THEORY AND PRACTICE

OF

EDUCATION

WITH SPECIAL REFERENCE

TO

INDIAN SCHOOLS

BY

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Indian Educational Service, Madras

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MADRAS

TO

MY MOTHER

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PART II. PRACTICE OF EDUCATION

INTRODUCTION

In writing my book, I have been actuated by the desire to help teachers and those who are training to be teachers. Having been essentially a trainer of students, who have chosen teaching as their profession, I am deeply interested in everything that has to do with the study of the mind and its application to education. As such, I have written the book as simply as possible, avoiding terms that might not be understood, so that the meaning might be intelligible even to those who have read little in Psychology.

I have always been deeply interested in the education of the child in India and, would like to do something, even though it may be little, to inspire others to study the child and his needs and to teach educatively.

Teaching is an inspiration to me and I want it to be the same to others, so that they may love and enjoy their work and

go forward, always seeking fresh light on the Theory of Education, that might help their pupils and students in the noble work of educating themselves and, in making them as perfect as possible in whatever stage of development they might be.

I have tried to show how important it is to try to help pupils to educate themselves, to control themselves and to learn to be independent and, I have also tried to explain what the work of the teacher should be. The work of teachers is harder than we think it, because they will have to think deeply, in arranging the environment on which the pupil in every stage, will work. This is no child's play as it requires a broad out-look on life, much intelligent reading, a constant study of the personality of each child and the preparation of material on which he must work. It requires unselfishness and whole-heartedness, in spite of countless difficulties and discouragement but, it is worth while.

I have been helped in writing this book by the following people whose

works I have read and by talks I have had with some of them personally and am grateful to them.

Dr. Stout's groundwork of Psychology.

Teachers' Psychology by Prof. James.

Psychology by Prof. Nunn.

Psychology and books on the Teaching of English by Prof. Cock.

Psychology of Education. Prof. Welton.

Dr. Montessori's methods.

Theory of Education. Miss May Smith, Senior Investigator of the Industrial Research Board, London.

Social Psychology by Dr. McDougall.

In conclusion, I thank Mr. R. Littlehailes, Director of Public Instruction, Madras, for the opinion he has so kindly written on this book, also, Dr. Woodburn, Professor of Psychology, Madras Christian College for his letter reviewing this book and, Prof. A.A. Cock Professor of Education and Philosophy of the University College of Southampton for his preface.

I sincerely hope the book will be of use in Training Colleges of Secondary and Collegiate grades.

MADRAS
20 December, 1926. M. C. EWART.

PREFACE

It is with pleasure that I commend to Indian students and especially those in the Madras Presidency this book on the Theory and Practice of Education by my friend and former colleague Mrs. M. C. Ewart (née Chatterton). During her stay at Southampton I learnt much from her on the contribution of Indian thought to pedagogy and philosophy in general: and in reading the manuscript of her work I have been impressed with the way in which she keeps the particular needs of Indian students always in mind. For while the mount of vision is one mount, and the vision is one, there are many paths up the hill of the Lord, and we are not all obliged to follow the same path. Mrs. Ewart's book is illuminated by the vision while at the same time it offers a chart for the both the adventurous and the less tutored explorers by means of which to follow the trail. On the difficult and vexed question of individuality and personality the author writes cautiously, well-knowing the metaphysical spectres that haunt the psychologist and pedagogue herein. She

affords a safe guide, too, in the not less difficult and certainly more dangerous questions of complexes and instincts healthy and unhealthy. In that field of education where the vast experience of India in meditation and prayer applied to craft work and the creation of beauty is so rich and suggestive, that is, on aesthetic education Mrs. Ewart writes suggestively and well.

But if a book is what its author makes it, it is also what its readers make it. Those who come to this book with an open, enquiring and understanding mind will find in it much both to instruct and delight.

> For ah, we poets, I misdoubt
> Are little more than thou,
> We speak a language taught we know not how,
> And what it is that from us flows,
> The hearer, better than the utterer, knows.

Is not Francis Thompson's message true for India as for any other land of beauty and desire? And is it not a true commentary for the reader of a book?

ALBERT A. COCK

Decr. 15th, 1926

University College,
Southampton.

OPINIONS.

OFFICE OF THE DIRECTOR OF PUBLIC INSTRUCTION,

THE OLD COLLEGE
NUNGAMBAKKAM.

Madras, 10th October, 1926.

Mrs. Ewart has asked me to write a brief preface to a book on the Theory and Practice of Education which she is bringing out. Having read the opinion of Mr. Woodburn, Professor of Psychology of the Madras Christian College on the book and knowing the experience of Mrs. Ewart in the training of teachers in South India I have little doubt but that students who desire to take to teaching as a profession will find the book most useful. There are none too many really good books available on this subject treated from the standpoint of one who has had long experience in training teachers in South India and I feel sure that Mrs. Ewart's book will fill a gap in the

libraries of those who are interested in the training of students for the profession of teaching.

R. LITTLEHAILES,
Director of Public Instruction,
Madras.

CLAYCROFT, HARRINGTON, ROAD,
Madras, 6th October 1926.

From

THE REV. A. S. WOODBURNE,
M.A., B.D., Ph. D.
Professor of Psychology,
Madras Christian College.

To

MRS. M. C. EWART,
Principal, Training School for Mistresses
Egmore, Madras.

Dear Mrs. Ewart,

I am returning to you the manuscript of your book on the Theory and Practice of Education. I am sorry to have been so long in returning it, but I wanted to

read it through with considerable care, and time has been hard to find. However I have at length been able to do so, and I want to say that I found it exceedingly interesting and well written. Your style is very easy and you have succeeded in presenting a great deal of the practical aspects of educational psychology in a sufficiently popular style to be of service to students who have not had the advantage of a college course in Psychology. I certainly think that your book will be of great value in training schools and colleges, and, if I may say so, will be of particular service to students of secondary training schools. It ought to be of real value also to students of secondary training schools. It ought to be of real value also to students of the L. T. course, particularly those who have not taken Psychology in their Arts course. I sincerely hope that when the book is published, students will show the appreciation that it deserves by reading, marking and inwardly digesting its valuable contents. I do not know of any other book that covers the same field so advantageously for the Indian training school

student, and it is no small merit to be able to write a book, in these days of many books, that meets a real need. I must congratulate you on your effective interest in this important field, and wish you success in the publication and sale of the book.

Yours faithfully,
A. S. WOODBURNE.

THEORY OF EDUCATION

CHAPTER I

THE AIM OF EDUCATION

When we consider what education meant in the time of Rousseau, we are relieved to find that, in these days some attention at least is being paid to the needs of the child.

Rousseau found that the curriculum in schools was planned first and the child had to adapt himself to it whether it was suitable to his growth and development or not. He was required to study certain subjects and a definite amount was prescribed, no account being taken of his needs.

"Let the child lead," cried Rousseau with insistent voice, "and then adapt the curriculum to suit him."

At the present time, we find teachers who are desirous of doing this, but they

do not know *how* to study the child in order that they might suit their methods accordingly. They, also, feel bound to pay more attention to the wishes of ruling bodies and to try to please them than to teach educatively, for though more latitude is given to the teacher now in planning his curriculum, yet the fact remains that there are still bonds to be torn asunder.

To teach it is necessary to have a knowledge of the child. There are many who observe their pupils sympathetically and have, therefore, a practical knowledge of them, but they are unable to formulate their observations into any theories from want of sufficient proof. The various books dealing with the growth and development of the mind, they find too bookish and formal and so, they go on from year to year groping in the dark, the children meanwhile being the sufferers.

A theory of education is necessary if the teacher be desirous of doing his work thoroughly and many books have been written and arranged so simply that, it is quite possible to follow and understand

the results obtained, after repeated observations of hundreds of groups of children; a teacher who wishes to do his work effectively should use such a book to enable him to understand how the mind of the child develops. His own observations, meanwhile, should go on side by side, for without this practical knowledge theory is of no avail.

In historic times, man's inheritance has not altered but his environment has. Each generation is born into a different social environment and new elements therefore appear, and in no period do we notice this more than at the present time. We teach to fit individuals for an environment into which they are not born; and in this age, knowing that allowance must be made for individual difference, we must arrange that each child gets his chance in developing his initative. The child's mind and character unfold from within. Education can only give all the help possible in the environment to guide the child in the building up of his body-mind and character.

Every educator has tried to formulate an aim in education and we know from

experience, how divergent are the aspects that different minds accentuate in their attempts to centralise their doctrines.

Dr. Stanley Hall dwells on the education of the muscles affirming that, the development of the mind is so dependent on the body that, given the training of the muscles, the growth of the mind follows naturally.

Who has not heard that the aim of education should be the training of character? Yet, there can be found no agreement as to what constitutes a good character, for what appears to one individual to be good is sometimes repulsive to another.

The utilitarian aspect is one that often appeals to parents when they send their children to school intimating, and quite rightly too, that they wish them to be fitted for some definite work in the future. More often than not, the children themselves are not taken into account, being forced to learn just what their parents and teachers impose upon them.

Again, many books have been written on the sacrednes of the individuality of the child while others, taking the opposite

view have declared that the individual should be merged into the state. This latter idea was seen in the militarianism of Germany and the Great World War is the judge of such an aim.

Within the last few years, Dr. Montessori's voice has been raised proclaiming 'liberty' for the child. Her aim in education is auto-education, the child being made responsible for his own development. He is to be surrounded with the right environment to aid him in his explorations and in the growth of self, the teacher being responsible for the arrangement of the surroundings according to each stage of the child's development. The pupil then is allowed to choose *what* he should learn, *how* he should learn and for any length of time that it is pleasureable to him, the teacher being there to arrange the environment and to guide when his help is sought.

The Prince of Wales, in a speech on Education once said that the aim should be to give every child a sporting chance. We know that children hindered by physical or mental weakness are given very little chance of recovery and those who

are well-endowed are hampered or made dull by superficial education imposed on them from without. To give every child "a sporting chance" would entail "making haste slowly" at the beginning in allowing pupils to gain their experiences through direct contact with the environment, but the gain will be deep and lasting in the power or capacity developed.

The tendency to-day is to give the child scope for the growth and development of his individuality and quite rightly too. Men and women have been all of one pattern mainly, absorbing traditions and knowledge without much of interaction of the individual's thought on the surroundings. Nothing good enters the world except through the free activities of men and women and we must remember this and give the child free scope for his individuality. The child is an individual and the teacher has to remember that the material of his mind is his own and different from others and should therefore allow it to develop unimpeded. Are we then to foster the individuality of the child so that each one will go his or her way and instead of harmony breed

discord in the world? We may well ask what would be the state of society if such an education be planned.

In giving scope for the growth of individuality, we do not mean that there should be a curriculum for each child or that liberty means license. We must not forget that individuality flourishes only in a social atmosphere where it feeds on common activities. The individual grows best in contact with his own kind for he is a social being. In school, there is the common life in the class room which helps children to realise themselves when mixing with other members of the class. The child will be trained certainly and there will be a few rules, but when there is also scope given for development of individuality, we will find that children will be anxious to express themselves in their own way and assert themselves but always with reference to others around them. Too often in the past they were forced to take over, without question, ideas from without and thought and action not their own. We need an aim in education which "emphasises the importance of the individual and safeguards

his rights." He is of great value to himself and to society and we must begin to realise that the responsibility of a man's destiny lies with himself and give him the opportunity for his self assertion.

With such an aim before us, educators will refrain from forcing themselves and their ideas on their pupils, from urging children on at any set pace and from laying too much stress on emulation. If in examination, for example, original thought and opinion were set more store by than the cramming of facts, how different would be the outlook of pupils? Instead they are very often afraid to write their own thought in case their ideas may be in opposition to the examiners and so failure will be the result.

Educational efforts then must be limited to securing for each individual the conditions or environment under which individuality will be best developed. The way in which each child develops will be his own but this does not mean that there are no responsibilities for the teacher. His work will be that of supplying the environment and so supplying the right material needed in each stage.

He will also be there to guide pupils' activities but not to force his way of thinking on them. They should be allowed to express their ideas and opinions and substantiate what they say; a child should also, be allowed to make mistakes and to learn from them.

Briefly then, we find that (1) the child and his need should be in the forefront of educational effort (2) the teacher should have a theory of education to guide him in his observation of his pupils (3) the aim of education should be to defend the child's right to educate himself, to preserve his individuality, and to provide him with the right environment to enable him to use the material within (4) The educator should seek to enable the pupils to attain self-realisation and should refrain from forcing himself and his ideas on them. He will gladly act as a guide and especially in the early stages guide them by suggestion. His problem is two-fold. First, he has to discover what is the highest stage of development possible in the case of each child and secondly, he has to find some means of enabling him to reach this stage. Our

failures in the past have been due to the fact that we have been ignorant of the way in which the mind of the child works, but this obstacle has been removed in the knowledge we have of Psychology. We have failed, also, because our standard curriculum was set and like the laws of the Medes and Persians could not be changed. We have a more flexible curriculum now and so are better able to modify the environment. Popular thought is slowly swerving on the side of greater liberty of idea and action and this is of help to the educator. Our failures have also, been due to educators themselves who thought it was their duty to make pupils view problems through their eyes, who suppressed individuality through a a mistaken idea of doing their duty in *training* their pupils. Very slowly we are realising that the more of an on-looker the teacher is, the better. His place is to guide not to lead. The more his pupils do, and this must be according to their strength, the better an educator he will be, but even when pupils have to do things, should see that they do them in their own way. It is quite true that hu-

man activities are rather strictly hedged around but in them there is scope for the development of individuality which should be the aim of education. The realisation of the sanctity of the self will lead to great things in the future.

CHAPTER II

SENSE TRAINING

One of the newest developments in education has been the formation of Nursery schools. That the child's physical welfare should be carefully watched, nourished and tended is a step in the right direction when we consider that, wherever we turn, we find children whose growth has been retarded from want of fresh air and food, while others suffer from diseases brought on from neglect. If education is to be effective to the highest degree, it is important to see to it that the senses of sight, hearing and smell are unimpaired but should they be defective in any degree, we must see to it that instant and careful attention be given to such cases. "Prevention is better than cure" and when Nursery Schools are the means of giving children a sporting chance, they are more than worth while. In them, skilled nurses not teachers are

employed, who having been trained efficiently for their work watch over the lives of their children, control their diet and everything that tends in helping to develop growth. Habits of cleanliness and regularity are formed and the child flourishes naturally in surroundings where happiness and sympathy are found. The rooms too are furnished simply and suitably, the furniture is light and everything is bright and clean. Attractive pictures are on the walls; there is the garden and life in the open whenever possible, which helps in building up the body.

Cultivation of healthy mental habits should, as we know, be begun very early in the brain before children begin to speak and everything that helps the health of the body and the future power of the brain. There must be air and light and comfort and everything that makes for happiness. There should be regularity in the times of attention to all his wants, such as time for sleep and outdoor airings. This will prepare him for methodical occupation later on.

Early training of speech may be

tried in the child's second year and in his play many impressions are made by sound and sight and touch.

When children first begin to attend school, their room should resemble a nursery. There should be toys of all description provided for them and sufficient space for a good deal of movement. Picture books should be found there and some of Montessori's apparatus to play with and bricks and cubes to build with.

We find then that the child grows, when from without a healthy environment is supplied. This implies fresh air, food and all the necessities of life. The outside environment supplies the lines of interest and happiness in the shape of play and work. The child learns from these factors and his mind grows through the training of his senses. This growing is not mechanically developed, but vitally for each step in the advance of the child is linked on to the next step. The development resembles the link which makes the egg develop into the chicken and the chicken into the fowl. This sort of development is what is called organic unity for it is the enfoldment of develop-

ment of the force from within. It takes place gradually. The force which connects the development is really interest and happiness. Physical environment therefore count as a great factor in the process of development for it determines the health of the child and furnishes material and interest for the development of the senses. The idea of sense training and liberty for the child should be in the mind of the teacher when he arranges the environment, for it is his work to do this if he knows anything of the way in which the minds of children work. The Montessori child is not allowed to explore among every colour imaginable when he is first learning colours. The teacher knowing that impressions must be formed accurately and that only a few ideas at a time can be understood at the beginning arranges that there are only *two* contrasting colours shown. The child plays with these colours and sorts them into different groups and the work of the teacher is to supply the name if she is asked for it. If several colours had been placed before the child at the same time

he would be puzzled and his senses would not be trained accurately.]

The nervous system is the secret of health and it is also the only way in which the mind of a child can be developed at the beginning. It is of great value then to the teacher to realise that observations must be emphasised so that accurate impressions might be carried to the brain. A study of the nervous system is therefore very necessary. Neurones are the countless number of nerve cells in the body, probably most highly developed and of greatest importance in the human being. In structure they are as almost infinitely fine as the frayed ends of a string and interact upon each other by a close proximity. The neurones are chiefly distinguished from the other cells of the body by (*a*) their greater power of excitation (*b*) the fact that they transmit this excitation in *one* direction only (*c*) that having once worked in the same manner they tend to work in the same way again. The higher neurones combine to form the cortex of the brain and excitation in them are present to consciousness.

Cells which transmit excitation from

a sense organ to the brain are said to form afferent or sensory nerves. When the excitation originates in the brain and directs motor activity the conducting nerve is called efferent or motor. As sensory nerves carry impressions to the brain we must be careful that the child's concrete experience should be carefully attended to. Observation must be clear, definite and exact so that the brain receives clear and definite messages from the various sense windows. The messages sent to the brain must be few at a time for the simple reason that a mass of messages would lead to incorrect record in the brain centre. The sense windows must take accurate descriptions to the mind. The mind works through the body in action. One mark of the nerve cells is that having worked in the same manner they tend to work in the same way again. This has an important bearing on education for in this way habits, and habitudes are formed. If the teacher trains the senses carefully he will see that only desirable forms of thought or action are repeated to form the brain "path." A useful man or woman must not be a

slave to physiological actions and hence training must be given to the young mind to gain control over the tendencies of the nerves of the body and to make use of them merely to expedite the higher work of reason and will. The senses are originally bodily endowment and to a certain extent cannot be modified by any amount of education. They can only be used as the only gateway to the mind. Education which neglects the senses and any attempt to make them effective is unworthy of the name.

Defect in the sense of sight, hearing or speech might make, and if serious, certainly make the ordinary school room instruction, if given, ineffective and marked. The child must then suffer or special trouble and expense taken to give him his place.

Then one of the duties of the scheme of education is to enable every child to develop his senses to the maximum amount permitted to the particular individual by nature. At the beginning of this training, the teacher must discover his material, he must make use of tests of sight and hearing suited to the conditions

of the class room. In cases of apparently defective in one sense or another or cases of probable mental deficiency, he must investigate whether there is a sense defect.

Touch and vision are the most important gateways and should be developed thoroughly. Montessori realising the sensitiveness of the sense of touch emphasised the fact that this feeling should be developed first and as the eyesight of young children is very weak, the development of the tactile sense would in a measure save children's eyes till they are stronger. She provides them with bricks of various sizes which they feel and arrange in steps and as the child is blind-folded she has to depend entirely on the sense of touch. Letters are also felt till the children learn their formation through touch and afterwards this impression is made more vivid when the child sees the letters as well. It is the concrete then that the child handles and sees and so gains knowledge. If, for example, the child is examining a flower, he notices the colour, the shape, the petals, he feels the flower and smells it and through these

three gateways he forms in his mind ideas which are impressed vividly. Gradually the mind grasps more details in the object presented for observation though at first only the most striking features are attended to. We know definitely that the effective training of the senses is a great adjunct to intelligent thinking but educators are in such a hurry to find out if their pupils know facts that they will not give them scope for the development of their senses but find it easier to tell them what they ought to learn through observation.

The nervous system in the brain reveals itself in a three fold manner known as feeling, knowing and willing. Feeling and knowing are linked together, these two are one. Every act in life involves this three-fold aspect. Sometimes one is more in prominence than the other but every act of observation involves a knowing, feeling and willing element. These three are not separate acts but a three fold aspect of the life of the brain in comprehending any observation in life. In the training of the senses it is the feeling element that we em-

phasise so that the child may get to *know* things thoroughly.

No formal lessons should be given to children of three and four years of age. Play either with Froebel's gifts or Montessori's apparatus and their toys should furnish the material for the training of the senses. Work in the garden, a ramble or walk, informal conversation on pictures and their life at home or at school, stories and repetition of rhymes should be the mental food provided. The care of pet animals would not only provide the child with material for observation but would instil in him ideas of kindness to dumb creatures.

Children should be allowed liberty as Montessori suggests of playing with anything they care for provided in their environment. Their questions should be answered but the teacher should refrain from forcing his ideas on them. Love and sympathy and understanding go a long way towards helping the development of their minds.

