and the relationship of earth, sun, planets, and stars are lessons of an undergirding and beneficent power. Such lessons bring the child to know God, to reverence and trust Him.

a. Plant Life

Within the field of plant life children may find selected interests which may form the basis of an entire unit of study. A series of studies may be found in dealing with trees or flowers. Mushrooms, moss, and ferns are subjects which may strike the interest of some.

Relationships are important in the study of plants. The structure of roots, stems, flower, and leaves in utilizing rain and sun, in the manufacture and storage of food, in pollenization, and in reproduction is important in showing relationships and life processes. It is not necessary that minutiae be studied. There are simple ways of teaching some of these things to beginners. The sunflower may be used as an example. It has large parts, and the progressive story of water coming from the sky to the ground, through the roots to the leaf, and of the sun shining and making the leaf green, drawing the plant upward, may be made simple and interesting for children. Plant adaptations are easy to see. The nectar lines of a violet, which guide insects, and the long spathe of the jack-in-the-pulpit, which protects the spadix, are very clear illustrations of adaptations of attraction and protection. Plants should be studied in relation to natural forces, in relation to environment, and in relation to each other.

Trees should be known not only by name, but by their bark, ways of branching, kind of fruit, shape, texture, size, arrangement and fall color of leaves, and place of growth.

Seeds as a study are helpful not only in connection with the life history of a plant, but as a separate interest. The beauty of seed arrangement within the fruit, the form, texture, and colored designs of seeds, and the adaptations of seeds for traveling are sources of interesting investigation and study. A hand-lens is an aid to the observation of the seed; it reveals perfections in form and color.

Collections are worthwhile in plant study. Here are some suggestions for activities, which may be adapted to other fields also: Collect plants, press them, name them, and group them according to family groups. Collect leaves in the same way. Collect seeds and group them according to families or mode of traveling or kind of fruit. Winged weeds make an interesting collection ranging from the tiny feathery seeds on the head of a dandelion to the fluffy seeds of a milkweed bursting out of the pod. Some other things to do are: Mark the trees with their names in a given territory; make blueprints, smoke prints, and spatterprints of leaves, grasses, and flowers; draw, paint, compose poems or descriptions; make a diary of adventures, illustrat-

ing them with pictures. Sprouting seeds, planting bulbs and flowers are further activities. Gardening may provide one of the most purposeful and worthwhile projects, when children have individual responsibility and experience in caring for plants.

b. Animal Life

The drama of animal life may be studied by the keeping of pets. Animal life in its natural setting is difficult to study, but pets may be studied and related to wild animal life. A rabbit is interesting to children. Not only do they have the joy of feeding and caring for it, but they have access to an example of God's provision in animal life. How the rabbit keeps warm, how he cares for the young, and how he is adapted for escape from his enemies by a brown coat and swift feet are simple illustrations among many which can bring the child to recognize in all life a divine plan.

Forest says:

"Especial emphasis has been placed of late upon the possibility of teaching children the facts of mating, procreation, gestation, and birth through the observation of animal life."¹

Growing Up by Karl de Schweinitz illustrates how beautifully and simply children may be taught the story of reproduction, not only by means of animal life, but also by means of plant life.

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1. Forest, Ilse: The School for the Child from Two to Eight, p. 214

In studying birds, there are many ways to make Matthew 6:26 meaningful. "Behold the birds of the heaven, that they sow not, neither do they reap, nor gather into barns; and your heavenly Father feedeth them..." The canary is useful for a close study of the bird: the wings and how they are made for flight, the kinds of feathers and how the downy ones keep warm and outer ones form an "overcoat," the beak and how it is pointed to get food, the claws and how they cling to branches. Children should see the beauty, rhythm, and varieties of bird movement. They should know the story of migration and should if possible observe the drama of mating, nesting, and feeding. Through building a bird bath, birds may be attracted and their habits and ways may be observed, discussed, and written about. Wild life should be preserved; a direct study of living specimens is desirable. Finding birds' nests, finding out about bird habits, and learning the names of birds must be a continued, careful, and quiet study.

