THE LOVE OF NATURE.

Dr. Hall's Fourth Lecture to the Joint County Institute of Press.

Civilization the Complex Product of Nature Study—Love of Nature Should be Made the Prime Force of Education—Science of Today Not Antagonistic to Religion.

Dr. Hall began his lecture on the Love of Nature by remarking that nothing is so practical as the ideal, and justified the paradox by showing that all great movements are ideal before they become practical. Man puts conceive before he can achieve. Conceptions are realizations and may be regarded as the spiritual patterns of acts and deeds. It is the tendency of abstractions to incarnate. What a man thinks persistently he at last becomes; and if this be true of the individual, it is true still of the race. What is the dream of one generation becomes the dream of the next.

The interests of mankind have never been so numerous and diverse as they are in our own day. The activity of the human mind in ten thousand different directions, has so specialized the pursuit of knowledge that no one realizing could be laid down to suit the inclinations of all; but we can nevertheless recognize that there are some that move the world, and these may be termed the central interests of the destiny to the future, even as they have shaped it in the past. They are four in number, viz.: science, art, literature and religion. These may be called trunk studies, all other divisions of knowledge unstrile them like twigs or grow out of them like branches.

In each of these fundamental branches the same law holds: Love of nature is the measure of eminence. It is not too much to say that the motive power which has given the world all its greatness and glory, all its civilization, is, at the last analysis, a strong love of nature. It is a narrow theology which interprets love of nature as opposed to love of God. Much better is that conception which regards the love of created things as part of the worship of the Creator.

MOTIVE POWER IN SCIENCE.

All our eminent scientists have loved nature with a devotion and steadfastness which often saved the affection of man for woman, of parent for child. Read the history of astronomy. It will invariably be found that the great men in this field of research, were men who would wander by themselves at night, finding joyful companionship with the stars. They grew to be men who sight after sight would sit in rapt ecstasy with heavenly eyes turned towards the heavens. I have a friend—Prof. Lowell—who spends months at a time amid the loneliness and rigorous climate on the summit of Mount Chimborazo, merely to study the nature of the canals on the planet Mars. His life is willingly devoted that the world might have—what? Perhaps some new line of truth in a science textbook.

Examine the growth of every other science that has contributed to make the world what it is. Each tells the same story—the story of early attachment and life-long devotion of single-hearted men in all the sciences who have sacrificed the enduring ties of society, and the seductive pleasures of note, and gone out into nature's wilds and toiled alone, bringing back with them truths for which they have had to suffer ostracism, persecution and sometimes death. What has enabled them to persevere in their investigations? What has given them fortitude to suffer martyrdom? Their intense love of nature, and the sacred devotion to truth which such a love begets.

For ages mankind has worshipped at the shrine of saints and religious martyrs. Their names fill the pages of history, monuments are raised over their tombs, sacred relics of them set in multitudes of men and women as talismans, and even the days and weeks and months are redistributed to do them honor. Far be it from me to derogate from their fame or minimize their virtues or achievements where these have been for the benefit of mankind.

But the real martyr is not he who has lived a life of isolation in the cities or cell or desert, contemning to the world, despising the creations of God as filth and dross, and refusing to lend a helping hand for the betterment of the race. For more months he lived this life who for a life given to patient investigation, has won from nature the emancipation of her children who has given to man the knowledge that today makes him a master of force of which he was once a slave. It was therefore, a beautiful thought which has recently led a French scientist to get up a new saints' calendar displacing the names of haters of nature who did much to bring on the dark ages and substituting the names of lovers of nature, who have ushered in the age of light.

SECRET OF GENIUS IN ART.

What is true of science story is equally true in the study of art. Inspiration must be drawn directly from nature. The great painters, sculptors, architects, musicians and poets have first of all been children with hearts open to the influence of nature. Hence, the secret of all the great masters. Says Prof. Ruskin: "The best artists are those who owe their inspiration to nature rather than consciously upon them during their youth." Eminence is not due to locality, and only partly to training. The real controlling element in genius is the mastery of nature-power which the soul has inbilled. He is alone to express the truth, says Ruskin, who feels most strongly the nature of nature.

That this is so, is not strange. Nature is constant and acts on successive generations much alike. Hence that part of the artist's work which bears most strikingly the impress of nature cannot fail to appeal to the human heart throughout all time. While that which comes from the immediate influence of a passing age and local surroundings is likely to be the same as to be transitory, however popular it may be at the time of its production.