When children are five years old, they are usually admitted to the Kindergarten department of the school. Here

the training of the senses will be continued for the habit of accurate observation should be formed in these early years. The child will be able to discriminate more easily and will be able to tell differences, for example, he may connect a sail with a boat, smoke with a steamer. In the nature study lessons he may differentiate the habits of the dog from that of the cat and through observation, he knows things that he attends to. The child's ideas grow clear for he begins to connect things and associate them by comparison and further still in putting what he knows in action. It was Froebel's great motto that "impression without expression is useless." Pupils should be at liberty to express their ideas in speech, in handwork or in acting. Handwork is specially useful for it trains pupils to think, plan and execute.

In all sense training the child should be allowed free expression and in this way its individuality will be given a chance of development. The work is his own. It bears the stamp of the self. Even the amœba, the one cell organism and all animals upwards confront life with a

degree of independence why then should not the child be given opportunity for the expression of his self-assertion?

In planning the education for young children, it is best not to follow the principles and methods of educators blindly, but to sift the ideas that are educative and to amalgamate them. Montessori's apparatus may be extremely useful to children of some nationalities but the principles behind the apparatus are deserving of attention in the training of any child. Hitherto there has been a time-table marked out for him, he has been forced to learn as his teachers or the authorities thought fit. The child has a say also in the *way* he should learn.

Again, when we refer to Froebel's 'gifts' we find that when we employ them uncritically they become a hindrance rather than a help.

The suggestions that the Kindergarten system offers are very useful and we know that children learn best through play, but what form "play" should take ought to be left to educators to decide.

The occupations that arise most naturally from children's needs at home

and in school will be of most interest to him for when a child feels a need and it is met a pleasurable feeling is experienced which we call interest.

To briefly summarise we find (1) that the child's bodily welfare should be first considered and that Nursery schools are therefore highly useful (2) Sense training is the only way of educating pupils at the beginning and should be developed gradually so that ideas will grow clearer and more connected in each stage (3) A child should be given scope for self-expression and for developing his individuality (4) liberty should be given to the child to choose his own work and the way he shall do it (5) Educators should consider principles behind educative moments and adopt them wherever useful.

CHAPTER III

IMAGINATION

The power the mind has of forming pictures without the help of the senses is called imagination but this power is based mainly at the beginning on percepts. The more accurate observation is therefore, the clearer and more lasting will be the image and the more varied the percepts are, the greater the power of the imagination in forming ideas. But images are not ideas, only symbols of them, for unless the image has a meaning for us no idea will be formed in the mind, *e. g.* word Lustrum may be visualised but, unless its meaning is known no idea will be in the mind, for to have an idea of anything is to know its nature and meaning. Ideas cannot exist without images for, through percepts that are connected with meaning, we are able to remember by associating the sense percept with the meaning it carries. In the training of the

senses, children are introduced to many concrete objects. They should be trained well in their observation of them so that, they may correctly visualise them and the name and description in words will help them to remember. Pictures presented to them should be correct representations or wrong images will be formed which will be hard to eradicate. Verbal illustrations also are important for, if they are indefinite or confused, the images likewise will be indistinct for the mind gradually forms its pictures of ideas presented in the words of other people. The constructive power of the mind helps it to build up pictures and it is able to present to itself images the like of which, it has never seen or heard. The child compares the images he has and forms something new out of them and this is a very important fact in education. When we reproduce in imagination something we have seen or heard this is equivalent to remembering it, but the imagination that enables us to make something new of a combination of ideas is something far superior. It is this power that produces great novelists and inventors and it is

this creative power that should be guarded and developed in the child, for to create we must build on the elements of our past experience. The meaning an image has for us depends on past experience and it is always related to peculiar situation as it may change according to experience. We can therefore reproduce the past in our thinking for when we have any problem of life to solve, the first thought that comes into our minds is "Have I been in such a position before?" and the work of imagination is to bring forward the past in order to help us in the future. Imagination then determines the method of procedure in the present time or in the future. Apart from this power of the mind of bringing the past before us, the solving of any problem would be merely blind experiment and there would be no progress in thinking. By the power of attention we select the images which will be useful in the present situation, *e.g.* I may be going on a railway journey which I have already made. On the former occasion I endured certain inconveniences by omitting to take with me those things which would have made

me comfortable. In planning the same journey, I have images of the inconvenience I suffered and I shall then arrange to have with me everything I need to avoid discomfort. If I could not recall these inconveniences through imagery, I would do the same as I did on the first occasion; forget to bring with me what I need to avoid the repetition of this discomfort.

As we have said, at the beginning the child's concrete experience should be varied and extended, for it has to form correct images which will later on help it in higher thinking in abstraction. Here is a warning to the teacher to be careful in linking abstract terms with concrete meanings. We must find out if the linking has been correct, *e.g.* in studying Geography the child should observe a small area of his own country and observe it carefully and model it, before being shown the map which is an abstract thing. Grographical terms should be modelled and drawn and then compared to the place illustrated in the map, so that the child will learn gradually to connect the concrete with the abstract. For this reason too, we find that the

ability to give definitions is no test that the meaning has been understood. It is the meaning that matters. Education should not be a juggling with symbols that are not understood. The words of our language, for instance, are arbitary symbols for the language was made by the race but we must teach words at the beginning with reference to real objects and always with reference to the meaning in the context. In the direct method of teaching foreign languages the symbol must always be connected with the object so that the meaning may be clear in the idea formed through images.

The child's mind works as a whole and we seek in education to give it the right material for its development. At each stage special treatment is required to give the mind scope for development to the next stage. Psychology has divided this growth into stages. The first being the perceptual stage is the time when children are getting their concrete experiences from the age of infancy to the age of seven.

Stage I. The baby has no real imagination but feelings of pleasure or

pain. Its chief concern is the mastery of those physical co-ordinations which he has to make in order to know things, e.g. when a ball is thrown to him there is vague anticipation and a pleasurable desire to move. As the child grows we find that this is the stage of spontaneous play. In play he realises himself, asserts himself and the formative years of his life are not frustrated by his inability to control the real conditions of his activities. The make believe of children shows that the child has the power of ignoring realities that challenge the truth of his ideas. Thus fairy tales appeal to him and imagination of the scenes described and actions are quite possible, for his images run riot, because there is no power of selection and no reflective power here. The chair can stand for a train, a rat be changed into a coachman and the child never asks for reasons. But his imagination has to be *trained* and the point is that the child should be given the right material for the growth of his imagination according to the stage of development. It is in this stage that we must show him real objects and good

pictures and insist on careful observation. As the child lacks experience illustration should be varied and as numerous as possible. When his experience is better he should be encouraged to connect the elements of the material already in his mind and to *construct* images.

There should therefore, be a difference in the method, *e.g.* of telling a story to the Infant class and to Standard I. In the Infant class numerous illustrations on the story and rhymes will be shown. "Cinderella" and "Jack and Jill" will be fully illustrated so that children's images will be full of meaning and so form ideas to widen their experience. In Standard I, however the child knows more and only illustrations of things *not* already seen should be shown.

But to train imagination children should be given freedom of expression. This is the only way we can test what their images mean. They should then be allowed to express their ideas in drawing or in speech or in handwork. In work we find how much has been understood, what has to be corrected and this will form the basis for future work.

There is nothing that children enjoy more than acting the story. This, also, shows them a way of expressing their ideas and should be used largely.

Stage II. 7-14 years. Here we find the beginnings of selective reflection as the child's experience is wider and of all the images that come into his mind he begins to choose those that suit the case in hand. The child is also better able to connect the concrete with the abstract. Meaning of plan may be given in standard II and lead on to the understanding of what a map means. Pupils begin to gain ideas of justice, kindness and other qualities by reference to just acts, kind acts of the people they learn about in their History or Literature lessons. The images are therefore being developed gradually to the beginnings of abstraction.

Stage III. This is the stage of adolescence. There is a great alteration in physical development. The mind has grown and thinking becomes reasoning and all the way through we get the alteration from the concrete to the abstract. Great scope should be given especially in the last two stages for productive

imagination. Our ideas of Wellington and Mrs. Malaprop have never been matters of apprehension to us, yet, the mind has the power of constructing pictures and ideas of them from what we read or hear. Verbal descriptions are therefore very important if they are to produce right pictures in the mind. Children's imagery should have free expression in the pictures they draw of scenes they have read of, in their reading or literature or history lesson, they should be encouraged to tell original stories, to write imaginary composition and the creative power of the child should be given scope in almost every lesson.

Imagination then (1) is of no avail unless the images carry meaning in order to form ideas (2) images must be formed from accurate observation (3) they help to bring the past before us and guide us in the solving of problems in the present and future (4) Imagination should be developed according to the child's stage of development and should be trained by giving it scope for expression (5) The concrete should be carefully connected with the abstract so that definitions will

not be empty of meaning (6) Imagination grows more selective as experience grows and the creative aspect should be emphasised in teaching.

CHAPTER IV

CONCEPTS

When our bodies get experiences we tend to group the objects together and to get some symbol to represent the group. The baby in the first year of his life plays with numerous objects, *e.g.*, the ball. He holds it, then drops it, gets it picked up and then drops it again and in this way he gains experience. He experiments with all kinds of balls and the time comes when he recognises the *rollingness* of the ball and knows how to behave towards all kinds of balls. In the same way he learns to behave towards whole groups of objects, all tables, all chairs, all knives and he abstracts everything from the object except that for which he uses it. He knows that chairs must be sat on, spoons are there to eat with. We make a classification when we treat different things in the same way and we call them concepts. Concepts arise from the group-

ing together of our experiences. The concept is, therefore, an image functioning in such a way as to suggest a definite meaning which the mind attaches equally to all the individuals of the class. The common qualities that a group of things have which appeal to us we designate by a term.

A child's concepts are very vague and it does not mean that they are always right, but they are nevertheless concepts. He probably begins by behaving to all spoons in the same way. A baby goes to every man as his Daddy, till he finds that they all do not respond as his Daddy, but as time goes on and the baby's experience widens, his concepts get broader. What an individual means by a thing is the concept of the matter to him for all concepts are purely personal and subjective.

We require some means by which we express our concepts and this we can do in words. We cannot describe redness but we point to a red thing and we are not particular if it is glass or cloth or any other thing. It is redness we are con-

cerned with. A concept is therefore a general idea or an abstract idea.

Concepts develop with our growth, for as our experience grows deeper and wider, we form many general ideas and we alter them also with development. We form concepts of each other from actions and concepts of duty, and other abstract qualities and after a time we tend to see the whole world in terms of our concepts, *e.g.*, people who are ultra-sensitive think the whole world has nothing else to do but to think about them, but on the other hand the concepts of normal minded people usually correspond particularly among people of one class and education.

What is the educational aspect of concepts and how may children be trained in forming concepts? Pupils cannot have concepts unless they rest on sense-impression. Animals have only rudimentary powers of percepts and therefore concepts are impossible.

> "Percepts without concepts are blind
> Concepts without percepts are useless"

If pupils are to form their own concepts

from their own observation, the school should give them an adequate back ground of concrete experience. School is abstraction to begin with and the work children do is of no value except to the child. Work has no merit in itself except perhaps cookery and dress making. It is merely preparatory to life. This is a plea for making work in schools more practical and anything that will throw light on the portions or subjects studied will be of use in helping pupils to form correct concepts, e.g., any account of real life in studying the history of a particular development will be of more use than the study of the history book. Novels that depict the misery and conditions of life during the time of the Great Plague in London will be more useful than just the historical reference to it. Illustrations that will throw light on the subject matter will help the child to form better concepts. Science lessons and language specially help children in forming concepts. We must be careful in concept forming also to find out if the concepts children have formed and which they sometimes formulate in definitions

have really been understood for they have to be used in developing reasoning and should therefore be pregnant with meaning.

Apperception.

When ideas are formed in the mind they are connected one with the other for the mind can only be developed through this power of association of ideas. They have to be built up into systems or organs of knowledge, for education is not concerned with accumulation of facts, but with ideas related to each other and so formed into organs. No new knowledge can be understood except through the linking of ideas already in the mind with the new presentation. Herbart, in his five formal steps shows, how in teaching, these systems of knowledge may be developed. In Preparation, the mind of the pupil is prepared for the new lesson, that is, we have to find out what ideas he has bearing directly on the lesson. The Presentation, which is arranged in steps in logical sequence, one part rising naturally from the last, we connect with the ideas already known. Then comparisons are made with ideas and a formulation is arrived

at, which we may apply to new cases. Thus in a lesson on the value of fractions in which $\frac{1}{2} = \frac{2}{4} = \frac{4}{8}$, $\frac{1}{3} = \frac{2}{6} = \frac{3}{9}$ are to be taught, the children's preparation would be that they know the meaning of fraction. We can therefore build on this knowledge. The Presentation will consist of concrete illustrations to start with. The pupils will divide a piece of paper 8 inches long into two equal parts and show the two halves. They will then divide each half into two parts and show that in each half there are $\frac{2}{4}$. This they will illustrate in the Board.

In comparison we will compare $\frac{1}{2}$ with ·5 and $\frac{2}{4}$ with ·5 for decimals ought to be taught before vulgar fractions. Pupils will then apply their knowledge to other examples. In this way all knowledge is associated and built up into a system.

Herbart called this apperception mass and we know that any presentation will be profitable and augment our whole experience, in strict proportion as the individual brings an informed mind to bear on it. If we bring much, we get much, if we bring little, we get little because we can only appreciate the new

through the ideas bearing on it that we already have. This process is going on continually throughout our waking life and it has been defined as the mental activity by means of which presentations are related to our previous psychical life, are assimilated with it and thus raised to greater significance, activity and clearness. Each and every presentation that is attended to is called an apperceived idea.

Apperception is not a new process nor a new power. Any whole of experience may be called an apperception mass.

Reasoning.

We have now to consider by what process concepts may be used in the furthering of knowledge. When we form concepts we have to analyse them to find out if they are correct and then build them up into a class. This is called reasoning and its peculiarity is that it contains an act of analysis and synthesis.

Text books usually start by giving a rule first and proceeding to illustrate. In teaching, we should first let pupils give examples or the teacher furnish them and let them examine them and try to dis-

cover a rule. This is called the Inductive Method, for we proceed from the particular to the general. But if knowledge is to advance we must not stop at our generalisations, but apply them to fresh cases and reach other generalisations. When we apply generalisations to particular cases we call it Deductive reasoning. But as we have seen, both Inductive and Deductive reasoning have to work together in the systemisation of knowledge.

The steps in induction are 1. Working by hypothesis. 2. Collect all evidence in support of hypothesis. 3. Compare them, see where they are alike-where unlike. 4. Abstract from them any general statement. 5. If facts warrant it, a generalisation is arrived at.

These express the five formal steps. All training in thinking must recognise (1) the dynamic aspect of the deductive and inductive processes for new knowledge is continually being acquired. (2) It must recognise the child's system of organised knowledge as a determining factor in the thinking process.

At the beginning the child is not able to reason but as its experiences grow it

begins to compare its ideas. When a child utters simple expression such as "How nice!" or "That is blue!" it has begun to place the present experience with those of previous experiences of the same kind and gradually in the next stage, when relationship between system are noted, their judgments become more abstract and reasoning is therefore better. Reasoning is controlled thinking and belongs to the development of the will. It is reflective thinking. In all reasoning we find the principle of selection. The mind gains the power of grasping the essential factors of any problem. An advanced thinker sees the relations of his topics and that instantaneously. He has the power of eliminating unessentials. Selection implies rejection as well as choice and the function of ignoring is as vital a factor in mental progress as the function of attention itself. When the child is trained in his observation to attend to the important and essential points in the matter and to ignore what is not required, he will begin to learn to select only what is actually required in the solving of the problem in hand.

The effects of reasoning are 1. We get considerally greater power over our environment. 2. We get the highest control that we are aware of. 3. Thinking frees us from the tramels of the actual present and helps us to focus on the present and to take the future under our control.

We find therefore (1) that when ideas or images are combined together and a generalisation of the abstract qualities that are drawn from them are grouped under a name, they are called concepts (2) A concept requires accurate observation comparisons and careful abstraction and generalisation. (3) Bad concepts are formed because of indistinct percepts, indifferent observation and generalisation indefinite language and badly memorised work. (4) Percept forming is the most active in the early stages and concept forming the most active later on. (5) Concept forming makes reasoning possible. (6) The appreception mass is unified knowledge through the building of new ideas with those already in the mind. It is the business of education to build up apperception masses. (7) Reasoning is very careful thinking, It employs Induc-

tion and Deduction in making thinking clear. It trains in the careful weighing of evidence before coming to conclusion. It helps to build up systems of knowledge.

CHAPTER V

MEMORY

We have seen that images to which meanings are attached form ideas. When a child bears the sound of a bell, he forms an image in his mind and on learning that the sound was the ringing of the bell, he forms an idea. At a future time he will connect the sound with the bell. The child therefore has associated the percept with the name and remembers it. When the mind acts in such a way that it records, retains and recalls that which it has acquired through its own activity we call this function Memory. It is an intelligent act of the mind and children should therefore be trained in clear percepts and ideas and associate them that they may remember easily.

We find that, when we have learnt a poem intelligently, we are able to remember the words and the meaning. This is principally because we have associated

words with ideas behind them. When we study another poem and find that the ideas are like the previous one, we are better able to remember because impression has been made through connection.

The principle of association therefore, in memorising is very important, for it means connecting one sense percept with various others with the sole object of impressing in a strong way the ideas that are formed. Every association helps to impress and to give the mind a connected whole. We associate ideas so as to bring out the hidden relations and connections in one thing with another and so, to impress the relative values of various ideas.

Sometimes impressions are made by means of contrast in order that children may remember better. Montessori is a great advocate of this principle. Her pupils get percepts of hard and soft things together, of smooth and rough in order to associate the difference in sensations and so to impress ideas.

We teach also through similars and some educators use this way first as they say it helps the child to get one impression

firmly fixed in the mind before going on to another.

When we link together through time and event or place and event we associate through contiguity. Education therefore is concerned with connecting ideas with as many other ideas as possible so that one idea may help to recall others that are needed and with which they are linked. So,we find some teachers very keen on correlation. They think that History and Geography may be connected, *e.g.* if the Tudor period is being studied, the countries where colonies were found might be dealt with in Geography and where possible Literature dealing with this period. In dealing with the history of the Moghuls their country should be studied with reference to position, size, wealth and thus these subjects will form a connected whole and will be impressed on the mind.

In the training of memory there are three factors to be considered. (1) The anatomical conditions must be good and the cerebral structure must be in order (2) The physiological conditions in the circulation and nutrition must be right for

memory is affected by anæmia, malnutrition or by any illness that brings a temperature or by fatigue.

The persistency of the mind to retain facts is a physiological property of the brain tissue of the individual. This tenacity differs enormously from infancy to age and from one person to another. The quality of the permanence in the "brain paths" is therefore peculiar to different individuals.

There comes a time in the life of an individual also, when he can do no more than to hold his own, when the old paths fade as fast as the new ones in the brain and when he forgets in a week quite as much as he learnt in the same time, that is, the physical tenacity greatly deteriorates in middle life. (3) Psychological factors. Over these we have some control for the *number* of impressions may be increased. In mental terms, the more facts a fact is associated with in the mind the better chance it has of being remembered. The man who thinks over his experiences and connects them in relations with each other will be the man with the best memory.

Education then is principally concerned with increasing the *number* of impressions by association of ideas and much depends in the presentation on (1) the strength of the stimuli. If interest is aroused strongly the child will respond naturally, but on the other hand, if the pupil has no interest in the subject in hand and yet has to study it for other reasons, we must appeal to his interest indirectly. He may have an examination to pass or parents and teachers to please, or perhaps it would be as well to appeal to his instinct of pugnacity to overcome what is not pleasing.

(2) Repetition is important. This should not be mechanical. Repetitions should be made intelligently and in memorising of poetry according to right pauses. A thing repeated four times intelligently will be remembered better, than when repeated or studied twice. This also, points to the fact that recapitulation and revision of lessons is needed.

(3) Attention—When pupils are interested they will be eager to attend but attention here has an element of *willing*

to attend. Attending to the lesson and thinking about it will impress facts on the mind. *e.g.* we will suppose that a poem has been chosen—The great God Pan. To arouse interest and to make the stimuli strong show the picture of the Hindu God playing his musical instrument. Talk about him and his music and then introduce the poem of how the great God Pan became a musician. Children's interest will be aroused, they will then read the poem through to get the meaning and have all difficulties cleared up. Then the poem should be read aloud several times stopping at suitable pauses till it is learnt. It will be easy to remember because of the comparison of ideas of the Hindu God and the Great God Pan and the metre will also help. The pupils will attend because they are interested.

Some of the characteristics of good memory are (1) the rapidity with which a pupil memorises. Some take longer to memorise but remember it longer. Others memorise quickly and forget quickly but this often happens when the thing has been learnt mechanically. The power of

association will always help pupils to retain what they learn.