The combined wonders of change, abundance of life, manifoldness, intricacy, pervading order, inter-relations, adaptations, and beauty are to be found among insects. The mystery of metamorphosis, the drama of industry, coöperation, and patience are illustrated by ants, bees, and spiders. The ant hill, the hexagonal cells of the beehive, and a spider's web are places of

interest where long observation will reveal interesting facts of insect life.

A nearby pond yields fish and tadpoles for observation and study of change, adaptation in structure, form, and habits for water life. An aquarium for closer study forms an interesting project.

c. Rocks, Minerals, and Crystals

The child who studies rocks, minerals, and crystals will be introduced to the story of past ages written in the surrounding soil, rocks, mountains, and plains; written in the beauty of inanimate nature; written with mathematical precision in the form of crystals; written in marks of wearing, tearing, moving, washing. The child will soon find that the earth is a potential storehouse with abundant provision for mankind. Observing surrounding earth marks, collecting pebbles, stones, and rocks, making crystals from sugar and salt solutions, playing with crystals, arranging them according to shapes and colors, have revealing significance in regard to laws of progress and change.

d. Water

Bodies of water--river, spring, brook, and sea--tell the tremendous story of interdependence and interrelation. The story of water has all the interesting elements of progress, repetition, and change. The func-

tions of water make an interesting study in carrying rock and dirt loads and in building deltas. The waves, tides, and currents of the sea should be studied by those who live near the seashore. The forms of water in vapor, rain, snow, dew, and frost, should have consideration.

e. Atmosphere

The relation between rain and clouds and a study of the moisture cycle might form an introduction into the study of the atmosphere. A knowledge of thunder, lightning, winds, and the kinds of clouds should be leads in a study of the earth's atmosphere.

f. The Earth in Space

Children are interested in the relation of the earth to space. To clear distorted notions and substitute correct ones, there is no more worthwhile study than that of the earth in space. Children should learn from a globe the shape and movement of the earth. Stevens says that by throwing a ball high into the air, she has brought children to a clearer understanding of the movement of the earth in space.¹ She says that playing with magnets reveals something of the law of gravitation.² Dramatization of the movements of the planets around the

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Cf. Stevens; Child and Universe, p. 48
Cf. Ibid., p. 49

sun and dramatization of the movement of the earth in relation to the stars are effective in clarifying ideas of movement. The prism is a source of delight to children who are introduced into a new world of color. Representation of the spectrum with colored scarfs which have been dyed by the children is a source of interest. Study of shadows, of day and night, of the moon and its phases, of stars, of their variations in brightness, of constellations, and of planets may be adapted and made interesting as opportunities arise. In a consideration of seasons and day and night there are opportunities for an emphasis on regularity, stability, and security. Not only is there the story of a sustaining force in the universe but of a universe of which man is a part, benefiting through its laws.

D. The Use of the Bible in the Presentation of Nature

Nature unfolds religious truth to the child when religious values are sought by the teacher. Religious teaching should not be thrust upon the child or be made an intrusion in his activities and simple joy of seeing nature and learning about the many interesting new things which appeal to him. What is learned can best have religious significance through the correlation of the Bible with nature study. There are rich passages

in the Bible which may form a basis for discussion and worship. The experiences of prayer and song have a dominant place in dealing with nature. Praise and thankfulness are normal expressions of a person who is genuinely impressed with the truth of the presence and power of God in creation. There should be a time and place for religious emphasis.

For beginners and primaries it is best to read simple verses which are related to the study. Children may want to learn some of them. Genesis 1 should not be neglected.¹ Passages from the book of Job and the Psalms should contribute to growth of thought and feeling. There will be words, phrases, and verses that are incomprehensible, but the sweep of a nature Psalm of praise is vast enough and simple enough to strike a wondering and sympathetic note in childhood experience. Some of the parables of Jesus draw spiritual truths from illustrations in nature, and in nature study there is a place for them, not directly for the purpose of teaching

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1. The study of beginnings is difficult. Jeanette Perkins tells how a group of eight year old children at Riverside church became interested in the origin of the world and worked through a unit of study with constant reiteration of William Herbert Carruth's poem, "Each in His Own Tongue." Her account showed that the children were immensely interested in the "saurian," "jellyfish," and primitive man, and that the teacher had to constantly point out a divine origin. Her book, Others Call It God, presents an immensely interesting problem to one who is concerned with teaching origins.

the parables, but for the purpose of discovering what Jesus saw in nature, suggesting what the child also may see.