"The city of the northern is almost manufactured," says Dr. Heptonstall Kaye of Germany, "and that of the south is being selected by the professor to make the work of books. The middle man between nature and the child, the man who stretches the principles of the technical and refines and elevates it for the supposed need of the page and the drawing-room, is the poet and the artist." The world is ever their more delicate teeth. The artist is he who, not satisfied himself with knowledge of second-hand, seeks to lead his students directly to nature's shrine. He is an artist because the stream of nature's life spatters on his soles. He comes to be artist and becomes teacher (Professor when the stream reaches the mind heart or deep up. The source of nothing art is a fact perceived by the eye like that of the marvelous. Whatever are a source are formed upon the eternal forms of nature.

THE LIFE OF LITERATURE.

Literature is but another form of art. And is be lost truly influenced by the same source of inspiration. The poets are first of all great nature lovers. "The moment Homer, Dante, Shakspere, Wordsworth, felt often kindle thoughts too deep for words." Read Robert Burns's poem addressed to a Daisy, and "To a Mouse," if you would see how deeply the refined genius feels compassionate in the humblest of nature's children.

The earliest literature of the race owes its rise to the direct impressions of nature on the mind of man. The Vedas of India have been shown by Max Muller to be a heathenish mass of fabled metaphors—transcriptions of natural phenomena, for they represent the plastic imaginations of our Aryan forefathers as the wonderful arrangements of Heaven and Earth, when carefully scrutinized, is found to be nothing but idealized nature. Even stand the sun, Dyaus for the moon, Mars for thunder, Pluto for volcanic phenomena, while the seasons of literary genius, symbolized by goddess, remain so valid. So the Norse and Icelandic mythology is but a collection of the observations and interpretations of nature made by that somber but heroic people. Even our Indian myths are all ultimately upon a back-ground of natural phenomena.

Nor is it difficult to find the poetic of nature in the sublimest productions of literature. Shakespeare, Milton, Goethe, Byron—what would they be without the voice of nature which speaks from their works—without the heart and warm blood of nature which thrill in as we read? Indeed, it is safe to say that he who does not love nature on his own account, can never set foot within the sanctum of literary genius, either as creator or as visitor.

NATURE AND RELIGION.

The oldest religion in the world, that of India, arose from nature-contemplations. Its creed is Nirvana, the Hindu idea of God and of heaven, but a delineation of infinite space. The Persians also worshipped their Deity reflexes from observing the stars. The whole long list of Greek deities came from studying the mysteries of their nature with human attributes. The same is true of the gods of the north, the great religions of the world from Zoroaster down to Mohammed, and even Christ, Buddhist and Christian alike have but evolved them of imaginative extra-spatial and substituted rationalized conceptions. Now, if the parallel which will once maintain between the childhood of the race and the childhood of the individual be well founded, we should expect children in our day to be nature worshipers, and this is exactly what we find when we scrupulously analyze the fancies and vagaries of childhood. Flowers, plants and trees are spoken to and treated by children as if they had life; birds and animals and fishes are quite endowed with human attributes. At a little later age, great faith is placed in charms, amulets, divinations, and any devices of necessary. This is the flowering instinct of fetish-worship, an instinct which many people right in the blade of civilization do not outgrow.

PARADOX OF THE TADPOLE.

What then shall be our attitude toward these characteristics in child-growth? Shall we seek to encourage these early instincts of the race, if they are extinct, or shall we seek to repress them, as unworthy our state of civilization? Listen to the parable of the tadpole. Every child knows that the frog at first has no legs but moves by means of a tail; but not every child knows how the legs grow out or what becomes of the tail. Do you, fellow-teachers? As the frog can have no earthly use for a tail, it would at first reasoning seem to be an act of kindly assistance to nature to cut it off, and thus hasten the development of a pair of legs. Why should we do so, as no frog would appear? Why this is so we cannot tell, but we know that it is so.

Now, the human body has at least no rudimentary organs, which go through a similarly indirect evolution, and there is no doubt that the mind is constituted in the same way. Now, suppose we attempt a short cut to the development of these faculties—that is, to put the rationally inquiring cut off these numerous mental tadpole tails—we shall inevitably injure the wonderful power for life.

HELP RATHER THAN HINDER EVOLUTION.