(2) Length of time during which the power of remembering lasts. (3) Rapidity and accuracy of recall. (4) Its serviceableness. It must be well organised and systematised.

True teaching means careful observations of particular things, comparison, classification and deductions of general laws. This systematising will lead to intelligent memorising.

For this reason, cramming is to be deprecated for when we commit points to memory during a few hours or days of intense application, little or no work having been done before, there will be little association and the impressions will be few in number, whereas, the same material taken in gradually day after day, recurring in different centres, considered in various relations, associated with other external incidents and repeatedly reflected on will grow into a definite system of knowledge.

In a certain sense, also, memory is judicious forgetting, for we have to recall the chief points necessary to the consider-

ation of the matter in hand, and 'forget' everything that is irrelevant, otherwise, we would make no progress in the acquirement of knowledge. Here we have to acquire the power of concentration on essential points and of ignoring all others.

Herbart's five formal steps embody the idea of association and the presentation should be arranged in logical sequence.

An element of cultivating the memory by enabling children to grasp the meaning before memorising is a characteristic of modern teaching, but the motor habit must not be neglected for in order to gain full control over knowledge, the law of habit must be switched on to it. A large part of everything done in early school days is by purely mechanical association, *e.g.*, in arithmetic, it is impossible that children can understand every step in the working out of rules. Often the multiplication table is not perfectly understood till a later development. Here the child understands as much as it can but learns to repeat the table and to use it in multiplication or division. Many of our actions must be automatic so that the

brain may be free for higher thinking. Repetition forms habits and habits are organs of knowledge in which the attention is no longer paid to the detailed doing.

People have good memorising power for different things. A person may have a good memory for dates, another for facts, another for meanings. There is no such thing as an all-round good memory. The belief that a child must surely and easily recall anything it has done is therefore, for several reasons devoid of foundation.

Summarising we find (1) that we remember very accurately and for a longer period when the ideas gained were accurately and carefully recorded, that is to say, when they have been developed through the proper channel of sense impression and attention thereto.

2. Ideas are best remembered when they have been frequently impressed at regular intervals. The more frequent the repetition the stronger and clearer will be the idea, therefore, it is always necessary to go over a lesson thoroughly before beginning with a new one. Ideas will then have grown into knowledge. (3) Facts

can be remembered according to the amount of physical vigour available at the moment, *e.g.* A child who is unhealthy has not the strength to retain ideas. The health of school children to a large extent accounts for good or bad memory. (4) We remember in proportion to the force of association that has been linked together in the ideas in the presentation, *e.g.* one lesson may have been made interesting through the illustration used. The wider the association, the more distinct will be the impression. (5) Things are remembered in some instances by mechanical means, *e.g.* contrivances are used to teach the days of the month, dates in history, formulae in Geometry and Algebra. (6) We cannot improve the power of the retentivity of the brain but we may increase the number of impressions by association and this is the work of education. We may also improve the power of attention and the method of attack.

CHAPTER VI

ATTENTION

Consciousness unfolds in a three-fold way revealing the feeling, knowing and willing elements. In conscious life we are brought in touch with the objective world.

The subject knows the object.

The subject feels the object.

The subject attends to the object.

We must then think of attention as a subject-object relationship, in which the subject has a purpose in view in attending to the object and gives his whole mind to it. The object is of interest to the subject and is therefore attractive to him, but the grip of the subject on the object is greater than the object on the subject, therefore, whenever there is an effort to understand or develop meaning, or to solve a problem there will be attention.

Attention implies selection. We are in communication with the outer world

by means of the senses so that the first act of selection is by the sense organs. The vibrations in sensation affect the brain and the baby selects which he shall attend to. Only a few situations can be grappled with at a time. By voluntary act of attention we pick out certain things and abandon others. The baby attends to sight and sound. In the Kindergarten stage, we arouse the curiosity of the child and as he is more attracted to colour and sound and touch impressions, we provide this material with the object not only to help him to gain knowledge but also, to train him gradually to attend. The Montessori child sometimes plays for hours together, and often for days, with the same material and gives his attention to it and in this manner his attention is being developed on fixed lines. The lessons in the early stage are short but even here, in the simple problems that they have to solve the attention may be gained. Later on the lessons are longer and, if a purpose is given to the child in order to work, he will attend not only because he wants to but, because he wishes to overcome them in tackling any prob-

lem. We must train in habits of attention and in order to do this in the Infant class one thing at a time should be presented. Accurate observation will be insisted on and the child's power of attention focussed on the object. When curiosity is aroused through pictures and models and stories attention will be gained.

When we classify attention according to the material on which it is engaged, we find first that there is the concrete which appeals to the senses and second, ideation which is abstract. We, also, classify according to the energy put forth by the subject as being either (*a*) active (*b*) passive.

In inattention there is no special reference to the object and no discrimination of parts while in attention there is discrimination.

> "Attention is the mind's growing point
> Inattention is the mind's gaping point."

Attention is always purposive, guided by interest and leads to action. We find signs of analysis and synthesis in attention. In attention we, also, select and inhibit.

Dr. Stout, distinguishes between attention and inattention in this way. He

refers to the totality of thing presented at one moment to "the field of consciousness." Only one part of the field is attended to with the remainder we are not actively employed. Thus the total field of consciousness is broadly divisible into two parts,' the field of attention and the field of inattention. The field of consciousness then includes all those objects that are clearly apprehended and a marginal Zone of objects apprehended indistinctly. An object is indistinct in the sense that it is not separately noticed. We call this sub-consciousness, *e.g.*, I am standing on the beach watching a boat coming into the harbour. The object I am concerned with is the boat for it is bringing my dearest friend to me. The sea and sky and other boats are there, but I take no notice of them. They are making impressions on my senses but I am not noticing them. Such unnoticed experiences are sub-conscience. In general, the distinct objects within the sphere of consciousness stand out, but the background is hazy; whenever we wish to we can turn to the back ground itself and attended to the parts one after

another, so that each part is apprehended as a partial feature of the whole. In lessons in school then, we call attention to the most important parts of the lesson. These are then within the field of consciousness.

Attention depends on physiological and psychical conditions. Physical conditions are occasioned by the strength of the stimuli, *e.g.* a clap of thunder forces attention, a good illustration in the lesson will gain attention also. Children are affected by fatigue, malnutrition and the power to attend will be small. Crowded class rooms or lack of ventilation will affect power of attention.

The psychical conditions refer to the relative novelty of the lesson, but the child cannot attend to something so new that it cannot be linked on to the old, neither can it attend to anything so worn that it has no new aspect.

Attention has been classified as voluntary and non-voluntary, but we have seen that even in what is called non-voluntary attention there is an element of attention though it may be in the minimum. Purpose should be seen

in every lesson given to young children and we will find that there will be self-directed activity. Children will attend, not because they are amused or entertained but because they recognise a purpose behind the lesson. Attention may pass on to such a level that not only does the subject attend to the object but the object to the subject and the unity between them is of such a character that, we must give it a special name and call it absorption or concentration.

(1) When the challenge which provokes attention has been answered, when the presentation has been differentiated in a manner satisfactory to the child, when his attention has reached its goal, there is no more attention after that. There are also other conditions for the cessation of attention (2) when there is fatigue (3) when it is overthrown by repeated presentation.

Inattention may mean one of two things. In the narrow common use of the term as the school master means it, it may mean inattention to some body. The remedy is to arouse interest. Properly speaking voluntary attention is

voluntary inattention to something else, that is, attention is always selective and inhibitory.

We often hear that attention should be trained through interest, but interest does not mean amusement. In the problem of interest we find a subject-object relationship. It is the subject that is interested and interest is therefore determined from within. Any object will be of interest if the subject is interested. If we look at it from this point of view we find then that, it is not necessary to make everything in teaching pleasurable to the child. If the interest is aroused through the child's self activity he will naturally be interested. There are, however, subjects in the curriculum which are not of interest to some children, *e.g.*, the study of foreign languages do not appeal to certain people and yet, it is very necessary that they should be included in the curriculum. In this case the appeal must be made to indirect interest, that is, the pupil must be encouraged to work for the sake of something else rather than, for the sake of the knowledge itself. Often they will work hard to pass an examination or to

please their parents and teachers or perhaps for the pleasure of surmounting difficulties. A purpose for studying must be found.

Objects exciting children's interests vary with development. It is in play that we get expressed simply and easily the development of interests. Nature has created with children various needs that seem to correspond to their development.

We have actually a situation in which we further find that everything that is capable of satisfying their needs, carries along with it a particular satisfaction. Interest is that pleasurable activity which is associated with some recognised need of the organism but interest does not mean allurement, amusement or ease.

Stages of development of Interests.

Period 1.	From birth to experience of language which can be divided into perceptual interests and organisation of language	1—3
Period 2.	General interests	3—7
„ 3.	Specialisation	7—12
„ 4.	Stage of organisation	12—16
„ 5.	Stage of production	adult.

In the perceptual stage the child attends to objects in the mass and pays no attention to details; for this reason a child always omits the neck in drawing men. His percepts are general. He has a vague notion of the whole. He acquires the language and loves to use words. He loves to go over the same words.

From 3-7, he knows something of the relation of things. He has insatiable curiosity but is quite easily satisfied.

From 7-12, we find that children develop hobbies and begin to make collections, *e.g.*, stamps, picture post cards. There is also a recognition of social relations. He works to get the approval of some one he likes. As he is very suggestible at this stage, the importance of using the recognition of other people in his world cannot be too much impressed. He becomes "aware" of himself and gets to know the "I" by the "We."

From 12-18, we find children keen in forming clubs and societies.

The child develops naturally by passing through these stages that succeed each other in definite order. Each stage

corresponds to the development of certain functions, exercise of which give joy to the child. All objects that are capable of bringing these functions into play interest the child naturally.

One difficulty in education as we have said is that of fixing the attention. Is it to be a case of play *versus* effort? The conflict between interest of mind and the interest of the body is the feeling of effort. The superior interest of the mind is to be victorious. How are we to train to effort? Give the child a difficult task to do not too far beyond his strength and let the superior interest of the mind conquer. Education should as far as possible go with social evolution. Training by interest is the same as training by effort. A child puts forth all his effort when he is interested and when he is not interested directly will do his best to please some one else.

The problem of interest has drawn us to the problem of instinct. Things that are most interesting to mankind are connected with instinct.

Summarising we find (I) that attention means that the subject has a grip of the

the object (2) that it should be trained through interest and through purpose (3) that attention implies selection and that there are physiological and psychical factors in it (4) that interest means that the child's need has been satisfied (5) that in each stage of development the child has special interests which must be supplied (6) that interest and effort are one and the same thing.

CHAPTER VII

INSTINCTS AND EMOTIONS

Instinct is usually defined as "the tendency of acting in such a way as to produce certain ends, without foresight of the ends and without previous education in the performance."

From the biological standpoint this is true, for we find that the nervous system has responded in a certain definite way to certain stimuli and that, having acted in that way in the history of the race, there is special pre-adaptation of the nervous system to give rise to certain actions in the presence of certain stimuli. Dr. Stout refers to the Spider as an illustration. Its ability to spin a web is due to the presence of spinarets which it possesses, and to the aptitude it has for spinning. These two items are pre-arrangements for the preservation of the life of the spider.

This view explains instinct as that of

a reflex action type, but in all instinctive behaviour of mankind, we find the *psychological* factor which must be included in our definition of instinct.

We find that instinctive behaviour is guided by, and adjusted to combinations of sense impressions. From these stimuli arose a state of feeling, which compels a subject to actions which are directed to some definite end; also, that this activity exhibits attention and selects what it should respond to, and further, that it persists till its ends are secured. In other words, these impressions arouse complex sensations which have *meaning* for the animal and he re-acts on them in an instinctive way.

The instincts of man are not blind because they can be modified by experience. Racial memory exists in forces in human nature as instincts, but they are raised by memory and the power of selection from being merely reflex actions. Even the higher animals have some degree of self-assertion. Even animals learn from experience. It is a known fact that old birds build better nests than young ones.

Wherever there is instinctive behaviour, we find it accompanied with some emotional excitement. There is, as it were an emotional nucleus to every instinct which remains constant and there is therefore a close connection between them.

In some instincts the feeling aroused by the presence of some stimuli is a well defined emotion, like anger and in other cases it is not so well-defined. The emotional impulses thus have to be studied before we can understand thoroughly the instincts of man, but emotional experience has been the least successfully analysed by Psychology. Emotion prompts the instinctive act. Emotion is therefore the cause.

Prof. James, however, has advanced a relatively new theory in which Emotion is the *effect* not the cause. There is an important connection between emotion and its expression, *e.g.* in watching a play which provokes sadness, he says that tears come first and the emotion of sorrow afterwards. When a person is seen to flush and clench his fists we know he is angry. Prof. James considers bodily change as the *cause* of the emotion.

The criticism to this view is that (1) it tends to be materialistic for the emotions would be then due to physiological causes and not to psychological (2) There is always an organic disturbance in emotion but it is equally true in any other state, *e.g.*, thinking, willing (3) Organic disturbances need not be the emotion itself (4). If emotion is bodily disturbance and nothing more, then the bodily state, however caused, ought to be the same as emotion but it is not so. According to James, tears and grief are one, but we often have tears without grief and grief without tears.

In man the instincts are varied and he is able to modify them to a great extent for he has reason to guide him. They are not mature at birth so that they may be modified. They form the propulsive forces of many actions while intelligence adds the directive influence.

If an instinct is not given frequent appropriate action, however, it is liable to decay and decline. In education, therefore, it is very important that the teacher should train instincts aright. Modes of expression should be given to right and

desirable instincts, while the undesirable should be allowed to decline through want of use or be sublimated, that is, it is the duty of the teacher to convert the energy used in their expression into better channels, if possible. Often deep-seated impulses have not found healthy modes of expression.

Some instincts are not mature at birth and it follows that certain instincts are at their highest point of development at certain periods in life. In schools, therefore it is necessary to suit work to the correct stage of growth and to utilise them. The instinct and the emotion are bound together and cannot be separated *e.g.*, the emotion of fear is accompanied by flight, neither can be separated from the other. Several instincts may be aroused by the same emotion however, *e.g.* fear may arouse the instinct of flight or, it may cause paralysis of all actions or, in some cases what causes one man to flee, may arouse in another the instinct of pugnacity. Thus instinct and emotion being bound together have an important bearing on education. All instincts but one are transitory but they can be made

permanent and become habits and habitudes of mind if given sufficient opportunity. Further instincts as such are non-moral. They become moral or immoral when consciously used.

According to Dr. Mc. Dougall the following seven instincts yield the most definite primary emotions. They are as follows.

Emotion	Instinct.
Fear	Flight.
Disgust	Aversion.
Wonder	Curiosity.
Anger	Pugnacity.
Subjection	Self-abasement.
Elation	Self-assertion.
Tender emotion	Parental instinct.

In education the training of the instincts in helping the development of the child cannot be too much emphasised. The instinct of curiosity has an important bearing on auto-education. This instinct is dependent on the observation of things for the material on which it must feed and grow. Here is a natural situation, for the child being curious wishes to be an investigator. Instead of curbing

this instinct by forcing instruction on children, let them use this power in discovering knowledge for themselves. Every child can then become an original discoverer, if only it is given the chance. All the great inventors of the world have been produced through the free play of this important instinct which has a creative element in it. In teaching, if we arouse wonder in the child he will immediately want to know things. At the beginning therefore, the concrete should be used freely and pupils should be encouraged to *ask* questions instead of the teacher forcing questions on them.

Curiosity, however, should not be allowed to run riot. The instincts are there to be directed and trained in right directions.

The instinct of pugnacity, too, should be appealed to and utilized more than it is and, if used educatively will be a basis of character forming. When children investigate they should be encouraged to persevere in spite of difficulties that present themselves. They should be given problems to solve a little beyond their strength. It is this instinct that will help

an individual to reach the highest level posssible to him.

Some children have this instinct very strongly marked and it is seen in perverted forms, *e.g.* some are very quarrelsome. Instead, give the child some hard work to do and turn the surplus energy at his command into right channels.

Every animal tries to assert itself in the world and in every act, we seem to try to let people in the world know that, we are here and to be reckoned with. The instinct of self-assertion then will help the individual to do his best to leave his mark on the society in which he moves, and this he may do for good or for ill. It is the work of the educator to give him scope for his self-assertion and to help him to realise himself, his capabilities and limitations.

The true self-assertive, person is he also recognises the self-assertion of others also, and conforms his activities in a world where others have a place in the same way as he has.

The self abasive are wanting in self-assertion. They should be encouraged and helped more than others. More praise

and appreciation should be given to their efforts.

Fear, disgust and anger are egotisical emotions. They make for the good of self and do not prompt to action for the good of others.

There are other instincts that play a minor part in the beginning of emotion but they have bearings on social life (1) the gregarious instinct (2) the instinct of construction.

We do not in education give the instinct of construction the place it deserves. We know that our ancestors had a great deal of hardship to endure in the preservation of life. They had to think out ways and means of making their weapons, in obtaining food and in clothing themselves. So hard were the lessons they learnt that it is thought that this love of construction is born in the race. In the observation of children we know that they love to do things. So in handwork they are encouraged to plan and develop a toy or work in clay. It is only recently that place has been given to this branch in the curriculum. By encouraging children to investigate and plan before

executing, we help them to think better, to acquire power or ability in grappling intelligently with any problem presented to them.

Children are very suggestible and this tendency should be used both in intellectual and moral training. In the early years when children have little experience, the teacher may suggest to them both by her personal example and training the best lines of development. Till the ideal of development has been reached, it is by suggestion that we enable children to reach the goal.

We are all of us to the heart imitative for we take over other people's thoughts and feelings and actions. It is a very great help in teaching. Children are very imitative, but this is no reason for making them slavishly imitative. Nations have imitated each other and have grown more civilised and the imitation to be worth the name must have originality or the creative instinct in it. To imitate mechanically helps to kill thought.

CHAPTER VII

INSTINCTS AND EMOTIONS (COMBINED)

It is quite correct to study works of literature and art, for example, and to try to imitate them, but in every such attempt something must also be created, there must be the stamp of the self in every production. Scope should be given for original free expression which though built on imitation yet will contain an element of the individual's own mind. We often imitate in action those we admire and love and this has a moral value.

We take over feelings as well as actions and in discipline, *espirit de corps* may be helped. So much depends on the teacher's attitude, because she cannot help but influence her class, whether she wills to do so or not. For good or ill she suggests in thought or word or deed and is imitated by the majority of her pupils.

SENTIMENTS AND THE TRAINING OF THE WILL

The idea of self is of very gradual growth. A small child has no idea of himself but supposing that specific emotions are aroused in the presence of a certain person we find after repeated number of times these emotions bring knowledge. This growth, the resultant of organised emotions is called sentiment. A sentiment is then a system of feeling, for it is made of several emotions organised with reference to a particular object. In the presence of one we love we have tender feeling, self-abasement, anger if he is insulted, fear for his safety. Even the thought of the person will bring a sentiment of love. Love and hate are sentiments and the self-regarding sentiment is also very important. This last sentiment plays a great part in the development of the self. If each emotion were allowed to work itself out, we should become just mechanical re-actions to external stimuli. One thing may dominate a person's life to such a degree that all other things are subordinate. Others get various impulses

of equal merit which are uncontrolled. The effect of the sentiments then are 1. to organise the emotional life 2. to form the basis of voluntary action. In these sentiments lie our moral principles. In the sentiment of awe we find the emotion of fear, self-abasement and wonder. In Reverence we find awe, gratitude and tender emotion.

In the early years the sentiments formed have great significance for later years *e.g.*, a small boy brought up in an atmosphere of adulation will be self-assertive. The opposite treatment will perhaps make him sullen.

A boy finds his place in the school as he gets a check from his school fellows and his school master. Everybody gives us ideas of ourselves. They may not be true yet, nevertheless we act upon them. School life helps to put a child in a state of submission for it is easier to crush people than to make them self-assertive.

In the idea of self, the social side plays a very important part. We get to know the "I" by the "We." The self-regarding sentiment also plays a serious part in the development of self.

Evolution from instinct to volition.

1. Child desires food, fears a dark room.	This depends on how timid he is. There is a fight between two brute impulses, the stronger wins, but there is no willed action here.
2. Suppose a child has been previously punished for giving way to fear.	Modification of brute impulse by fear of punishment.
3. "I do not want to be punished so I will get it."	Self-assertion but a low grade of volition.
4. "I must go or I shall be scolded." He fears disapproval of some one he cares for.	Higher grade of volition.
5. "I must go or I shall be called a coward."	Distinctly higher type. Influence of Society, the Group.

Some people do things ostentatiously because they wish to please a person. This is a higher type than (4) but not so high as one who does things to please a person, never thinking he will know anything about it. This is a distinct stage in development.