1. A Selection of Passages

The passages of Scripture which follow have been selected according to their suitability to the three age groups. Criteria of suitability have been based on an analysis, according to ages, of children's general experiences and of their capacity for nature teaching in regard to their adequacy in providing an appropriate basis for understanding the portions of Scripture cited. This method of deciding the place of references necessitated much subjective judgment. A survey of selections of Bible references already made by others in this field for each age group has been helpful in setting up objective criteria. Some of those passages found are listed below with selections made by the writer.

<u>Beginners</u>	<u>Primaries</u>	<u>Juniors</u>
Genesis 1:1-2:3	Genesis 1:1-2:3	Genesis 1:1-2:3
Genesis 8:22	Genesis 8:22	Genesis 8:22
	Job 12:7-11	Job 12:7-11
		Job 26:7-14
Job 28:5a	Job 28:5a	Job 28:5a
Job 36:31b	Job 36:24-33	Job 36:24-33
Job 37:6	Job 37:6	Job 37-39
Psalms 19:1	Psalms 19:1	Psalms 19:1-6
Psalms 24:1	Psalms 24:1	Psalms 24:1-2
		Psalms 29
Psalms 33:5b, 6a	Psalms 33:5-7	Psalms 33:1-9

<u>Beginners</u>	<u>Primaries</u>	<u>Juniors</u>
Psalm 36:6c	Psalm 36:6c	Psalm 36:6c
Psalm 40:5a	Psalm 40:5a	Psalm 40:5a
Psalm 74:17b	Psalm 74:17b	Psalm 74:17b
		Psalm 93
Psalm 95:5	Psalm 95:1-7	Psalm 95:1-7
	Psalm 96:1-3, 11-12	Psalm 96
		Psalm 97:1-6
Psalm 98:1a	Psalm 98:1a	Psalm 98
Psalm 104:10-14, 20, 24	Psalm 104:10-24	Psalm 104
Psalm 107:23-24, 29	Psalm 107:23-32	Psalm 107:23-43
Psalm 111:2a	Psalm 111:2a	Psalm 111:1-6
Psalm 118:1	Psalm 118:1	Psalm 118:1
Psalm 121:1-2	Psalm 121:1-2	Psalm 121:1-2
Psalm 135:5-6	Psalm 135:5-7	Psalm 135:5-7
Psalm 136:1, 7-9	Psalm 136:1-9	Psalm 136:1-9
Psalm 145:9	Psalm 145:9	Psalm 145:5, 9
Psalm 147:4, 5, 18b	Psalm 147	Psalm 147
Psalm 148:1-3	Psalm 148	Psalm 148
Psalm 150:6	Psalm 150	Psalm 150
Proverbs 6:6-8	Proverbs 6:6-8	Proverbs 6:6-8
Ecclesiastes 3:11	Ecclesiastes 3:11	Ecclesiastes 3:11
Song of Solomon 2:11-13	Song of Solomon 2:11-13	Song of Solomon 2:11-13
Isaiah 45:6b,7a	Isaiah 45:6b,7a	Isaiah 45:6b,7a
Isaiah 55:8-11	Isaiah 55:8-11	Isaiah 55:8-11
Daniel 2:21	Daniel 2:21	Daniel 2:21
Matthew 6:26,28	Matthew 6:26-30	Matthew 6:26-30
	Matthew 7:16-20	Matthew 7:16-20
	Matthew 9:37-38	Matthew 9:37-38
Matthew 10:29-31	Matthew 10:29-31	Matthew 10:29-31
Matthew 13:1-9	Matthew 13:1-9	Matthew 13:1-9
		Matthew 13:24-30
Matthew 13:31-32	Matthew 13:31-32	Matthew 13:31-32
	Matthew 18:12-14	Matthew 18:12-14
	Luke 6:43-45	Luke 6:43-45
	Luke 10:2	Luke 10:2
Luke 12:54-55	Luke 12:54-55	Luke 12:54-55
	Luke 13:6-9	Luke 13:6-9
Luke 13:18-19	Luke 13:18-19	Luke 13:18-19
	Luke 15:3-7	Luke 15:3-7

2. Suggestions for the Use of Nature Passages

For juniors and older primaries studies in the

Bible can be made to form a very real and connected part of a nature program. The following are merely suggestions to the teacher. Psalms 104 and 147 have been selected for special study.