The only logical conclusion that biology can reach from a careful study of child-development is not to interfere with but rather give full play to these primitive instincts, introduce the child to nature at as early a date as possible, and foster a strong love for natural objects, no matter how irrational the method. Do not hesitate to indulge the child with myth and fairy tales to its heart's content; for the time will soon come when the tadpole tail of fancy will gather itself and grow into the strong legs of imagination and intellect.

This then is the argument for using nature myths in the school room, and for encouraging those inquiries about Santa Claus. Above all, it is necessary to cultivate the child's mind with absorbing interest in nature, in the changes of the seasons, with the habitations of birds and beasts, and accompany early in the fields and bird and beast and insect and plant life, and let the child grow up full in the joyous glamour of fairy life which is so attractive to child hood.

From such a baptism in the Nile shall grow the strength and courage of a hero age to pioneer the sciences, ennoble the arts, invigorate literature, and infuse faith and spiritual warmth into religion. But without it, we shall produce a race capable only of snarling over the dried bones of facts, feeds facts. A weekly attempt at nature-teaching are like the inoculation of cowpox to prevent small-pox; it vaccinates against a love of nature in childhood.

METHODS OF TEACHING.

A few remarks on the prevalent methods of nature-teaching may not be out of place. Nature-study is beginning with classifications. Botanical lectures, however, vanish at a later age, in a sense, the opening minds of children; what is worse, to have and dissipate these with the subject. Pursue the natural method, which is the main, is the method that children would most thoroughly follow it (street lessons in the fields and meadows. Childhood seems to be nature's special study, the purpose of nature-teaching is not to store its facts than to develop mental tadpole tails.

Following general conclusions may safely be arrived at:

The anthropic way of beginning nature-studies is the natural way. The objects taught may be seen for-

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gotten, but they are necessary to give complete development to their elements. The intellect might perhaps be cultivated without them, but the heart would be starved, and for the future love of nature, the heart, incomparably more importance than the head. Morals and religion would not be possible without it.

2. We should teach wholes first and parts afterwards.

3. We should not stop the progress of enthusiasm for a natural object by exacting its language studies. I recently listened to an exercise that nearly like this: The teacher had distributed a number of literary gems, then asked:

"Charlie, what kind of leaf do you hold in your hand?"

No answer.

"Teacher—This is a parallel-veined leaf. Repeat it, Charlie."

"Charlie—This is a parallel-veined leaf."

"Teacher—Repeat it class."

"Class—This is a parallel-veined leaf."

"Teacher—Write it on your slates."

"This was done, when the teacher said: 'Now read it in concert.'

"Class—This is a parallel-veined leaf."

Could any device be more diabolical to arrange to make children hate nature study?

The method-disease in education is the growing curse of this country. The impression seems to prevail that information concerning natural objects cannot be understood unless cut and shaped by the same method supposed to be indispensable as a means of entering the mind of the child. Then, too, truths of science are withheld on the theory that they are not elementary enough to be understood, suppose the child should not grasp it all, is that a reason why he should learn nothing? It cannot be too often repeated that it is not so much for the sake of strong facts as for mind-development that early nature-work should be given.

Then, too, we have go to should extreme in underestimating the capacity of children. They are able to understand, not in all a fair idea of, the profoundest discoveries of science if presented in such a way as to excite interest. Not long ago I heard a professor surprised to hear a young lady explain to a class of wide-eyed little tots the theory of and use of the lever. She did it with unusual tact and skill. We make a mistake in teaching to children only the elements of science. The latest discoveries are usually the best, and surely they are the most interesting.

SCIENCE AND RELIGION.

It is a melancholy fact that while the book of nature—nature's Bible—is being demonstrated more and more clearly in the biological laboratory every day of the existence of the schools show a decidedness in nature-teaching, and a fairly back upon old and dried school pabulum. The fear seems to prevail that the nature-teacher is in danger of infidelity. It should be known that such fears are groundless; for whatever else there may have been for such a conclusion in the days when Tyndall, Huxley, and Spencer dominated the scientific world, these days are now nearly forever passed, it is to be hoped. These men, who for a generation or more have antagonized religion, are now backsliders, and today a band of investigators stand at the head of science, who so far from scoffing at the reality of religion are earnest students alike of revealed and natural religion.

An English poet, whose mistress had somewhat plain features, replied, when accused of her ugliness, "Ask me not why I love her, for the soul is so wonderfully beautiful that I cannot see her body." Ask not why I love nature, for the soul is so wonderfully beautiful that I cannot see the