6. I must go for I must conquer this absurd fear. This is much higher grade of volition because it introduces an ideal self, seeking approval of no one but himself, he puts before him an ideal.

7. Social environment against the action. A man finds himself before a burning house. He is a man of great intellect. His friends say it is ridiculous for him to risk his life when he is important and the child is not. He rescues the child and here we find Social environment against ideal conduct. This is a case of undeniable volition. There was a hard choice to be made. This is the highest type of all. A religious man might perform actions in accordance with what he considers pleasing to ideal personality, while another

might not believe in life after death but consider it the ideal thing to give one's life for another and so acts according to moral principle. The last two grades are most emphatically willed action in accordance with principle. They are only attained by much practice on lower levels.

These stages may be noted in the growth of the will.

1. The instinct of the child is modified by pleasure and pain incidentally experienced.

2. In the next stage we find instinct and impulses modified by rewards and punishments administered by social environment.

3. Conduct is controlled by the anticipation of social praise or blame.

4. Conduct is regulated by ideals of conduct which are effective regardless of praise or blame of immediate environment.

All brain processes tend to movement to adjust themselves to environment. All of them tend to action or inhibition of action. These actions result in either

pain or pleasure. The purposive part of a man is the will part. We choose now this, now that for the centre of our actions. When we think exclusively of one act and will to do it and force ourselves to do it in spite of inhibition, that act is an act of volition, but before we reach this stage we must remember that 1. We will according to our experience. 2. Before we can possess a will we must first perform numerous instinctive acts which furnish us with the machinery with which the will works.

In the growth of the consciousness of the self, the child forms two types of concepts.

(1) Intellectual, in which he is getting an idea of things around. He learns to attach meanings in the same way to himself. Dr. Mc. Dougall calls it the attaching of the self-regarding sentiment. The baby does not feel remorse because he is not clear in the ideas he has of himself and other things. Gradually he learns to distinguish between different feelings.

(2) He also learns to distinguish between persons and things through personal appearance or when he is looked

after by people. He soon learns to distinguish between his nurse and a stranger.

He learns to interpret things in terms of people. *e.g.* the flowers might be hurt if you cut them. Some wonder if chairs get tired if they are sat on for long.

(3) People now begin to predominate in his experience and he begins to imitate them and their activities and he begins to feel like a grown up person when doing it. He learns to adopt himself to persons, to some people he can be assertive, while towards others self-abasement comes into play and so gradually he learns to interpret other people.

(4) He learns to see himself from their point of view. The child who is recognised as naughty will live up to that part. The self that other people think him to be plays a large part in his life, *e.g.* If a person has been told many times that he cannot do a thing, even if he can, he will think himself incapable.

(5) Gradually he encounters opposition from others which consolidates his own opinion. Often a child is driven to sheer self-assertion, *e.g.*, a child who is

very meek and suddenly learns to assert himself is the most troublesome of all.

Adolescents want more liberty.

(6) He learns that he requires sympathy from others and therefore he tries to bring his conduct more into line with that of others. In all people there is recognition sooner or later that they are more or less dependent on others and therefore owe them something.

Our voluntary acts then are prompted by instincts, impulses and emotions. In the strong character we get (1) the self-regarding sentiment combined with some idea of conduct which is so strong as to enable us to rise above environment.

(2) Habit of self-control.

The foundation of character is a system of instinctive emotions with a central idea guiding it and sentiments.

Summarising we find (1) that instincts and emotions must be used in education, scope being given for the exercise and growth of those instincts which make for the good of the individual and others; also that instincts and emotions form the basis of character and should be used in developing the will (3) sentiments are

organised emotions and are of great moral value. They should be trained in schools and used in the building up of character.

CHAPTER VIII

HEREDITY AND ENVIRONMENT

One popular conclusion is that heredity matters and therefore all new environment is useless; on the other hand another popular view is that heredity does not matter at all and therefore new environment and education count for everything. Science wants to find out a mid-way.

We all know that, in all races the family forms the unit and the bases of social life. Natural ties of affection and dependence are more deeply engrained than ties of friendship. We, however, *choose* our friends because of community interests and conditions of life and also, because of similarity of age and this way of choosing our friends becomes habitual.

Family ties, however go further back. They belong to the instinctive and not to the realm of habit and in moments of emotion we remember the solidarity

of the tie. In the same way we get the feeling for the nation to which we belong.

The inheritance of every child is two-fold (1) from the race (2) his own individual inheritance. Each child has his own individual endowment which differentiates him from others. It has been said that heredity is the base of the triangle of life of which environment and training are the sides, but whilst the two latter are variable, heredity is the fixed factor. From an educational point of view, the means by which and the degree to which suitable environment can affect hereditary qualities are most important scientific problems of the day.

There have been a great many disputed points. Lanarck said that acquired characterstics may be transmitted and, if one generation improved on acquired tendencies that the next would start on a higher place.

Weismann advanced the opposite view and according to him, if a child were educated properly his ancestry did not matter much. But if one generation does not leave its imprint on other generations, how shall we explain the

past? We know that no person is exactly like another and that nations are different. Each nation has its national ideas and beliefs and sentiments and these are passed on from generation to generation. But the problem before us is how far moral and mental qualities are inherited and, how far they are absorbed from the environment in each generation.

Education is one environmental force which we bring to bear upon a human being. The society in which we live, the general attitude of the minds of people, their morals, religion and political views, all these are environmental forces. Some people have believed that environment is everything, *e.g.*, Robert Owen believed that, if every one had the same education all the world would be alike and this view prevailed up to the middle of the nineteenth century.

The scientific study of inheritance is very new and a very large number of theories have been built up through the study of animals and plants. We have very little knowledge of human beings. Our bodies have been the same through years of time. There seems no chance of

modifying it now except through extreme change of environment.

At birth and death however, large portions of the brain have been found undeveloped. Had environment offered development in other directions, latent abilities which one has never had time to develop might be trained. We have no data found on the moral side, yet we have old families breeding moral character and others immoral character, even though they have been given chances in environment.

On the intellectual side we find that marked intellectual ability is inherited and so, also, intellectual defects, but we do not know to what extent. All our education is carried on by what we know of heredity, *e.g.* schemes for promotion pre-suppose our views on heredity, also in considering education, we differentiate what will be suitable for each sex and different races. It is quite common to say that primitive races have keener senses but all races have the same kind of sense.

We want to know the distribution of intellect and the different degrees. There

are exceptional children to be considered also for there two types (1) child of genius (2) of marked inferiority. Intellectual deficiencies are physical sometimes and therefore sometimes curable.

Accepting, as we must, that there are variations in native capacity, we must find out what forms they take and how they may be measured. Bürt wish to find out if we could determine a metric scale of intelligence but all experiments in Psychology have not had sufficient proof to be theories.

But we want to find out how far mental and moral qualities are inherited and, how far they are absorbed from the environment in each generation. In considering this question, it would be as well to remember that, the child has a self-determination which does not make him independent of endowment and environment, but does enable him to make his own original use of what he derives from these sources and, in return gives back something of his own. The living organism is a centre of creative energy and it *uses* endowment and environment as its medium, but the elements it receives

both from nature and nurture, do not themselves make it what it is, except in so far as they are the material for the exercise of its free activity. The environment gives or not the adequate stimuli to arouse the activities of the mind of which it is by original nature capable. We find that the effects of environment in inherited qualities are: 1. It can give or withhold the physiological conditions for growth, *e.g.*, a great genius will not come to maturity if he does not get adequate living. 2. Can give or withhold adequate stimuli to promote growth, it being possible that we all have dominate abilities, required stimuli of which have been withheld by environment.

3. Environment can re-inforce some powers or depress or eliminate others in occurrence with the law of selection. Real power of any environmental agency depends upon its avoidability. Customs are potent as long as there is no opposition.

We find then (1) that heredity and environment are both forces to be considered in the life of man. We have not yet found out which is the more

important though we know from experience that both count. (2) The fact that education should remember, is that the individual has an inheritance of his own and he uses his self-activity and creative power through the medium of endowment and environment (3) Environment in education can furnish all the helps possible in promoting growth and in giving individuals the stimuli for development mentally, morally, and physically.

CHAPTER IX

PLAY

Froebel, in his educational theories dwells most particularly on the fact that, in his observations of children, he noticed that they were always at play and that they were the most interested in it. He then arranged his system with Play as its centre because the child's self-activity found scope in this pleasurable way. He recognised that the child felt a need for play and in satisfying this necessity, interest naturally followed. In the Kindergarten system, the child learns indirectly through its play but in it he puts forth all his effort so that the child's play is work. In play he produces things of value to him and it is therefore work, for work in general is, the effort to produce things of value. Some people think that the distinctive mark of play is that it is pursued for its own sake and is spontaneous and not for any value in the product, while

work as a means to an end. The child plays because, he cannot help it. It is necessary that he should play in order that he should grow physically in the first place, but he understands things and gains ideas through his activity and also, learns that there are other members in his class that he must play with and he is better able to adapt himself to his environment. The child does not think of his play as work but he nevertheless is putting forth all his effort. In play the child realises himself and gains ideas of the self. In Froebel's gifts, he learns for example, to build houses and bridges with cubes, his fingers grow nimble as he tries to fold paper into shapes and his senses are trained. He begins to distinguish different colours and shapes, becomes intelligent, for he is given some thinking to do, his imagination is trained in the stories he hears and which he dramatises and, so his experience begins to widen and his ideas grow clearer each time his senses are used in his observations.

Froebel's favourite maxim was "Impression without expression is useless"

and therefore children had to e.. ess in some way the ideas they gained t rough their play.

Mr. Caldwell Cook of the Perse Grammar School Cambridge emphasises the Play-way in education. His Little men do most of their lessons through play, because it is the most pleasurable and effection way of learning and remembering. It is another application of the principle of "Learn by doing." So the boys act their plays in Shakespeare after the first reading, make their own speeches on any topic they like, and are criticised by the members of their class, they make up their own Rhymes and suit actions to them. In this manner the creative power in them finds material to work on and to develop and, as play reveals and uses the creative impulse in childhood, we must utilize the Play-way in education. In play, we find the expression of personality because it is freest there. It is a continued experiment in the expression of personality and gradually play and work draw closer together, for when we put forth all our powers in play we are working and when

we find work so interesting that it is absorbing, then play is work and work play.

Play exercises the imagination where it finds scope and it also develops sympathy. Lastly Play is a form of service, therefore there is freedom and it has a religious significance. Play and reverence go hand in hand. If we play we must reverence the personality of others and the rules of the game. Play therefore prepares for social life and for leadership.

At first work and play seem different, for we know that the young child learns indirectly through its play and, the older child directly through work and we draw certain general deductions from these observations: 1. that work develops later than play 2. that work on the whole is less pleasurable than play. 3. that it lacks the spontaneity of play. 4. Is usually engaged upon with view to an end rather than the means. 5. Work requires the exercise of higher and later capacities, *e.g.*, concentration.

The general feeling, however, is that each becomes more valuable as it more

nearly resembles the other as was stated already.

There are several theories regarding Play.

(1) The surplus energy theory.

In the course of a day we generate a certain amount of surplus energy, some of which we let off on our work, but not all. Children have little actual work to do and therefore, have a greater amount of surplus energy to let off. They get rid of it in the form of play.

The objection to this theory is that, even when a child is tired it plays on. Moreover, adults go on playing when too tired to work and is it surplus energy in the case of old age? Prof. McDougall explains that, when the nervous system which produces a certain activity is no longer in operation at the time, that energy is imported from certain other brain structures and, therefore, we are able to go on playing even when tired.

(2) Karl Gröos Theory.

He regarded all play as preparatory exercises for life. Animals and children use their instincts in play when they are

not required, so that they may be there when they are wanted, *e.g.*, a kitten plays with a ball, as afterwards he will play with a mouse. A girl plays with her doll as afterwards she will attend to the serious business of life. Youth then plays to get ready for the business of life.

(3) The Recapitulation of the race theory.

Dr. Stanley Hall takes the opposite view and evolved this theory. The child recapitulates in his play the phases, which the race has gone through, *e.g.*, a boy of nine will be absorbed in imaginary hunting and bloodshed and will represent the Bushman Stage in the history of the race. The objection to this theory is that it does not account for new plays or for adult play.

These rival theories, however, differ chiefly in emphasising different aspects of the same fundamental principle. Dr. Stanley Hall lays stress on play as a motor activity and, the substitution of dancing, eurhythmics and acting for some of the more formal physical exercises would secure for the individual

more control over his body. On the other hand Karl Gróos points to the intellectual aspect of play.

(4) Theory of Play as Recreation.

A man often finds relief from his work by devoting himself to sports and games and the school boy escapes from his work in school to the field. They may be both tired and yet find pleasure in play. They are able to play although fatigued, because nervous energy is supplied by special nerve centres when those that control energy usually, are no longer able to operate. This is how we can explain this theory.

We know from observation that play is recreation, we know, also, that it is based on instinct and that the instincts have free expression and, also, children's plays do resemble stages of the race in its development.

Plays change with age, because of the difference in physical development and the consequent appearance of accompanying instincts. An analysis has been made to prove this.

Infancy. 3 years.	Plays are largely in the nature of sensory and motor experiment. They are largely self-centred and individual.
Early childhood. 3-7	We find a continuation of sensory plays, but in them a factor of imitation comes. Children find greater pleasure in companions but most remain individual. Toys still absorb a considerable part of time especially constructive toys. At this stage the imagination runs riot.
7-12.	The child's growth is slower, but its physical stability is greater. This is the most active period of his life, but motor activity is still dominant. We find a strong increase in constructive plays coming in for com-

	petitions and rivalry. There is still very little co-operative spirit and very little assent to leaders.
12 years and wards.	There is more organisation in play. Imagination is more controlled and selective. Leaders are chosen. Play is more intellectual.

In play we seek to conquer those we are playing against, but this does not account for solitary play, *e.g.* patience. Play has a moral value for, when we play in groups as in teams, we try to win not for ourselves but for the sake of our side. This develops a sense of loyalty. It also teaches us to be watchful, alert and ready to act and always opportunity is given for the growth of the creative impulse.

Play then is (1) essential in childhood for the child expresses itself best in play and it is therefore necessary for growth physical, mental and moral (2) It is based on instinct (3) The principle in the play-way is very educative because ideas are gained, expressed and remembered (4)

The Karl Gróös Theory and Dr. Stanley Hall's are really two aspects of the same thing, one emphasising the intellectual and the other the motor activity. (5) Children's plays are according to the stage of development. (6) Play and work become more valuable the more closely they resemble each other.

CHAPTER X

CHARACTER

When children come to schools we often think that here our duty should be to form their character and we often speak, as though it were in our power to do this. The child comes to us to be trained, but we must build on its inner nature. There is the ready-made material on which to work and it is our duty to use what already is there at hand.

Character seems always to include some reference to the extent of intellectual outlook, *e.g.*, we speak of a petty character. Increased knowledge does not of itself improve character, for the knowledge gained may in no way increase the width of outlook which does enter into character. Knowledge which throws light on the individual's place in the world and upon his relation to his fellows, does help him to distinguish between prejudice and principle. It is therefore indirect in its influence.

What are the marks of character? We find in the world that there are two forces always acting in persistent purpose to turn character aside. They are (1) the opposition of the external world, that is, people and difficulties in the environment (2) The treachery of our own passions. To conquer both needs strength and there should be consistent striving to overcome. Training in character then should be in enabling our pupils to overcome difficulties both in themselves and in the world and to go on in dogged perseverance. In the background a wide intellectual outlook is needed.

Character differs (1) according to Temperament and Disposition (2) according to the stage of development reached (3) according to the stage of development capable of being reached.

Temperament is a baffling subject in psychology. We have to be very careful in dealing with people until we have found out the dominant factors in each character.

In every individual we will find that (1) the Self (2) Environment (3) Tempera-

ment count most. Temperament rises as between the two factors. If we enlarge the word temperament we find that it includes disposition as well. Disposition refers to certain ancestral characteristics which help the self to re-act on the environment in a particular way. It does not depend on physical processes but refers to the relative strength of various instincts of self-assertion, self abasiviness and others. If one instinct is very strongly developed, it shows itself as a marked characteristic of the individual. This disposition also covers certain native tendencies which are inherited, *e.g.*, an ear for music. It is therefore unalterable. It is the innate constitution of mind which differs in different men with regard to their feeling and volitional propensities. It is analogous to protoplasm in the physical life. Protoplasm is the stuff out of which our bodies are made. Disposition is the psycho-plasm, the stuff which is the make-up of the individual mentally.

The explanation Temperament (and the word is used to include disposition) was originally physiological. It was supposed that as there were four elements

in nature so there were four humours in the body. Accordingly there are four temperaments as a result. These are the Sanguine, the Melancholic, the Choleric, the Phlegmatic.

In a perfect body the four humours would be perfectly blended, and in a perfect soul the four would be temperament, but in most cases, there is some deviation from the mean, or some excess, so the name temperament came to signify this excess or defect of the humours.

In the 18th century temperament was ascribed to the nervous state of the body, but modern physiology refuses to find in temperament anything physiological, but regards it as a psychical fact, which means feeling and propensity to action.

The facts of temperament are not uniform; we cannot describe them. In each of us, each of the four forms is observed at some time or other and the same is true of racial groups.

We introduce the word mood to signify the prevailing temper and temperament to signify the permanent disposition which are certain ground

tones which are persistent. There are over-tones and under tones which are moods.

Moods are more concrete and manageable than temperament, the latter term is rather too vague even now to be profitably used, the persistence of the term being due to its literary use.

The following are the types.

Sanguine. This type is more emotional than the other three and very superficial belonging always to the present. It seems to be a mark of childhood. Volition in the sanguine is relatively weak. Learning and forgetting are very easy but it is an educatible type.

Melancholic. Is very intense, but narrow from an emotional point of view. It is marked by a high degree of inflexibility and a pronounced tendency to introspection. It appears to be more marked among literary and philosophical people

Choleric. Is very persistant and quick in action—very domineering. They are however very lovable.

Phlegmatic. Is slow but stable in action and feeling alike. There is an absence of sentimentality and this type is the despair of the educator.

The Sanguine type is the most troublesome of all and great severity should be exercised in dealing with them. They need severe discipline.

We find that the supposed passivity and plasticity of children are not psychological facts. Character has to be developed, though the original nature imposes a limitation on the possibility of the individual's development, yet we cannot always tell whether the limitation is inherent or the result of bad training.

We must estimate the character of children according to their psychological age. It has to be developed (1) through the child learning to distinguish between himself and the things around from which he receives impression (2) through the activity of the child, that is, the activity

of his will. The child has to be trained to freedom through discipline, understanding that human law cannot be violated with impunity. Then the child should be inspired to be his own master, *e.g.*, children do make up their minds to work steadily at their lessons.

In schools, strong suggestions should influence children to work and if, personal sympathy accompany these suggestions pupils will learn to form good habits and to respect themselves. Whatever fails to affect the will, falls outside the formation of character. Education should endeavour to strengthen the self-respect and to develop purpose. Knowledge and critical thought are necessary in widening social outbook.

Ideals help in forming character. A true ideal knows itself to be unreal in the present but sees itself as a goal which by effort may be reached. Anything we consider worthy to be done is an ideal and the ideals of parents and teachers will be more and more evident to the child and he will try to model his life on some plan. The teacher's lofty ideals are the most powerful influences the school

can bring to bear to counteract the evil of degrading surroundings. Literature, and the reading of good books supply ideals, for the imagination has full play round the characters in Literature or History.

Music, beauty of scenery, plants and flowers and all nature, all connect ideals with doing and then ideals become habitual. Children should be trained in doing their very best and good work always results from an attempt to realise our ideals.

Ideals are changed according to the stage of development because they belong to the realm of interest. There are religious ideals taught in common worship and in reverence. Intellectual ideals should be practical.

In the strong character we find (1) strong self-regarding sentiment combined with some ideal of conduct which has risen above dependence upon the opinions of others and (2) habits of self-control.

The habit of seeing what is wanted and going for it goes to the making of character. Make children accept responsibility for their own work. Herein

lie the value of handwork. Do not let children finish the work of another. Things begun ought to be finished. This trains will power.

Character then is based on (1) Temperament and there are therefore certain limitations. (2) Purpose and strength, a wide intellectual outlook, organisation, according to temperament, lofty ideals, critical thought and aesthetic appreciation are means by which individuals may be given a chance to rise. Self-respect and self-control are also essential elements in character.

In the school, the environment must furnish material for the growth of the self, for the organisation of its powers. The school should present high ideals in teaching and in life. Methods also help in forming ideals. Children should be trained to self-respect and to self-government.

CHAPTER XI

THE CASE FOR SELF-GOVERNMENT IN SCHOOLS

Since the beginning of the twentieth century many and varied attempts have been made to establish self-government in schools. The reason for such attempts we will discover later. That these reasons have been proved sound both in theory and practice show them to be worthy of consideration by all teachers and those about to be teachers.