The following are some suggestions for Psalm 104:

What are the things mentioned that God made?
What is the Psalmist's story of the creation of the world?
What do we learn about God from this Psalm?
What word pictures do we find?
What are the large things mentioned?
What are the small things mentioned?
What are the living things mentioned?
What are the things without life mentioned?
What are the new things we have learned about nature?
About God? About life from this Psalm?

The following are some suggestions for Psalm 147:

Why does the Psalmist want to sing unto Jehovah?
What are the things in nature mentioned?
What are the things named we have studied about?
How have we learned that God makes rain, clouds, and grass grow?
What are the colors mentioned?
What things do we touch?
What things do we hear?
What are the gifts to man?
What do we learn about God?
After studying this Psalm, what things in nature would we like to learn more about?
What things would we like to do?
What things would we like to draw or paint?
Shall we compose a Psalm of our own?

E. Summary

The establishment of aims, principles, and methods, and a survey of the areas of experience in nature, including a consideration of the opportunities they afford for creative and religious activity, clarify the meaning of the use of nature in the religious education of children. It is found that such a study of nature requires the establishment of specific aims, the highest of which are: to lead the child to know God, to lead to a knowledge of God through an understanding of natural laws, and to lead children to reverence and trust God. There are specific aims of simple nature study which help the teacher to realize these comprehensive aims. The formation of good character should be at all times uppermost in the teacher's mind.

There are principles in presenting nature to children which, if properly understood and observed, will lead to the successful use of nature in religious education. These principles are: the recognition of natural law, making direct contact with nature, allowing for the gradual unfolding of nature, teaching at the time of aroused curiosity, following a psychological procedure, leading to opportunities for creative and religious expression, teaching with enthusiasm, and recognizing the dangers of a religious approach. These

principles are in regard to nature, to the child, to the teacher, and to a religious approach.

Nature presents many broad areas of study and experience which appeal to all ages. In the animate and inanimate worlds there are a variety of interests for children of different ages. The animate has a strong appeal to the very young child. The field trip is the best way to bring the child into intimate contact with nature to discover his interests. In a study of plants, moving life, the surface of the earth, the earth's interior, and the earth in space, there are many opportunities for creative activity. In all areas of nature study there may be discovered by the child great religious truth, which gives nature study its religious value.

In the use of nature there arise opportunities for worship. Prayer, song, and Scripture may form a natural part of a nature program. Selection of passages from the Bible and brief suggestions in the study of two Psalms were made in view of the fact that the Bible has a contribution to make in the appreciation and religious interpretation of nature.

SUMMARY AND CONCLUSION

SUMMARY AND CONCLUSION

Before answering the question, "What is the use of nature in the religious education of children?" it was necessary to discover whether or not there is justification for its use. Evidence based upon the study reported in the first two chapters showed that the child's needs and capacities, as well as the values inherent in nature, justify the use of nature in the religious education of children. To define specifically this use was the writer's purpose next. Chapter III, in establishing aims, principles, content, method, and the contribution of the Bible, sought to show that nature has a use which may be practically illustrated in a variety of activities.

In investigating this problem as thus indicated, what specific discoveries were made? It was found that the religious consciousness of children and certain native characteristics evidence both a capacity and need for nature study. It was found further that religious experience and a sense of worship are manifestations of religious feeling and that animistic, artificialistic, and filial conceptions of God are expressions of religious thought. Considered as a whole, these areas of

thought and feeling constitute significant areas in the religious consciousness of children. The capacities of children related to nature, namely, perceptive powers, curiosity, imagination, and an esthetic sense, showed further need and receptivity to some form of introduction to nature.