The best known attempts to establish self-government can be divided into two classes. (*a*) Traditional of which the older Public Schools are typical (*b*) the experimental class where the children are given a perfectly free hand and not only regulate their lessons, but their whole lives. Instances of this class are the George Junior Republic, the little Commonwealth and the Caldecolt community and (*c*) attempts in which the teacher

takes an active part both as legislator and teacher as, for example, at Abbotsholme School and any Montessori School.

Of the first class it may be said that it represents a very inadequate system of self-government. It is far from being democratic in the proper sense of the word.

The ordinary boy is given no opportunity of exercising his intelligence or initiative in matters of real importance. The law of the school is not an expression of the common will.

It will not be denied that the Public School System has produced fine results, but the method employed is not one which can really be called a method of self-government.

The George Junior Republic and the Little Commonwealth, an American and an English attempt to make children responsible for their own government, were originally started for the correction of young delinquents, boys and girls of fourteen years and upwards.

The George Junior Republic has proved a success. It has its own Senate, Court house, Judge, Jail, Police force just

like any other State. Wages are paid for work and its motto is "Nothing without labour." At the back of the Republic is Mr. George. As the report of the Labour and Charities Commission says "It is to be understood that it is the policy of the management to advise sparingly and command only when necessity requires."

It can be said in justification, and it will need no other justification, that the George Junior Republic has reclaimed a number of boys and girls from vice and set them on their way to become self-respecting citizens.

It may be said that false economic conditions prevail in these schools mentioned, but we must avoid being deceived by the machinery and, judge the spirit which prevails, remembering that the young child has a right to protection up to a certain point. Here then is a system of self-government when the children not only obey the laws, but make them for themselves.

Let us now examine the third class of which Abbotsholme School is a type. In the true sense of the word, this cannot be called a self-government School. The

children co-operate with the Head in making and keeping the rules both governing work and play. It cannot be claimed that the children have a free hand. Rather they may be regarded as the dupes of the Head who gets them to believe that they made the laws. At Abbotsholme we are told, rules are framed by the Head and issued to the boys and girls with explanations. They are then accepted and kept by the pupils. We will consider finally the Montessori School. This system attempts to throw as completely as possible the responsibility on the child for its own education. Left to themselves under the influence of the "Directrice" the children proceed to choose their own tasks and do them in their own way.

Although Dr. Montessori repudiates make-believe, the essence of her practice may be described as the play principle as a method for the education of children. It must be remembered that the play principle and self-government are necessary correlatives. It may be said that the Montessori School is limited by the "Didactic apparatus" used, and the will

of the teacher, which causes the set use of the apparatus to become a tradition.

We have now considered two types of self-government schools which have been established. Two types we may dismiss, namely the Public Schools and Abbotsholme as being outside the conception of self-government in schools in the strict sense of the word, although they are steps in the right direction.

The results obtained by the George Junior Republic, the Little Commonwealth and the Caldecolt community show that self-government in its widest sense has produced fine results both socially and academically. That children can govern themselves justly and well, and apart from that can learn lessons by themselves, as well as under a teacher, has been fully established by the work of these communities. This in itself is a sufficient reason for developing self-government in schools.

We must look behind results above, for a further justification. The study of man's life shows it to be possessed of two main movements. One is the development of his hormic processes, and the other, a

complementary development in which they become organised into a wider and more complex-hormic system.

The school then should be a place, where the child should be tempted to throw himself into the worthiest form of activity and, where the hormic functions should be developed and established in his nature, against the day when he will be in need of them in the greater world beyond the school.

It may often happen that some children in a school cause more trouble to the teacher than the rest put together. This is caused, we may suppose by some engram-complex which has been suppressed. What is the cure for this ? Obviously not the "licking into shape" which is rarely more than a superficial success and more often produces lasting harm, since it touches only the symptoms and not the trouble.

Since repression is a poor and bad treatment, the complex must be substituted by something else. Often it is, but not by the instrumentality of the teacher. It has been shown that self-government can treat such trouble, as in the case of

the George Junior Republic and the Caldecolt community. The unworthy engram-complex is substituted by a new, formulated from interest and an active participation in the school.

The Recapitulatory Theory has for its main points (1) that there is a general parallelism between the development of the human race and the individual (2) that this parallelism is of fundamental importance for the selection and arrangement of the materials of the course of study. The general idea is well stated in the words of Goethe. "Youth must always begin anew at the beginning and as an individual traverse the epoch of the world's culture."

Some writers have considered the complete and unconscious absorption of the individual in a group to correspond to the first stage of development in the race, and the child's re-action and protest on the part of the individual, as the mark of the second period, and the conscious and loyal support of the individual to a group as the sign of the final period.

Thus as the race grew out of lawless

immoral tribe to the cultured race, making and enforcing its own laws and code of moral values, so must the child be allowed to do the same; to see the necessity for rules and this acceptance, for rules and play, and so must be allowed to work out the scheme for himself. Thus he will enter into the third stage and give his loyal support to his group. He will start from the beginning and build up with the help of others the significance and value of the moral order.

It has been said that only when young people have had the scorching experience of a moral chaos that the craving for something better is aroused in them. Evidence shows that the moral activity thus initiated and supported have the most striking results on the character of those who claim it.

What will happen to those who will come after them and find the foundation of a decent common life laid? Are they to be deprived of the "moral chaos" and the educative value of rebuilding a new moral order to replace it? There are some who boldly say that the existing conditions should be broken up and the

succeeding generations sent out to work out of their own saluation.

If this is so, what part, we may well ask, does tradition play in the world? Surely every succeeding generation in the race has not had to start from "moral chaos?" But who does not think that the world of School should be improved? Let the child bear this in mind and he will find scope for his initiative and exercise educationally for the mind. It may be necessary to start afresh from "moral chaos" in the case of some children as in the George Junior Republic and kindred Schools, whose minds have been corrupted with a bad condition. Contact with a society whose tradition is good, will in turn combined with skilful handling on the part of the teacher, eradicate all trace of the bad.

Who will be the watcher over these attempts to form a moral order and what will be his duties? From what we have said it would seem that the teacher takes no part in the order of things. The individual must work out his life according to his own ideas. Is the teacher to watch and foster with impartiality the

making of a Saint or Sinner? The answer is that the ultimate responsibility of the child for himself does not free the teacher from responsibility towards him. The sinner may imbibe the spirit of the class, or he may begin to bring the rest of the class over to his view of life. Then it is time for the teacher to take a hand and either by example or suggestion bring the class back into the right road. Failing this, he may have to take a more drastic step and institute a state of absolute government instead of the self-government the class has been enjoying. It is seldom necessary to do this since the sinner usually treads a lonely path.

The greatest enemy of self-government is the external examination system which makes it impossible for the curricula of many Schools to be anything but set. This limits to a great degree the educative value of self-government for the schools concerned.

The ultimate goal or ideal of self-government in a school would be a school where the pupils decided on the courses of study and carried it out themselves, made their own rules and

regulations and observed them. The teacher then would be merely a friend who would be ready with helpful criticism and suggestion when asked by pupils in consultation.

It should be the ideal of each pupil to add to the conditions of the School in all fields of work and sport. Each to strive to make the School a better place for having been there and, each to be a better man or woman for having been there.

The George Junior Republic, the Little Commonwealth would seem to approach most nearly the ideal self-government schools, but it must be borne in mind that the pupils have the conditions thrust upon them and they must accept since they cannot leave. The will to leave or continue must be left to the child in the ideal School.

PART II

PRACTICE OF EDUCATION

PRACTICE OF EDUCATION

CHAPTER I

PRACTICE OF TEACHING

We have considered to some extent in the previous chapters how the mind of the child works and we must study genetic Psychology in order to help us in our endeavours to suit education to the different stages of the pupil's development.

Teaching is one of the instruments of education and we must find out how we may make it most effective. Before we proceed to show how we may realise theory in the practice of teaching the several subjects in the curriculum, it would be well to emphasise a few points in method in general.

In the old-fashioned ways of teaching, pupils were given definite work to prepare at home and more often than not, no explanation was made as to how it

should be studied nor, was any light thrown on difficult matter.

One of two things was left to the pupil to do, namely, to learn mechanically or to try to solve the difficulty by himself. In many cases the latter procedure led to more effort being put forth by the class and a spirit of independence was fostered, while in the former case, pupils solved the problem by learning mechanically or, by accepting the punishment which was bestowed on them for unprepared work.

At the present time, the opposite plan is mainly adopted. Great trouble is taken to arrange elaborate and interesting lessons so that pupils might be attracted. Some go to the length of calling their lessons "showy" because they vainly imagine that the presence of a great many illustrations gives the idea that something is really being accomplished in the lesson.

But the number of illustrations used does not ensure the success of the lesson, unless they are needed to throw light on the subject matter.

A student was once interviewed by a Professor of Education whose lectures in Psychology she was attending. Her

marks in the examinations were very low and on being asked for the reason she replied. "I remember all the illustrations you used in your lectures but I am unable to arrive at any deductions." In this case then the illustrations did not throw light on points that were not understood so as to enable the student to grasp the meaning of the whole lecture, and to formulate from it some conclusion. They were made the aim of the lesson and not the means of clearing up difficulties. Care then should be taken to keep the main aim of the lesson in view, and not to lose sight of it, when introducing illustrations and this will help us to remember also that, only those that are needed to clear up some difficulty should be used.

On the other hand, many teachers do not exercise forethought in the preparation of their lessons and often when illustrations are specially needed, they are not at hand and verbal illustrations have not been thought over.

When we compare the former method of teaching with that of the present day, we find some very important elements in both which should be amalgamated in

order to make instruction truly educative.

We do wish to help the educand to put forth all the effort of which he is capable in thinking out and solving problems that confront him every day in school, and material should be provided in every lesson to develop *power* or capacity. In the teaching at the present time, pupils do not work up to the maximum effort that they are capable of, while the teacher spends too much time in preparing lessons. His voice is heard continually in pouring forth knowledge, while the class is mainly receptive or attentive to something else. This dependence on the teacher in the education of to-day ought to be discouraged. The teacher's work is to arrange the material to be presented so skilfully that thought is aroused and the self-activity of the child is given a chance of expression. The pupil must begin to discover a definite relation in the parts of the lesson, and to formulate a generalisation. At first he finds out relations in qualities of things observed, and by comparison of concrete objects, and then later on, he

will discover relations in systems of knowledge and his thinking will become more abstract, but it is only as the teacher arranges his lesson in logical order that the pupil will be able to be methodical in his thinking and so develop habitudes. There should also be a plan in the lesson by which pupils are given opportunities of asking questions, of discovering facts for themselves and of arranging them into systems of knowledge through association of ideas.

This then is the work of the teacher and, when the child discovers the plan of the lesson for himself and begins to think out solutions to problems, and to ask questions, his ideas will be clearer and more definite and systematised.

All teaching then should encourage thought on the part of the pupils and, also, help them to express their ideas.

The next consideration in teaching is that, it is important to remember that, in the presentation, as we aim at developing systems or organs of knowledge in the mind of the child, wholes should be studied first; but this is not sufficient; the parts are then to be noticed and the

relations they bear to each other and to the whole. The whole studied over and over again in this manner will become clearer each time.

All knowledge is gained in two ways, either by direct experience or through other people's ideas communicated to us. The ideas we gain from direct experience are remembered better, and to the young child his concrete experience is particularly helpful, for at the beginning, his mind can only grow through the use of his senses. As the child grows older, we in our education, tend to make our teaching more formal and less practical. This is a defect which we should try to alter. We find that there is a comparative lack of purpose in the child's learning. All knowledge should have a meaning and the child should be given opportunity to make explicit what is implicit. Self-expression should form a part of every lesson and, the educator will find that his work is a thousand times more efficient, when his pupils use their own power of thought and express it in words or deeds or work than, if he did all the work himself under the mistaken idea that the

seeming interest of the class connated interest. Letting the child observe nature and note his observations will interest him and sustain his interest and, he will naturally remember what he has examined much more accurately than, if he were told about it. New experiences will be connected with ideas that the child already has in his mind bearing on the subject, and this will naturally make the lesson more interesting, for he is building up knowledge on what he has already experienced. *e.g.*, Before reading Tennyson's "Brook" to the class, it would be as well to ask for their ideas of any brook they have seen or read about. Then ask them if they would like to hear the Story of a Brook told by the Brook itself. After the poem has been read, ask the pupils to compare their experiences of a brook with Tennyson's brook.

It is an important part of the presentation of matter in class teaching, that educators should endeavour to give their pupils a breadth of outlook both in the matter and method of the lessons. If anything tends to bring stagnation and to kill interest and critical thought, it is

the idea that a certain method should be followed constantly. Students in training should be encouraged to observe and read several methods and to choose from them what is best. When methods are varied, pupils will be trained to look at their work from all points of view and, this would foster in them a critical attitude towards their work. Some methods might help certain individuals of the class and a variety is therefore useful.

The general principles behind method are the most important items and not the difference in detail. The best methods are those that can be judged from results, not of the examination, but from the growth of efficiency, which can be observed from the child's power of grappling intelligently with any thing new that is presented to him. While there is a noticeable improvement in teaching at the present time with regard to better methods, yet there is room for greater effort in keeping in touch with more ideal educational ends.

It is a fact that a great many teachers are guided entirely by notes they had in

their Training College days and have not moved with the times. This may be corrected in a measure by the institution of a few ideal Model Schools with an efficient and enthusiastic band of teachers, to which visits may be made for inspiration and comparison. Teachers should be given opportunities of visiting other schools, and discussing with others the relative merits of newer methods of teaching, *e.g.* Montessori's idea of liberty for the child has at least helped to make teachers of the Infant School realise, that children should not be forced into unnatural positions of sitting or standing or, be compelled to learn according to a set time table.

Some teachers have a perfect mania for what they call new methods and are on the look out for them constantly, but in their hurry to find out "new" ways they are inclined to disparage the older methods. This is a mistake, for the foundation of good method is formed in many of the old methods and should be used and adapted in the new teaching. Good methods must show clearness and definiteness in arrangement, and must

arouse in the child active process of thought. He has not the necessary knowledge which he needs when he sets out to be a discoverer, but the material is arranged and selected for him by the teacher and, if the pupil is to be encouraged to work by himself much depends on the arrangement, if he is to form his own deductions. The method will also help to train in his mind methodical habits of thought. Method is therefore an important factor in the acquirement of knowledge.

There are a few specific methods of teaching known as the Expository and Explanatory method, the Catechetical method, and teaching by Experiment and it is obvious, the subject chosen will determine which method will predominate in the lesson.

The Explanatory method tries to bring the particular under universal law, *e.g.*, we have to explain to the child how we can prove that the earth is round. A poem that appeals primarily to the understanding will have to be explained. There are allusions in literature which the pupil cannot possibly be expected to know.

There are limitations to explanation however, because we cannot explain the ultimate nature of reality. In sciences that have been better developed we can push explanations further back. To the pupil nothing is explanation which is not associated with some part of his experience, *e.g.*, we may explain diurnal motion of the earth by referring to pupils observation of shadows at different times of the day.

The principle of the Catechetical method is, that by question and answer we arrive at some truth we are seeking in the lesson. We elicit answers to questions, our questions teach pupils as much as the answers elicited. The class should learn from the questions, should ask questions themselves, should use the answers they have found out by themselves or from other pupils in gaining more knowledge. This principle then can be well worked into the exposition lesson and be useful, instead of the teacher telling them everything. In exposition we will find the heuristic principle useful. This method has been applied principally to the teaching of science. As a theory

it cannot be exclusively employed in the teaching of any subject. Its validity as a method depends on the child first. It is true that it is based on the instinct of curiosity, but a pupil's curiosity is not inhaustible and it may fail at any moment. Then, we haye a time limit, so that it is impossible for the child to discover everything for himself unaided. We know that in all heuristic teaching there is a large amount of demonstration given, and heurism is therefore aided by demonstration and suggestion. As a principle, it is very useful because the ideas we gain by our own efforts, we remember best and it makes us more intelligent, but unaided heurism is impossible. In all teaching then we will find demonstration in exposition, heurism, suggestion and the questioning principle. If we demonstrate by experiment, we are able to arrange our material as we please in order to obtain the result sought for, but in observation we are obliged to take things as we find them. The Experimental method developed with the growth of science. There was a demand for first hand observation and the pupil was led

to find out things for himself. Anything, however, on which the pupil's exerts his intelligence is a heuristic method. It was originally applied to all observations of nature and, experiments were performed to discover relations and laws of nature, but in its wider meaning it is applied to everything in any subject that the pupil investigates and when he plans the mental part of the work—Students are not "original" discoverers because the material is arranged for them by the teacher. The conclusion is already in the teacher's mind, and he carefully arranges the matter before hand and also demonstrates, but if the pupil of his own efforts has sorted out and arranged his ideas or, if he exercised thought in arriving at conclusions, he has adopted this method. In the presentation of any matter the teacher should consider, whether the material is arranged in logical order and whether the illustrations used would clear up difficulties, yet there should be in every lesson something left for the child to solve by himself. There is not enough given to the child to do in every day schooling, and we therefore cannot blame him for his lack of in-

dependence. If the teacher would only remember that pupils learn and remember better, when they think out problems for themselves, they would refrain from telling them most things just in order to save time.

Education should then aim at more self-effort being put forth by the pupil, the teacher's work being to arrange his material, so that the natural sequence will lead the child to discover relations and to form deductions and systems of knowledge. He should be more of a looker-on than he is at present.

Education should be more practical, and pupils be put in the position of gaining their ideas through direct experience. Methods of teaching should be varied, so that pupils might be led to view problems from all standpoints and a critical attitude be fostered. More opportunities should be given to teachers for visiting other schools, so that they may be able to compare methods and discuss points with other teachers.

The Heuristic principle and that of question and answer should form a part

of Exposition. Those methods are best which develop in the pupil capacity or power of grappling with new situations.

CHAPTER II

THE TEACHING OF ENGLISH

It is only recently that the term English has meant anything but English Grammar, and pupils were introduced, even in the Second Standard to the meaning of abstract nouns. They were not interested therefore, in a subject which was too formal, and being set apart from the acquirement of the Mother tongue, it made no appeal to their minds. Some people were doubtful as to whether English should be taught in schools, as they said that it was picked up naturally and therefore needed no teaching. To this we must reply that language is a symbol of thought. We need symbols for concrete things and, how much more does a nation require words and signs, when dealing with things that have no concrete form, *e.g.*, virtue, length and other abstract terms? We can only learn to use symbols

by *using* them and not by hearing others speak. Further, very often the English that is spoken at home is incorrect in language and in pronunciation and a picked-up English is therefore inadequate.

The mother tongue from the point of view of self-expression should be taught from earliest years. It is the only medium of expressing ourselves and of understanding other people. When we try to explain to others it helps us to try to be much clearer. The only way to acquire a language is to use it intelligently. It is of vital importance, whatever the future life of the child is to be that, he should have the power to express his thoughts and feelings appropriately, and to understand the meaning expressed in other people's speech. English is incidentally taught in every subject of the curriculum for, when a child is asking or answering a question in Geography or History, or in any subject, he is learning English every time. We find then that, when it is the mother tongue definite instruction should be given and that, in order to understand it, we must use it in the right way.

English is also, the universal language

and through it we are introduced to the accumulated literature of the ages in which we find beautiful thoughts expressed in beautiful language. It is very important therefore that, when it is studied as a foreign language that the method be carefully considered.

One of the reasons for failure in the teaching of this subject, whether it be the mother tongue or a foreign language, is due to the fact that the unity of the subject has not been recognised, for all the devices of teaching spelling, grammar, punctuation are just means of enabling pupils to use the language better in speaking, writing and understanding.

Oral Composition.

One of the factors in the New teaching is the stress laid on Oral Composition. It should begin as soon as a child can talk in the Kindergarten stages and be continued right up the school, concluding in debates in the highest forms. In the higher classes, oral composition will differ from mere recapitulation and will encourage style.

In Indian Schools the best way of beginning English is through ordinary

conversation in class. The same words used over and over again will gradually be learnt and connected with meaning. An English boy quickly learns Tamil or Telegu, not by having an elaborate sheet spread out before him on the Direct Method, and in the same way the Indian child will learn words and sentences in ordinary speech and use them constantly. More English is taught in this way than in any other and stiff conversations are not advisable as they are unnatural. All lessons in an English School should provide some exercise in speaking as recapitulation in full, and not merely short answers to questions. In the composition lesson, the aim should be to stimulate the class, so that the pupils will be anxious to say something and the wise teacher will allow the free flow of his ideas in words, without too many corrections of the form of expression. Use of language becomes a habit and new words should be introduced into conversation till they have become part of the child's vocabulary. In an Indian School, the teacher should try to arrange the English background in the teaching and, all new ideas should be

connected with the concrete set in this environment, *e.g.*, if the lesson be studying a picture of an English kitchen, then let the class ask questions on the various parts of the kitchen, and the articles in the room and compare them with those in their own kitchens, and then ask the names they have for some of these things and find out the use. By the time the Indian child reaches the Fourth Class, he will be able to converse fairly well in English and have a vocabulary with ideas behind to work on. He will also be able to read simple Readers. These should he well illustrated, so that their ideas will not be vague, and use should be made of the picture in studying the lesson. The pictures in the Readers or Geography book should be studied more, especially in Indian schools.

Very useful material is found in pictures in Oral composition lessons. The picture emphasises certain characteristics which teaching seeks to impress. We want pupils to talk about it and to learn to appreciate it. It is best to use really good pictures and, for children of seven or eight years

Pictures.

of age "Children of other lands," "When did you last see Father?" may be chosen. We must make the pupils distinguish between what they actually see and what they see in imagination. The picture should suggest problems to the child and he may ask questions and discuss the matter *e.g.*, Present a picture of an Arab riding across the desert, and ask pupils to describe his dress and compare it with that of an ordinary policeman. Ask them to notice the weapons he has with him and to suggest reasons for their presence. The Imperial courier of Schreyer may be the picture chosen and certain exercises should be done by the class. 1. What does the name of the picture mean? 2. What do you see in the picture? How can you describe the other occupant of the sleigh and the horse and the wolves? 3. What does the picture tell you of the country through which the courier is travelling? As picture reading can be continued through the school, we must choose those that suit each stage. Some teachers get their pupils to name each object in the picture and to use some qualifying word with refer-

ence to it, but we want them to recognise the meaning of the whole picture, and to be able to *read* pictures and gain ideas and express them. *e.g.*, Picture of Baby Stuart by Van Dyck. Tell the name of the picture and, after studying it and talking about it, class may be asked to write a description of some baby that they know, age and Christian name should be given. Tell what he likes to do and what can be done for him. Write an anecdote about some child. Write your own anecdote. Pupils in Class VI or VII will benefit greatly by such an exercise. When pictures are studied, we must be careful to draw pupils' attention to beauty, for the Aesthetic sense must be fostered and stimulated. We, also, want them to enjoy the picture. It is for this reason that we should show them the best, in order that they will be trained to love the best.

In the lower classes bright pictures should be chosen and the idea must be simple, and capable of being grasped by the child. The child will learn new words, but it will do this naturally in connection with some thought which the

picture has aroused in this mind. We want the active attention of the scholar.

Pictures of the trade on the Hugli would suggest trains of thought *e.g.*, Where does the grain come from? Where does the jute come from? Where is it going? Are they loading or unloading? What is it they are unloading? This kind of picture reading will be truly educative.

Children love stories and they should be related to them primarily to give them enjoyment. In the Infant School, children have very little experience and for that reason many pictures should be shown to them, for it is by observation of the concrete that the child's ideas are first formed. These pictures should be shown either before or after the story is told. The teacher will then tell the story right through without interruption. If any difficult words occur, they may be explained by action while relating the story, if a picture explaining them, has not already been shown.

Narrative.

It is a pity to ask questions immediately after the telling of the story. Instead let the pupils close their eyes and picture the scenes. Follow this up by

asking them what pictures they saw. At the beginning perhaps they will name single objects. The teacher may ask what the person in the picture is doing and, so gradually teach them to work in relations. We want the child to construct pictures in his mind and stories furnish material for this development. When children's experience is better, only pictures of things they have not seen should be shown, so that the child may produce pictures in his mind and, as the imagination has to be trained, the child's expression of them will show the teacher the defects of any ideas he has and they will then be corrected.

It is a good plan, too, to ask the pupils which part of the story they like best, but no reason for their preference should be required. If there be a moral in the story let it be clearly understood, but do not force its significance on their minds. *e.g.* "This story teaches you always to speak the truth."

Bright stories should be chosen for young children. Nature stories, Fairy tales, stories from literature and history are suitable. Dr. Montessori repudiates

Fairy stories but they are very good material. They arouse wonder in the child's mind and he understands in play what otherwise would be inexplicable to him.

Stories in English told to Indian children for the first time, will contain all the elements of the method referred to. There will be plenty of concrete experience and action, and the story chosen at the beginning will be very simple in idea. Fables might be chosen as good material. Little stories of their every day life at home may be read or composed by the teacher, references made to their feasts and holidays and real Indian History stories. We will not stop there, for there is much in the literature of the country that can be used for this purpose, but stories of other children in other lands and Fairy tales will also be used.

One of the ways in which accuracy in speaking and writing is secured is by imitation and, therefore children will learn to imitate the teacher's language and the models presented to them. New words introduced will be understood from the context.

As the means of helping children to express their ideas, the story may be used in the next lesson as the material for reproduction. They may either answer questions or tell as much of the story as they know. It is the subject matter that the pupils should be concerned with and, for this reason their efforts at continuous narrative should be interrupted as little as possible by the correction of the form of expression, for this would interrupt the spontaneity of the child's reproduction. If there are any very glaring mistakes made, after the child has finished, there may be a brief reference to the mistake, but this should be done rarely in the beginning.

In the reproduction of the story in Class II, longer and more consecutive statements will be required. As language becomes improved, right words in right places, the use of appropriate adjectives and adverbs will be attended to. Instead of simple sentences connected with "and," subordinate sentences may be framed by the class. A more connected narrative will be required, and opportunity afforded for composing original stories. The creative instinct in the child will thus

have a chance of expression. As children love action they will do their best at dramatisation. In the hands of a teacher who is keen, it may help to make the story real. It should be planned before it is acted: 1. by parts being given to several children and, if possible let all the class take part 2. by selecting the stagery, *e.g.*, a chair may stand for the throne, a book for a plate, the class room for a wood. This helps to make the story realistic to the child, for it is in make-believe that he has free scope for self-assertion.

Oral composition is connected with every subject in the Curriculum, for pupils are constantly being asked to express their ideas in words. In the subject matter of the Reading or literature lesson, they are required after silent reading to tell what they have read, to describe a scene or a character or an incident. In history they are called on to weigh evidences and to state their judgments in words. The pupil gradually begins to choose the exact word that is needed, to be critical of his language and either to expatiate or to condense his

ideas into as few words as possible. Debates in the highest classes help to train clear and definite expression and a logical order in idea and words.

Certain pronounced defects in language should be corrected in the Indian child, such as not finishing a sentence, using words such as 'simply' in the wrong place, of using 'had been' for 'was.' The teacher should note these common mistakes and constantly correct them and, also, mistakes in pronunciation. The pupil should be given every opportunity of expressing himself orally, and good material be provided for imitation. Let them conduct imaginary conversations and correct their own mistakes.

Written composition.

As soon as pupils can write with reasonable legibility and speed, a beginning may be made in written composition. In the early stages, this will be based chiefly on oral-work and the material may be drawn from the same sphere as oral work, *e.g*, accounts of common sights and experiences, descriptions of pictures and reproduction of stories and similar ex-

ercises. The more concrete and simple the subject the better, the essential point being at this stage, that pupils should possess a fairly complete stock of ideas about it, before they begin to compose.

Some teachers are keen on collecting sentences from the class, and building up the composition on the board which children copy in their books. This may be useful in helping them to transcribe, but it is not of much use as a composition exercise, for they are limited to the formation of a simple sentence instead of expressing their ideas freely. Even in the early days of written composition they should be allowed to write down their own thoughts.

There are times when the help of the teacher is needed, *e.g.*, in the reproduction of the story, when questions may be written on the board and pupils be asked to furnish the answers, but gradually even this help should be withdrawn.

The narrative may be made the foundation of a whole group of exercises. It may be the subject matter of a Reading lesson that is chosen for composition, *e.g.* The Fox and the Crow. I. Let

children tell the story as the fox would tell it. 2. Let the fox and the crow argue in front of a witness. Let the witness tell his story and the class decide whose story was best.

The next type of composition exercises are those which will help to train originality. The subject matter may be taken from the history or literature lesson that is being studied at the time, *e.g.* A conversation between two historical characters.

A composition which is purely imagination, *e.g.* The girl walked down the street. This would be very useful, if the pupils were required to describe the girl in absolute detail, then describe the street. This would make an excellent oral exercise in one of the classes in the High School.

Pupils have three kinds of vocabularies. (1) Speaking (2) Reading (3) Writing—In the early stage there is the speaking vocabulary, later the Reading and last, the Writing. The Reading vocabulary includes practically all the words that belong to the other two.

Letter Writing.

Letter writing bridges the gulf between the speaking and writing vocabularies, for in letters we use many colloqualisms of every day speech, but when it comes to formal written work, we use many words we would never think of using in ordinary conversation.

Letter writing should include various kinds of letters. Pupils in Class III may be given a friendly letter to write or an answer to an invitation. In the beginning they have to learn, where to write the address and the date of the letter, where to begin, and how, and in what manner to finish. They must be taught, also, how to address the envelope. The subject of the letter should be very definite and may be limited to writing an invitation to a tea party, and later on, a more difficult subject when a longer letter may be attempted, *e.g.*, Write a letter to your friend Ruth Harper telling her about the canary which was given to you recently.

In Classes IV and V pupils may learn to write business letters. The exercise should first be discussed by the class

so that they might understand how to write it.

The subject of the letter should be written on the board. Children might examine business letters which they have brought from home with them, and notice the way of addressing a firm and the ending of it and its phraselogy. The first letter should be built up on the board with the help of the teacher, and then pupils may be given work to do themselves, *e.g.*, "you are Secretary to the Hockey Club in School. Send a challenge to the Club in another school."

Answers to advertisements and the writing of telegrams may be the work of Form III.

Descriptive Compositions are more difficult and should be attempted in the High School. They include 1. General observations 2. Descriptions of people *e.g.* some character from Dickens 3. Descriptions of scenery. Robert L. Stevenson tells how he learnt to describe scenery. He tried to describe the scene, as though he were going to paint it, and the things given or omitted, will determine the attitude of a person's mind.

Teach them also how to develop a theme in the inductive method using the five formal steps.

When imagination exercises are given to older children, *e.g.* 1. The river by Moonlight 2. Sunset 3. What are the trees saying? 4. Town in the evening, it may be found that it will not appeal to all the pupils, because some of them have practical minds. It would then be well to let them have an alternative exercise to choose from in any test. To help them however to improve, let them have exercises to do, based on imitation.

Verse composition.

Verse Composition means writing fables or other matter in verse. It is a matter of form only. We may even be able to teach pupils to write poetry.

Rhythm is inborn in us. We want to develop this power by letting children read a great deal of verse. Let them beat time and notice that there is music in poetry. We must give them lessons in Rhyme and let them find out that there are short and long beats.

The ballad form is the best to study at the beginning, *e.g.*, John Gilpin.

Let the pupils find out the beats.

There are weak and strong beats and lines that rhyme. There must, also, be something to say in the ballad, which is a story in verse.

Give the class a story, tell it and ask for the main points and write them on the board. These will determine the number of stanzas there are to be in the composition.

Let the first ballad be community work. Let the pupils suggest-suitable lines, the class and the teacher should criticise, and, finally select the best for the teacher to write on the board.

They may also be started on making up rhymes for Infants picture books.

In writing composition, pupils may sometimes be allowed to choose the form they would like, for some may prefer to write in verse.

Mr. Caldwell Cook's success with his Littlemen points to the fact that a great deal more can be done in this way of writing composition than has been attempted, for his pupils from eleven years old and upwards have written books of verse in his experimental school.

Paraphrasing.

This leads us to consider the value of paraphrasing. When the passages are well chosen and are within the comprehension of the class, paraphrasing does give a training in developing clear thought and shows, whether the meaning has been grasped and how much has been understood.

This form of composition should not be given to pupils till they are fifteen years of age. The advantages of paraphrasing are that, in the hands of a skilful teacher, pupils will gain a clearer conception of the meaning of a difficult passage. Words and phrases have to be selected and this helps to secure that ideas are accurate and that they are suitably expressed in words.

Paraphrasing seems to be but a natural extension of the early reproductive lessons and should be of value. Of course, some people object to paraphrase, as they say that it seems to be the turning of noble English into ignoble prose, and the pupil's attempt in paraphrase is so poor in comparison with the original. Paraphrase, however is not intended to be literature, but to be an exercise by

which the pupils by imitation will try to express in prose, their idea of the meaning in poetry or prose.

Paraphrase should be graduated. (1) Obviously the turning of modern prose to modern prose will be the first exercises in it, *e.g.*, interesting passages from Macaulay, Scott, Dickens may be chosen. It is by imitation at the beginning that, pupils will learn gradually to improve in expression and it would be well if prose passages were learnt by heart. (2) Poetry into prose. Passages from Milton, Scott, Shakespeare, Byron, Browning, Tennyson and some of the Georgian poets may be turned in prose. We cannot do this with lyric poetry. It should instead be set to Music.

(3) Prose into poetry. Fables, and ballad stories may be chosen. These should be easy, first starting from the common metre ballad to the long metre. Later on pupils may be asked to invent a story and write verse. Gradually lead up to verses of description.

Correction.

A very important item in composition exercises is their correction. To have any value, there should be

a period on the time table given to discussions on the mistakes made by the class, or on any special point of merit. This will be a help to the teacher instead of having to speak to each child. She has the opportunity of pointing out general mistakes, so that they may be avoided. The pupils learn from the mistakes of other children and therefore, the period spent thus will be of mutual benefit. There should be a series of signs arranged with the class, so that the pupils may know exactly what is wrong and may be able to correct their work.

At the beginning punctuation, use of capitals, right order of words and other points should be carefully taught. A book such as the Mother Tongue will help the student and the teacher to see the unity of the subject. Later on in the High School Department, Mother Tongue Part II will be beneficial, if used. Children should be made to see that punctuation marks and capitals are important, because they help us to understand other people's ideas better and enable us to arrange our thoughts better in writing.

The greatest point in composition,

however, is to help pupils to express their ideas freely and in the best language. Arnold of Rugby once said that, when a boy read a passage and then reproduced in the words of the book, this was a low type of mentality. When the passage was reproduced in his own words, this was decidedly a higher development, but when the pupil wrote the meaning of the passage and, also, amalgamated with it something that was his own, his mentality was the best. In composition, therefore, we must encourage the creative instinct and provide material for the child to work on. This is certainly needed in schools in India and practice should first be given to pupils in oral composition, so that the idea will be familiar to them when they begin to write. Anything that will serve to make the child treasure his originality should be tried, and every attempt made by the pupil in this direction should meet with the teacher's hearty approval.

CHAPTER III

READING

In the Infant class, it is impossible to say when Reading should be taught. Montessori teaches both Reading and Writing when children are from four to five years of age. As soon as they have acquired facility in speech and a fairly large vocabulary, they may begin to read.

The articulation and pronunciation of young children need special care, for the muscles controlling the vocal organs are not sufficiently developed and, it is best to show them how to use them at the beginning, for "prevention is better than cure" and this is true, whether it is the mother tongue or a foreign language that they are learning. Children have, in this stage, to learn to connect sounds with symbols and meanings with words.

It is very difficult to state when English Reading should be begun in Indian Schools. Ordinarily a second

language should not be introduced, till the pupil is twelve years of age though some educators limit the age to ten years. But in India, there is the examination problem to face and as English is the first language in the S. S. L. C. Scheme, we have to make some adaptations. If English were introduced as a second language at the age of ten, when the pupil will have a fair amount of grounding in his own language, this would be an ideal situation for the child psychologically. As English has to be well known to the child in India, we must consider at what age he should begin to study it. If English speaking and understanding are to become a habit, the sooner the child starts the better, but the mother tongue or the foreign language will not be known as well, as when the mother tongue has the preference. Learning to speak English in the Infant classes, by imitation in conversation will be of benefit to the child, but it would be better if Reading were delayed till the Third class.

There are various ways of teaching Reading to Infants, but in my opinion the

best method is to teach children to build up words through sounds and, to see that they are connected as far as possible with their concrete experience. The child, by associating the sound with the symbol will be enabled to find out for himself later on, the pronunciation of most words, *e.g.* Children will learn to build up words like MAT, SAT. AT will be first printed on the board and the sound of each symbol will be taught. These sounds are now connected to form the word AT. M is now placed before AT, and the sound that M represents is next taught and the whole word will be built up and pronounced. In this way many words are built up with AT as the root and then other words from other roots. As soon as a few words are known, the teacher may introduce a Reading Sheet. This may be prepared as follows, but doubtless the teacher will discover other ways of preparing them.

We will suppose that the teacher wishes to teach the "ee" sound in the lesson. If two lessons in reading are given every day, in the morning, words will be

built up and in the afternoon a Reading sheet may be presented.

The steps of the lesson would be :—

Step I. A vocal drill on the sound. Pupils will take a deep breath and be taught how to pronounce the sound and prolong it.

Step II. Word building.

B E E	picture of Bee.
S E E	
T R E E	picture of tree.
G R E E N	Green written in green chalk.

Step III.

I SEE A TREE.
THIS TREE IS GREEN.
THE BEE IS ON THE TREE.

In order to secure intelligent reading make the pupils look at the sheet for a few minutes before they read aloud. If they cannot tell the subject of the reading they should be helped either with the title or key note. Let a child read as far as he can and let another continue.

It is important to notice that as soon as a child can recognise a word as a whole,

it is not necessary to compel it to build it up from separate sounds. The chief object to be aimed at is, to obtain familiarity with the look of a number of words, both the grouping of words and the analysis are merely means to an end.

When Indian pupils are given Reading in Class III, they will begin in this way, but they will have a fairly large stock of words already acquired in conversation and, as they are older they will be able to do much more than a child in the Infant class. Phonetics are important in the beginning but, as they are a means to reading with correct articulation, it is best not to belabour its use.

When children know a large number of words which they have learnt from Reading Sheets, or from words printed on the board, they should be given an easy Primer or Story book. These should be graded in difficulty and, specially in Indian Schools, well illustrated. Use must be made of the pictures in the reading book. Children should be trained to look at them and to understand from them.

At the beginning a great deal of practice in reading aloud will be necessary

in order to correct mispronunciation and to secure fluency. The scholar should be trained in the earliest stage to look at the sentence or passage before reading aloud, so that he may be able to give it the right meaning, but the most important item is that of securing clearness of utterance. The child should be corrected after he has finished reading, the teacher noting in each case the mistakes that were made. A vocal drill on the general mistakes of the class is important in the Junior School.

Silent Reading.

Even in the Infant class, there should be steps taken to allow pupils to look at the Reading Sheet and to grasp the central thought expressed, before reading aloud. This leads naturally to more time being devoted gradually to silent Reading as the children progress, and this is a marked characteristic of the new teaching. It helps to give training in effort of self-sustained study and to give pupils the opportunity of a wider acquaintance with English literature. We teach children to read in order that they may understand the meaning expressed and, as they

advance we denote more time to silent reading than to reading aloud; in the Junior School, however, reading aloud is very important.

It will be seen that pupils will be found to differ in their power of reading. This may be due to natural quickness or home influence. It is a pity to keep the quick ones back, and therefore it would be as well to divide the class and let the best of them be left to continue their silent reading, while the teacher attends to the less proficient.

There are various methods adopted in conducting a lesson in Reading and we may briefly refer to a few.

The interest of the class should be aroused by referring to the title of the lesson and pupils should be encouraged to talk about it. This may be followed by silent reading. Some children are backward in grasping the meaning of the passage, and they may be helped by a few questions written on the board and they may be required to find the answers in their reading, but this help should be withdrawn as soon as they are better able to grasp meaning. Questions should

always follow silent reading or pupils may be required to tell part of the story when they are better able to do so.

It is sometimes found that after silent reading, scholars are not able to tell what they have read. This happens often in schools where they have been neglected or taught on wrong lines. The plan to be adopted would be to follow silent reading by reading aloud, so that the meaning may be better grasped. This should be followed by questions to find out, if the meaning has been understood.

The opportunity for asking questions should be given so that the difficulties of various children may be attended to. It is important to note that formal meanings should not be given. Even in these days when so many good books have been written on teaching, we still find teachers giving the class dictionary meanings. These should be explained in connection with the story or passage and the verbal illustration should be carefully chosen. Frequently the verbal illustrations do not clear up the meaning in its special reference. Pictures of things that pupils have not seen may be shown

when possible. The concrete illustration should be left out of the reading lesson when it is not needed.

Reading aloud should follow silent reading and each child should be corrected after reading. Loud reading is very important in this stage.

In the middle school, it is advisable to ask the scholars to do some of the silent reading at home, or during the periods that are set apart for it and, the teacher could ask questions in class on what was read. There should, also, be periods set when the pupils will be given the opportunity of selecting from their class library any book which they wish to read. The teacher's suggestion here would go a long way to cultivating taste. Some times the composition lesson may be taken from one of the books read in these periods. There should be practice in reading aloud here also.