It was found in the study of the values inherent in nature that through nature there is a means by which the needs of children may be met and there is a way to satisfy the demands created by the personality of the child. By means of an appeal to the child's desire for the concrete, it became clear that a true sense of God could be derived through the recognition of divine manifestation in the objects of nature. Not only was it seen that a sense of God comes through children's sensitivity to the concrete, but through their sensitivity to the spiritual, in their feelings of wonder, awe, and reverence, which lead them to thoughtfulness and to worship. It was found that the effect of nature is upon the intellectual, emotional, and volitional life of the child, that is, upon the whole personality in expanding thought, cultivating lofty feelings and creating strong character.

The fact that nature has values for the child, who is ready for them, led to the study of a plan whereby values might be realized. A study of aims, princi-

ples, content, and method revealed that a practical program, religious in emphasis, may be carried out for beginners, primaries, and juniors. To lead the child to know God was stated as a comprehensive aim. Definite aims grew out of a further analysis. They were stated thus: to lead the child to a recognition of universal laws, which will bring him to a recognition of the wisdom, power, and love of God; to guide the child in developing an attitude of reverence and trust, which will be the result of the recognition of the wisdom, power, and love of God. A successful program in nature study was discovered to be dependent upon well-defined principles. These are: providing a natural and direct contact with nature, allowing for the gradual unfolding of nature before the child, teaching at the time of aroused curiosity, following a psychological procedure, providing opportunities for creative and religious expression, teaching with enthusiasm, and recognizing the dangers in the religious approach. After a survey in the field of nature study it was found that all areas of nature appeal to children and that it is necessary for the teacher to discover their interests by allowing opportunity for individual investigation in the realms of animate and inanimate nature. Song, prayer, and Scripture were named as means of best increasing a religious emphasis, already found to be derived from nature itself.

Selections from the Bible and a few suggestions for its study were made because it became clear that the Bible, in representing nature accurately and in portraying God as Lord of Creation, contributes to a true appreciation and interpretation of nature and to an understanding of God.

There is a place for nature in religious education, and its inclusion is justified on the basis of the opportunities provided for leading the child to religious truth. Insofar as nature yields religious truth or teaches religious truth, or lends itself to a religious program, just so far can it be considered a subject for religious education and a field for discovery and inquiry. Since there is a definite place for nature in religious education and a variety of ways in which it may be used, opportunities should be created for the study of nature from a religious point of view. There are many possibilities for its inclusion in a church school program, as already suggested, namely, in the summer camp, in the vacation church school and week-day church school, in clubs, and in the Sunday church school. There are opportunities for such a program in the small town, in rural districts, or in the city where there are parks and museums. A nature program is unique in its provision for freedom, initiative, and originality. If a child is properly introduced to nature, he is intro-

duced to a life study which will enrich his experiences.

It is not simply in developing a life-long interest in nature, of seeing the beauty of the world, of having a place of refuge, that nature has its greatest value for man, but it is in illustrating the teachings of Christ. Can there be a higher aim in religious education than that of leading the child to know God? Was it not the purpose of Christ's mission to reveal the loving Father? Is it not the end of our salvation to know Him? Ultimately, it is not a love of nature that should be sought, but a love of God, its Creator and Sustainer. If the child, after having studied nature, has learned more about God, he is rewarded if some day he forgets when, where, and how certain truths have come to him.

A single nature unit may not reveal God. Even a continuous study of nature can not reveal God as He is completely. What, then, is the true reward of contact with nature? It is the starting, encouraging, and stimulating of a quest for God, Whose laws, though fathomed to some degree, remain silent when we desire to know more. Reward is found when the child begins to think, not only of how clearly is truth revealed, but of how much of truth there is to learn. It is found when he has the insight to see that, though simple, nature has revealed a vast store of secrets, and though God has

been revealed in part, yet He remains to be more fully known through the revelation of Himself in Jesus Christ. Would not these words sincerely uttered by a child be a reward to the teacher who is seeking for the reflection of long hours spent with nature: "Great things doeth he, which we cannot comprehend."¹

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1. From Job 37:5

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