More stress might be laid on the dramatic method in the Reading lesson. Often the matter is better understood when acted. This also, allows of more movement of the pupils. Conversations may be read out in dialogue form and

any method that will help to make the matter clearer ought to be adopted. The Dramatic method helps to make the lesson realistic and the chief ideas in it stand out prominently. This method may be worked in more than it is.

In the High School nearly all reading is done silently and most of the work is done so as to foster independence, the pupils only asking questions regarding points which they do not understand and which they cannot clear up by themselves. The teacher's work is to direct their reading, to call attention by comparison to other pieces of literature, to explain allusions that are difficult, to train the critical attitude and careful examination of facts.

Readers should be chosen with care and, while the tendency now-a-days is to replace the Miscellaneous Reader by the Reader containing a continuous story, yet the former has great value in the Junior School. It is used to familiarise pupils with a varied vocabulary and the extracts should be suitable to the age of the pupils and should consist of prose and

poetry from good authors. They should be attractive and well illustrated.

In the middle school, the continuous story, whether abridged or otherwise, is more useful.

Some of the Shakespeare Readers have the reading interspersed with quotations from the text, which are of great value in introducing pupils to Shakespeare's dramas. Children should be encouraged to learn by heart portions of prose.

In the Infant classes rhymes and simple poems also help at the beginning to appeal to the imagination, to interest and to give ideas. Children love the sound of jingling sound in rhymes and the repetitions and illustrations delight them.

Poetry.

In teaching a Nursery Rhyme, the pictures should be shown first and the children's questions answered. The teacher should then recite and this should be repeated, for constant repetition is needed at this stage to impress the words. Pupils may be asked a few questions and they might be encouraged to answer in the words of

the Rhyme. The teacher will recite again and the children will chime in whenever they can, till it is known.

When poetry is taught in the first and second classes it should be of the best. If the poem chosen, for example, be about the Wind, first talk about it and let pupils tell their experiences, ask them, if they would like to know what a little boy thought of it and then read the poem right through. Ask them to tell the story and, if a ballad be chosen, there will be a story. Ask them which verse or verses they like best. Let children read the poem several times and learn it. Even in this stage two or three poems may be read to the class and scholars should be allowed to choose which they would like to learn.

Side by side then with the learning of easy prose should go the learning of English poetry. Much depends on the teachers' choice of poems for it is by this means, at the beginning, that pupils' taste is trained. The poems chosen should be first rate.

In the junior stage the main idea should be within the grasp of the pupils,

there should be a well-marked rhythm and swinging metre. Narratives in poetry form are the most popular, therefore ballads should be studied. Childish experiences and aspects of Nature, also, may be presented and many such poems are found written by R. L. Stevenson, Tennyson, Scott, Longfellow and others. Boys are most attracted to action in poetry. We want to make children love poetry so they must be introduced to only the best.

A simple plan of teaching Recitation might be 1. Read the poem to the class, the reading being practised by the teacher, as so much depends on its appeal to children's feelings. A few questions should be asked as to the main ideas in the poem and then pupils be encouraged to ask questions. The scenes may be visualised and parts that are liked the best might be mentioned. The whole poem then may be read by several pupils and then recited. We must note that children learn by heart with reference to 1. Meaning 2. Rhythm 3. Suitable pauses according to the sense. 4. Repetition. Poetry should also be read aloud by the

pupils and, as an exercise is even more valuable than that of reading prose, owing to the help afforded by rhythm and metre. It is essential that a poetry book be provided for each child if possible.

Some teachers begin to teach recitation by a short talk and try to create the appropriate atmosphere of the poem, before reading it to the class, but this needs skill though it is very effective. Generally poems that deal with descriptions of inward feelings and complex emotions are unintelligible to young children, and ought not to be presented to them.

The crown of studies in English should be the critical appreciation of literature. We want to make children read for themselves and to prefer to read real English literature. It is for the understanding as well as for enjoyment. We go to it to enlarge our experience, for vision, for creative inspiration, but primarily we go to literature for enjoyment. In the junior standards as we have said, we want pupils to love literature and to arouse in them such a liking for the subject that, when

Literature.

school days are over, they will seek the society of books. We must appeal to the feelings and emotions of pupils.

In the lowest classes, the poetry chosen should be bright and lively and cheerfulness is to be the key-note. Children should be able to appreciate it emotionally, even though it is not thoroughly understood. The ballad, the lyric are specially useful here. When poems are chosen outside the poetry book, pupils should have manuscript books in which they may copy them.

In a poem we must decide whether the poem is to appeal primarily to the emotion or to the understanding. In the junior forms, we want to appeal to the emotions chiefly, as we must try and get children to love poetry and, the literature lesson will be of an informal kind. It should comprise of a silent reading by the class followed by a chat on the poem or passage read. In the silent reading the pupils will get the drift of the poem. A question or two will be asked to find out how much has been understood. The teacher should then read the poem aloud and the pupils should be asked what

portions they like and the teacher will tell them what portions he likes. The pupils may then read also. In the middle school, lessons will be more formal for the poem might appeal more to the understanding.

As a general rule a few minutes silent reading will be the first thing. Then the teacher will give a really first-rate delivery of the poem or prose passage, and to do this well, he must practice it, for the teacher's reading is to be significant of something, perhaps sound, if it is a poetry lesson in which the appeal is principally to the sound. The pupils should ask questions and have minor textual difficulties cleared away and they may learn by heart whatever they desire.

Every passage of poetry or prose must be read and treated as a whole, and the bad habit of dealing with one stanza at a time should be avoided and "murdering to dissect" must be corrected.

Mrs. Sarojini Naidu's poetry may be well utilised in some of these classes, and Tagore's writings. There are so many beautiful thoughts in what he has written. As Mrs. Sarojini Naidu's poems have an

Indian setting, they will be understood and appreciated, *e.g.*, The B a z a a r s of Hyderabad. This poem has a swing in it and brings to mind common incidents in shops in the east.

In the Middle and High School, understanding of the poem will play a large part in the appreciation of poetry, *e.g.*, Keat's ode on a Grecian Urn to Form III. After a silent reading, the teacher should ask the pupils to describe what the poet has painted in words, and quotations may be made by the boys to illustrate their remarks. Then a study of the various pictures should be made and any allusions and difficulties should be dealt with, not in isolation, but with close reference to the context, *e.g.*, Vales of Arcady etc. The question why Keats mentions these should be answered. The lesson will conclude with a final reading of the poem by the teacher.

In the senior classes, considerable attention will be paid to Shakespeare and an attempt may be made to represent the chief periods and the outstanding names of English literature. Form should receive careful consideration and scansion should

be studied in poetry. The pupils will do more reading and they will both make notes and take notes, which they should use in attempts at criticism.

The critical appreciation of poetry can only be fostered, when there is a comparison of different poems on the same subject, *e.g.*, Nature. When pupils have sufficient knowledge, they should be helped to criticise reverently and, in reading successive poems and prose selections from different authors, strong resemblances in thought or language and form will be frequently detected. Such passages must be definitely compared. Even when the same topic is treated diffirently by two authors, the different or contrasted points of view are suggestive for criticism. Pupils should be taught, however, to have all the case before them when they judge. Criticism to be worth anything should be intelligent, constructive and not destructive. Reverence should be taught in criticism.

Teaching of Shakespeare.

With children below eleven years of age some preparatory work must be done before the study of any of Shakespeare's plays

is attempted. The pupils may study stories from Shakespeare, Lamb's Tales from Shakespeare and, they may listen to the rendering of some of the great scenes in a few of the plays and may take part in them.

In Form III they may be introduced to a play. The method of teaching it has usually been (1) The Reading of the play, while pupils take the parts of different characters. Prominence will be given to those scenes that attract pupils, *e.g.*, in Julius Caesar we may dwell on the scene in Brutus' garden, the murder of Caesar, and the speeches in the Forum and many passages will be learnt by heart.

In the High School plays are studied intensively. The first reading may be done by the teacher to get the general drift, and the pupils will be called upon to tell the story of the plot and to name the chief characters. In the second reading, the pupils will take parts and read the play. This will be done in acts. Prominent characters and their development will be dealt with, also linguistic difficulties and notes will be made on

difficulties of construction. Pupils should be encouraged to make a list of their favourite lines and learn them by heart.

The third Reading is to enable them to understand the beauty of the whole play.

Some teachers have adopted this plan and have been able to inspire their pupils with enthusiasm, by not belabouring them with allusions and explanations of phrases, till they were filled with disgust. Others, however, not so enthusiastic, but filled with the determination of making their pupils pass the examination, have dissected the play so that there has been no beauty left.

Mr. Caldwell Cook in his book "The Play way" tries to show psychologically how important a part in education it is to let boys learn through play. He has proved that he has obtained very good results by adopting this method in teaching the plays of Shakespeare.

The dramatising method would need little direct preparation. A short talk on the essential features of the stage in Shakespearean times, and the consequent limitation on the playwright would be

given and, examples may be drawn from the play about to be taught.

The indirect preparation will have extended over some few years in the form of dramatisation of nursery rhymes, ballads and action songs in the lower classes, so that the class will not be new and shy to such a teaching method.

In the matter of properties, a few rough preparations may have been made, in the form of sticks, swords, mantles and so on, but it will be pointed out that properties were not abundant in Shakespeare's time and their absence is made up by the beautiful word descriptions in the text.

With these preparations, a play of Shakespeare may be taught in the dramatic method. Each boy having a copy of the play, may look through the scene or act presently to be dramatised and, find out what is needed in the matter of arrangement of scenery and personages. From the characters allotted to the boys, the play is read through, or as much as is desired, and is acted in front of the class.

In this way, the boys will not fail to

appreciate the play, to understand the plot and the characters and to know how to act it, for they will see how the speeches indicate the action.

And what more does and can the teacher hope for, as a result of his lesson than a keen appreciation and comprehension of the play and characters? Difficult words and phrases are not a hindrance to the understanding of the play. If, however, a boy asks for an explanation of a particular passage, by all means let the teacher or another boy give the explanation. Question time should follow the acting, although interruptions such as these should not break the interest of the class during the acting.

After the reading, a few remarks may profitably be made on the play, with a view of summing up what the boys have found out for themselves during the lesson, and here again, they may be asked whether they liked any particular passage or scene and, encouragement should be given to the learning of preferred passages by heart.

In this way, the play should be dealt with continuously to the end, and in the

hands of a sympathetic and skilful teacher there is no doubt that the play will no longer be the dry prescribed-for-examination thing as well known, but one full of interest and appreciative enjoyment. The difficulty to this kind of dramatisation is principally that, in a large class there will be a great deal of noise and there is more than a possibility of disturbing the rest of the school. We may, also, note that the dramatisation of plays as Mr. Caldwell Cook suggests presuppose that, the personality of the teacher is such, that he is able to control his class and at a word or gesture there will be order. There are many teachers, however, who are lacking in this power. It is best then that this way of teaching be adopted by the right people.

The method is one which appeals to pupils. That more scope, for the principle in the Play-way is needed in schools, is very apparent. The pupils are confined to their desks too much altogether for one thing. Children are naturally more interested in their work when they are *doers*. The Play-way suggests a way out of almost traditional way of teaching.

The importance of teaching English composition is now generally recognised, but for some years there has been a tendency to minimize, if not to deny the value of English grammar as a School subject. This is principally due to the fact that most of the time was devoted exclusively to the form of the language. Grammar used to be a body of definitions, classification, and rules with scanty illustrations of these, and the whole applied to parsing exercises, constituted the study. It was entirely a deductive method. Children were given a page of Grammar to learn for home work. It was the most unpopular subject in the curriculum because it was taught for its own sake and not in connection with the pleasanter phases of English.

The teaching of Grammar.

A new movement in English began to make itself felt. The need for definite teaching of the mother tongue in learning to speak and write correctly, and in developing the personality of the child, led educators to allow free scope for original composition, and then, a necessity was felt for attending to definite grammatical

instruction as a means of writing and speaking clear correct and forcible English. It was no longer a subject to be studied for itself. It was necessary that Grammar should be studied in connection with the English lesson, especially where children come from homes in which inaccuracy of speech and language used, exerted a great influence against the teacher.

When pupils make mistakes and the teacher corrects them, an acquaintance with the chief principles of elementary Grammar will give emphasis and point to the teacher's corrections.

It is also, of great use to the pupils themselves, because it helps them to criticise their own efforts and they can do this thoroughly when they can refer to a rule. When a pupil knows Grammar, he becomes his own examiner.

Then, as pupils progress, some knowledge of Grammar is necessary in order to discuss important matters, such as the construction of sentences. When meanings are obscure, the sentence could be broken into its parts and understood,

but this can only be done with some knowledge of Grammar.

Grammar then is a most valuable adjunct to the effective and intelligent teaching of composition and if, for no other reason should be retained in the Curriculum. It is subordinate to language and should not be begun too early. Prof. Adams would postpone the teaching of Grammar till the child is ten years of age, for when he has some knowledge of how to speak and write English, then it is time for him to examine it scientifically.

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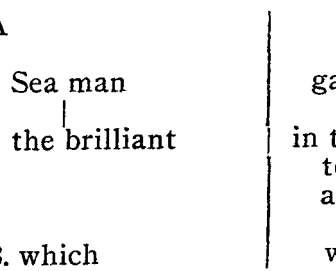
The language was made by the race and has therefore been organised. The child however will study it inductively through examples and, as the sentence was made the unit of the Composition lesson, so the examination of the sentence should be made the the unit in the Grammar lesson, and the older form of parsing is giving way to the analysis of sentences.

As in Composition, we ask the child to express his ideas about something, *e.g.*, flowers, and we employed the synthetic method, so in analysis we should ask what thing they are studying in the

sentence. The subject is studied first and the predicate afterwards, *e.g.*, The brilliant sailor in that year gave to his country a gift which was priceless.

Method of analysis adopted from Adamson's Practice of Instruction.



The sentence should be studied before words. There should be observation of examples and the formulation of principles and rules from them.

At first grammar will be taught through imitation. The teacher's influence in all branches of the class curriculum will be the best means of teaching correct speech. In teaching young children, failure to use a direct, simple, unaffected style is doubly harmful. He need not resort to childish language, but if he can recover some of the directness and

simplicity of thought and expression, which education too often impairs, he will find his effort has been of as great advantage to himself, as to the children.

Many stories will be told in these classes and the children will re-tell them in their own words. The teacher will correct grammatical mistakes, but will not interrupt the child till he has finished, so as not to spoil the continuous narrative.

The basis of grammar, as we have said before, is the sentence. Exercises in sentence-making will be frequently given. Pictures, objects, animals-all these can be used for this purpose.

In these lower classes, the work is oral, although of course the teacher will use the blackboard practically the whole time. In this way they will learn the written form of the sentence. It is clear, therefore, that the teaching of Composition and Grammar are closely connected.

A little later on, the necessary elements of punctuation will be taught. The interrogation point can well be made very interesting through the game of questions. Adopt the play way whenever possible, *e.g.*, In this game of questions,

one player thinks of some object in the room. The others question him in order to guess what he is thinking about. All the questions must be such as can be answered by 'Yes" or 'No".

Is it on the floor? Is it near the blackboard?

Play the question games again but this time write the questions on the board instead of asking them aloud. Tell children not to forget the question mark.

The rule for capitals may also be taught by getting them to write down their names, the names of the children they know, the place where they live and so on.

In Class II all these rules will be revised and applied, but the exercises will be harder. Added to this, the teacher will introduce two kinds of sentences, Imperative, and Negative, and teach the use of the comma, the simple use of the apostrophe and of quotation marks.

Sentences will then be studied to discover the kind of work done by the various words used. In Class III, Subject and Predicate will be introduced and the Noun, as the Name word, and the

Verb, as the Statement word. The Play-way may be introduced here also, and the use of the article, of modifers of words that show relation and other parts of speech.

Written exercises will begin in Class II and go on increasing steadily. These Grammar lessons are oral, they are given in conjunction with the composition lesson, and improvement in oral and written work must be shown.

For Class IV, there will be a decided advance in the teaching of grammar.

Possessive plural, verb phrases, the object of the verb, the predicate, and the use of pronouns will be more advanced than in Class III; kinds of sentences will be dealt with.

Beginning with Class V, Special attention will be drawn to written conversation and, analysis of compound and complete sentences will be begun in this class.

The grammar in the upper classes will be on the same lines as that of the lower school, but the examples will be a great deal more difficult.

In any case the grammar will be subordinate to the other English lessons. The great thing to remember is, that the knowledge the children get, they must be able to make use of in their oral and written work.

Analysis and Synthesis must be connected in teaching Grammar. If an analytic lesson is given to the class, this must not suffice or the good obtained is merely negative; a synthetic exercise must always follow. The great thing to remember is that, grammar is a means to writing and speaking clear and sensible English. Composition is the expression of thought in language. The study of grammar helps us to examine the thought itself. It is therefore logical and is also of use linguistically. We must help children to examine what is meant by the thought, what really is said, to find out how the sentence may be re-arranged, so as to find out the meaning in an ambiguous sentence.

Sentence making is therefore the first step. Let children develop a line of thought on any topic and let them

examine it to see if the meaning is clear, if not, let them arrange the words in their right order. This is the synthetic exercise. When they examine it and divide it into sentences, that is the analytic step.

In the curriculum, therefore, the study of English should be given the first place in a European School and the second place in an Indian School till the Third Standard. Instrumentally the study of English is high, because it is the tool of communication, but it is of great intrinsic value also, since through it we come in contact with great thoughts written in beautiful language.

The expressions of elevated thought is also found in other languages which we seek English, and say it is most fit to India? Is not Sanskrit the mother of its languages? why not receive it and bring it to the knowledge of its children? Reader, Think well, and answer yourself.

CHAPTER IV

THE TEACHING OF HISTORY

History is included in the curriculum because it can claim to be a lasting, natural interest of man, for its need is expressed in the simple words " Tell us a story of the happenings of a bygone day and the deeds of a bygone generation." It has permanent value and is taught for its own sake principally and, therefore, has a high intrinsic value. It helps the child to feel the worth of unselfishness and loyalty to an ideal and, the splendour of heroism. In the junior classes specially, it has a high moral value.

Also, the method in studying history is of use, for it necessitates a re-construction and a re-valuation of the past, which ultimately leads to an understanding of the human heart and to sympathy.

History has also, an instrumental value, for it helps to show the child his place in the world as a citizen in order

that, he may be able in the future to vote intelligently and to compare the past with the present. The older pupils, therefore will gain a broad outlook and will be able, from their comparisons, to form sane judgments.

History should be made realistic to children, so that, when they read it or, when they talk on what they have heard in the oral lesson, they should feel that the past is being re-acted there before them in the present. The imagination therefore should have freest scope.

We want children to know the story of their own country first and, to do this, they must be acquainted with the story of other countries that they may later on be able to compare intelligently. It is not possible to deal with a systematic knowledge of other countries in the Elementary School, but in the higher classes at least there will be reference made, to the general movements which affect the history of our country, *e.g.*, The Reformation.

We find a great variation in the types of children that come to school. Some come from homes where topics of the day are discussed and, where they can

get good books to read, but others, from homes where they get no intellectual help. In schools of the latter type, history should be made practical and be taught in a less extended way.

In teaching history in the Junior classes, we must appeal to the imagination of the pupils. Wonder should be aroused in their minds so that they will be interested. The best material will be attractive stories, legends, tales of adventure, of deeds of bravery, of invention and discovery and stories of modes of living in other countries, tales of the ancient Britons, the ancient inhabitants of India, what India was like in different periods will be chosen. Only legends that have some truth in them should be chosen.

Junior Classes up to 9 years.

Stories which involve law and religion should not be told, for children will not find them interesting, as they will not understand.

Those that are chosen should be grouped in chronological order so that, even in this stage, pupils may gain some idea of the chief characteristics of the

period. The methods of Warfare, dress, customs and habits will be depicted in the story.

The method of telling a history story and any other story differs, in that the former should have a background in the environment. This would include the country and the people around, the education of the individual in all that helps to shape a man's life and, therefore, even in this stage, we will try to lay the foundation, of what afterwards will be, the training of discovering cause and effect, *e.g.,* In telling the story of Sivaji, pictures of mountains with villages on the slopes should first be shown. Let children talk about the picture, ask what dangers those people living among the mountains would have to encounter, and so deduce that the practice of the use of weapons is very necessary in order that they might protect themselves against their enemies and, also, for hunting. Talk about the sudden raids made by one village on the other and, make the lesson realistic to the pupils. Children will get a better setting of the story in this way. They will get

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to know the customs of certain times and the modes of living of particular people.

In the lowest classes of the Junior School, the idea of time should be impressed by referring to it as a certain number of centuries ago, but later on definite dates should be given.

The story then should be told in a graphic, realistic way and be followed by hand work or dramatisation. Modelling or drawing of shields and helmets and villages and other objects that occur in the story, will help to impress ideas.

Primitive history is simple and easier to present to little children. Right and wrong are better defined in these stories. Pupils will gradually realise the time at which events occurred. They should be encouraged to ask questions and to read story books on history. Sometimes they may be read to them and they may ask questions or, retell the story or any particular incident. In this manner, they will learn to connect great names in history with important events.

The lessons then will be oral and, they should be made as interesting as possible.

In the oral lesson, much depends on the illustrations used and the teacher's language. The concrete illustrations are very important for pupils have to gain clear ideas of the dress, habits and customs. Pictures of the country and people, ways of fighting should be shown. Verbal descriptions, if arresting and graphic, are of great importance. The word picture should call up vivid and definite seenes before the eyes of the pupil.

History atlases may be used very effectively, for in them they will find pictures of people in different times. The teacher tells the story, the pupils draw and colour the pictures, and answer a few questions on the subject matter.

In the upper standards of the Elementary School, pupils will need to have a fairly connected account of their own country. Starting from local history, they will gain ideas of how, *e.g.*, Madras has grown, to what date certain parts can be assigned, the history of Fort St. George and other buildings. They should also be taught how the government of the town or village is

Pupils 10-14

carried on and the chief celebrities in the town. They will then gradually be led to trace the beginnings of government of their own country on broad lines. They will also observe how the industrial and social life have changed.

The selection of stories will need great care in this stage. Only those that are valuable and of historical importance will be taken and, they should be connected with leading events of history, both local and social, of the times in which the stories are connected. The way in which people lived and why laws were made, the sayings of great men, *e.g.*, "England expects every man to do his duty" their dress and actions and, every thing that would make them live again as it were in the eyes of the pupil, will be of value.

In connection with local history, the lives of men who have lived and have distinguished themselves in the locality should be studied, *e.g.* Dr. Nair, Sir Sankaran Nair, Tagore, Clive, in connection with Madras or India, but they will study other lives as well, *e.g.*, stories of William the Conqueror, Frobisher, Columbus will enable pupils to judge of

the effect of environment on the characters and lives of men and, they will see how in return they affected the country.

Maps should be built up and historical maps should be re-produced. Only what is needed in order to understand the lesson should be there. Sometimes physical features may be omitted altogether, when boundaries and position of places are studied, which are not connected with military movements.

The dramatic method of teaching history, helps to make the lesson very realistic, *e.g.*, in dealing with the life of Caxton and the introduction of printing, let children read the story in dialogue form and then, arrange their own parts and scenes and act the story.

The story of Rama, if dramatised will impress methods of warfare, dress, customs and the ideas in the setting of jungles and adventure, which the pupils will find of thrilling interest.

Some people find the d r a m a t i c method very useful. Much depends on the teacher. If he be keen, he will find dramatisation useful. The pupils should arrange the characters and do as much as

possible themselves. The characterisation should be their own interpretation, even though they may make a few mistakes in their speeches. Before dramatisation, good material should be furnished and pupils may gather much from historical readers. The best historical plays are those that are extemporised. Many teachers object to dramatisation, because there will be a great deal of movement in the class and, not every teacher can control his class successfully. They also object, because there is such a lack of historical plays. When pupils suggest their own dramatisation, the exercise has great value because it gives them scope for originality.

In connecting the past with the present, pupils will be trained to find their places in society. This will lead them to discover, what intelligent citizenship means by comparing and so, a foundation will be laid for direct study in the High School. In the elementary school the growth of Parliament may be studied on broad lines and opportunities taken, when Parliament is sitting, to read newspapers and to follow this up by discussion.

In Madras, when the Legislative Council is sitting, pupils should find out how the council is chosen, who the members are and the departments they represent, they should read the papers to find out what they are discussing and, so take an intelligent interest in their own Government. Gradually they will develop ideas of how the whole of India is governed and her relation to England.

The child then should know the history of his own village or town and illustrations should be gathered locally. More emphasis is being laid on this element now, for a first hand knowledge is so much more valuable. The child should be taken to places of historical interest in the town and to Museums, but in each case he should know what he is going to observe particularly and, be prepared for the visit, so that he will know what to look for. Original documents should be provided for investigation.

In these upper standards there should be a text book which may be read before, or after the lesson. It should not contain only a bald statements of facts, but should be full of description and colour.

Occasionally it has been found helpful to have the pupils look up and read the lesson first, and then follow it up with an oral lesson.

Method.

Another way would be to get pupils to read it, after the teacher has told the story and, so amplify it. In both ways history can be made of use in a very valuable way.

Older children should be encouraged to take notes. Lessons should be tested orally sometimes and, at other times they might answer questions in writing.

Debates, also, may be very helpful. We do not want history to be a matter of absorption merely on the part of the pupil. We want him to think out problems. The Source book Method is therefore very useful here. This method is the application of heurism, for heuristic methods are those which involve placing Students as far as possible, in the attitude of the discoverer. This Method will help pupils to find out for themselves, instead of merely telling them. The Source book Method also, gives insight into the ways by which history has been built up, *e.g.*,

"In the first place the king ordained that in every shire and every hundred, an enquiry should be made through XII lawful men of the hundred and IV lawful men of each town by oath that what they say is true; if in the hundred or township there be any man who is accused or notorious by repute as a robber or murderer or any man who is a harbourer of murderers, since the accession of the present King."

Let pupils discover who the King is referred to, and what the reference is.

We do not want to teach the date of of every historical event. A few well-marked dates will be quite sufficient in the beginning. Children should not be set to learn a whole list of dates. They should be taught how to use history charts. Divide charts into periods of numbers of years. If the period be long, it can be divided into ten years. In the first ten years, we may find perhaps that there are a whole list of events and in the next, the period will be barren. This will show children that at some periods it was quieter than at others. The most import-

The teaching of Dates.

ant dates are necessary *e.g.*, discoveries, inventions, great battles.

Genealogical tables are good only when they make points clear, *e.g.*, James I and Henry VII. Where the descent is perfectly straight forward a genealogical table is not useful.

Books of historical fiction will be helpful because they give pupils an idea of the time in which people lived.

They must be chosen carefully, *e.g.*, (1) The Norman Conquest, Hereward the Wake. (2) The Crusades, The Talisman, and Ivanhoe. (3) The Hundred years' War, St. George. (4) Wars of the Roses, Warwick the King Maker. (5) Queen Elizabeth, Kenilworth. The books that will not give pupils wrong ideas should be selected. Those that are purely fiction are not of any use from the history point of view.

The teaching of History and Geography should be connected, *e.g.*, take the history of England and Holland, their battles were naval. The history of places tells us the commerce and conditions and Geography supplies the information with

History and Geography.

reference to imports and exports. History and Geography are very intimately connected for the physical features, resources, and climate affect the lives of the people considerably. Man has to adapt himself to his environment to some extent, but on the other hand he has by thought affected-change, whereby he has made the surrounding suit him. He has used his environment to advantage, *e.g.*, The construction of the Suez and Panama canals has made a great difference to trade routes. A knowledge of the chief centres of mineral wealth have led to the Reform bills of various dates. There are also geographical reasons for the situations of great towns and also for the names of towns.

Some people, however, make their correlation artifical and strain the curriculum to do so, *e.g.*, Connecting the study of the Boer War with Geography of Africa, but while we connect the study of History and Geography we must, however, remember that there is a distinction between them and that each subject should receive special treatment.

No period of history can be well

understood, except through reading the spirit of the idea of the times, expressed in the literature of the country. The social life of the times is depicted in literature and therefore literature and History may well be correlated. If the same teacher deals with both subjects, it will be comparatively easy to do this, but only brief reference can be made, if there are separate teachers unless they work with each other. Books and poems which throw light on history can well be read, because history has made literature and literature history.

History and Literature.

History may be represented by the class as a means of self-expression in Modelling and Drawing. Modelling may be done in wax or clay or wood; weapons, methods of warfare, castles, and various other objects will be arranged by the teacher. This work would make ideas more realistic to the pupils.

Hand work and History.

There are different methods adopted in teaching History.

By the Periodic Method, the pupils learn their history in periods in different classes. There are certain advantages

gained in teaching in this way (1) the pupils study the period thoroughly and they are able to note the gradual development of history. (2) According to the Recapitulation of the race theory, some people think that the development of the child corresponds to the development of the race and therefore, when the child studies the early history of the Britons, he is able to understand primitive history best. The child, however, in this age of civilisation is not a savage. The disadvantages of this method are (1) that the pupils will not have a general idea of the whole history except in the highest class (2) Pupils often miss certain periods in changing schools and sometimes go over the same period twice.

Methods of teaching History.

In the Concentric Method, the pupils will get an idea of the whole history for the Topic Method is woven into this Method. Topics are chosen from all parts of history every year and each year the course is supplemented and amplified. The introduction of the Topic Method does not save the matter from being monotonous and there will be a great

amount of matter to be studied in the highest class.

In the Topic Method, recent events in history should find a place. Lessons on the growth of the Empire should be developed more. It is more important that pupils should know more about the last century, than about what happened long ago and therefore in the history syllabuses, there should be reference to these events. Whenever there is a discussion in parliament about an old bill, it would be wise to trace the connection and development, *e.g.*, the Reform Bills up to 1917.

In the Secondary School a great deal of reading will be done by the pupils as preparatory work and, at other times reading will be done as supplementary work. More use should be made of documentary evidence, but there are other ways of using this principle of investigation. Pupils may be asked to read several authors on the same topic and write an account in their own words.

Teachers have been known to take their pupils to some characteristic areas to study industrial problems. They might

after this be asked to study the history of that particular area from the industrial point of view, and write a summary of their investigations. This would be adopting the principle of making students find out for themselves all they want to know bearing on the subject.

The following is a syllabus drawn up in topics form which might be used in Form III or IV.

Constitutional History.

1. The Crown as Feudal.
   The Crown as Autocratic.
   The Crown as Constitutional.
2. The Lords, their History.
3. The Commons, their History.
4. Cabinet system, its growth.
5. Local Government

and other themes should be arranged for the different classes. Maps, pictures, relics, documents, lines of time and other helps should be used for all schemes of work.

Summarising, we find that History has high intrinsic value. It gives the child ideals in life which are better understood and developed when scholars are older.

It shows how society has come to be what it is and helps in forming ideas of the meaning of citizenship later on. A study of history broadens the mind, for it helps the scholar to understand how the present history was evolved out of the past.

The matter to be studied in each stage will be according to the development of the pupils. But generally speaking we want them first to know the story of their own country, (2) local history and then (3) to extend this to the history of the countries closely connected with us.

The Methods of teaching History are the Periodic and the Concentric based on Topics. Both have their advantages and disadvantages. In the junior classes history can be taught on the concentric method through stories, *e.g.*, Highroads of English History and, this method might be employed partially for a term and certain aspects be taken up, such as the growth of parliament and studied in Form III in its broad aspects.

The Periodic method might be used

after the pupils have studied stories on the Concentric plan.

Dramatisation should be employed more than it is as a method of making the subject realistic.

In order to make pupils think the Source Book Method would be appropriate, but cannot be applied to any great extent. The principle however, can be very profitably used in getting the class to read the different views of several authors on a given topic and to summarise.

History must be connected with Geography as far as possible, but it must not be forgotten that they are different subjects and must be handled in different ways. Literature and Handwork may also be connected.

Maps should be used freely, care being taken that they are not over crowded.

CHAPTER V

THE TEACHING OF GEOGRAPHY

The development of the child's powers, not the imparting of knowledge only, should be the aim we set before us in teaching and especially in Geography. Where in times past and even in the present day, so much stress is laid on the imparting of facts and names, it would be well to remember that in Geography and Nature study, we endeavour to develop the child's observing and reasoning powers, and to help to stimulate a love for all natural and living things. Keen, sympathetic interest in the things around, combined with the habit of thoughtful attention to phenomena, as presented to him, and a reverent love towards life are gifts and powers, which it is as easy to awaken and to foster, as it is to let the child grow selfish and pleasure-loving. Not knowledge of facts only, but the power to think, to wonder and to love

is the true end of education. The world is the home of man. In order to live in truest harmony with the world around, man has to study his environment intelligently to adapt himself to it, but also to adapt the environment to suit him when possible and, in order to do this, he has to observe and reason.

At the beginning, we want the pupils to be encouraged to reflect on their immediate surroundings. This creates wonder in their minds and arouses the instinct of curiosity and naturally his interest will he stimulated.

Junior stage.

The child should be trained to notice scientific facts which come within his experience, *e.g.*, He finds that in the morning the blinds are lowered on one side of the house to prevent the sun coming in. In the evening, he finds the blinds of the opposite side of the house lowered to prevent the sun coming in.

He observes that in a certain time of the year some trees shed their leaves or they flower. By means of these observations a good, foundation is laid for scientific studies. At first he gains know-

ledge of isolated facts, but gradually he begins to compare and find relations and to generalise, but this will come later.

At the beginning, the child will be trained to notice his surroundings and to ask questions, but he is very interested in other children and people also, and will want to know about the lives and habits and customs of peoples' of other lands and, to compare them with his own country. He therefore learns to notice facts in his own surroundings and to compare them with other parts of the world, and his imagination is given material to work on and this is important. The course then of pupils in the junior stage up to nine years of age will comprise (1) Nature observations and this will include observations of the position of the sun at different parts of the day, the direction of the wind, of the position of the moon. Then they should notice the trees and animals in their environment and neighbourhood, the flowers and fruit they find at different parts of the year.

(2) Stories of life in their own land and of people in other lands will help to widen their sympathies. Some teachers

arrange the stories so as to make great contrasts, *e.g.*, stories of Arab children contrasted with children living in towns. The child will build mental pictures of the people in other lands and he will gain some general information about the people in other parts of the world.

In telling the story, great care should be taken in providing the environment as in the history, story lesson, *e.g.*, The story of the Eskimos. A well developed model showing kind of houses they live in, mud covered with chalk to represent snow will do, the chief animals and occupations shown in handwork will be there also. Pictures also will help to give the background. The children then ought to be encouraged to ask questions and after the teacher has answered them, he may begin to tell the story. Dramatisation may be used here also. It would delight some children to dress for example, like the Japanese, to learn to write like them and to act their customs in play. Often in a general sense, the meaning of mountain may be given in these stories, and the use brought out, *e.g.*, they are sometimes barriers.

(3) Pupils should also be introduced to the divisions of land and water. Some teachers think it advisable to teach only those that are within the child's experience, but it is a mistake to make such a limitation. In teaching the divisions, we must begin by introducing pupils to Geography by a series of simple lessons about the world in which they live and, there are various ways of teaching them. In the story of Sivaji, mountains act as barriers. This fact could be impressed in other stories as well. In the story of Columbus, they will be told of lands he passed and places he touched at and, then the idea of Cape, Sea, Gulf and so on may be impressed. It is the meaning we are chiefly concerned with in these classes, not the names or definitions.

Sometimes models are presented and the meaning of lake for instance, is taught but, very often teachers forget to mention the size or the depth and the pupil goes away with the idea that, the model is the exact representation of the lake.

(4) Simple ideas of the meaning of plan can be given and children be asked

to build the plan with building cubes first, one cube standing for a foot and later on, they can draw the same in their books, one cheek standing for a cube. They will thus gain their first ideas of the meaning of drawing to scale. After a great deal of practice in drawing several objects in the room, smaller or larger, or to their exact size, they will know the meaning of drawing their room to scale and the other rooms in the school and will see the use of a plan of the whole school and neighbourhood. This will lead them to understand the meaning of maps. The drawing of plans will naturally be connected with practical Arithmetic.

(5) Local geography. This aspect is very often lost sight of in teaching Geography. There should be conversation lessons on the chief Railway Stations and what goods they export, the kind of goods sold in shops and what goods are manufactured in the neighbourhood. If it be a seaport town, let children chat about the coast and harbour and pier.

They will also notice the chief roads and buildings.

This makes the Geography lesson not a thing set apart on the time table as a school subject, but a reality and in close connection with their lives. In this manner children will notice their environment, their advantages and limitations and be trained to be practical.

This is in the main, the beginnings of the concentric method of teaching, for in this period the child gains ideas of the whole world.

In the next stage, we must continue to deepen the impressions that scholars have gained of the world as a whole, by giving them greater scope for their observations. These will be of Geographical nature and reasons may be sought for, *e.g.*, The rising and falling of the tide and observations of when ships go out and come in, will make the lesson practical.

Middle School.

The story lessons will also be continued, but there should be conclusions aimed at, *e.g.*, the pupils will find out the kind of animals that live in hot or cold climates, the vegetation and products of various climates and so they may be led to see

the interrelationship. From a study of these aspects, they may be led to find out what goods are exported and imported and the principal trade routes.

The chief occupations of people according to the products may be classified and the chief characteristics of people according to the climate, *e.g.*, very hot or cold countries produce people that are not very enterprising. The people of temperate climates are industrious. Generally then they will divide the world into relief, climate, vegetation, mineral deposits, occupation and distribution of population, productions and trade, communications and trade routes.

The home country should be studied and may be taught by descriptions of voyages and journeys, but a broad outline of the world in general, may also be given by reference to voyages *e. g.* Nansen Vasco da Gamas, Drake, Franklin and others and, let them realise their difficulties, and get an idea of oceans and continents and, how position of mountains either helped or hindered advance. In this manner scholars will, learn relations.

In teaching relief we should start from

the area where the pupil lives, *e.g.*, Madras would be taught first, then the relief of the Presidency and then of India.

Wherever possible there should be excursions to illustrate how pupils may draw contours and read the contour lines on maps. A few plans have been adopted. A hill is modelled and pins are inserted in the clay, all at the same height and connected by white thread. A sketch is made of the threads which represent contour lines on a map.

In the highest classes of the Elementary School, the pupils should continue the study of the home country but, instead of dealing with the rest of the world in a whole country or continent, any special area may be dealt with. *e.g.*, the Monsoon area. India should be treated as a part of the Monsoon area.

In studying the Mediterranean area, let pupils learn the different trades routes, the different races, and find out why one people is more advanced than another. More reasoning is expected in this stage. In each area chosen, there should be particular points emphasised. We need that children note its position with reference

to the world and its relief, climate, production, chief drainage areas and river ways, and people, as to whether they are civilised or not, where the population is densest and why.

In the High School, the teaching of Geography will be continued on these lines, only the study will be deeper and fuller. Special aspects of geography will be emphasised particularly; physical geography involving also a knowledge of the different strata of the earth, economic geography should receive particular treatment.

As soon as the pupil has grasped the unity of the world, then he may study regional geography. This will emphasise the fact that there are certain areas that are different or similar to others and that climate and vegetation are factors interwoven. The scholar has had many lessons on this aspect already, but he can only grasp the generalisations he draws when he has had more knowledge.

A knowledge of regional geography is needed to understand economic geography.

The commercial revolution of the

present day shows how necessary it is for pupils to discuss these problems. They must discover how the world as a whole is benefitting by world trade and why goods can be produced more cheaply in certain places.

While history and geography may be connected to a certain extent, yet it is important to notice that geography is of more use to the historian than history to the geographer. Geography deals with the work of the average man under average conditions and not with men of special ability. The method of teaching history and geography are different. We study the world as a whole, but we cannot study the history of the world as a whole.

Map Reading is very important in the teaching of geography. Pupils should also be given exercises in map making, *e.g.*, An exercise might be set giving the scholars directions as to how to reach a certain destination, distances being mentioned. They should be required to draw a map.

Exercises in which contour maps may be worked out and others showing

positions of passes, trade routes, voyages should be practical and the pupils given exercises in working these out.

They should also be given problems to solve from their maps. They should know how to read latitude and the amount of rainfall in various places and other facts.

The use of a map should be shown in Class III or IV and map making should be begun there also. Pupils should make their own models in card board or saw dust or clay and compare them with the map, so that they may become familiar with the way in which they are represented on the map. Later on, they will learn to make their own maps to show how their models are represented on the map. They may also translate maps into models. The globe should constantly be compared with the map and the class made, *e.g.*, to notice the latitude of various places.

School journeys may be linked with map making. This will make the class realise distances and how they are represented.

The following scheme is suggested:

Scheme in outline

Preliminary course ages 7-9

First year

Home Geography and Practical work.	Regional and world Geography Stories of life in our land.
1. Simple observations by children and records made showing wind strength, and direction, weather, hot, warm, cool, dull, rainy.	Fisherman. Farmer: Shepherd: Cotton grower.
Shadows, Length and direction.	Bazaar man. Miner
Day and Night-length.	Rice grower
2. Simple observations of seasonal changes in Nature.	2. Life in other lands: Eskimos; Negroes; Arabs; Lapps.
3. Home Geography and practical work.	

4. Points of the compass as shown by sun, shadows.

Second year

1. Same observations and records as in first year with seasonal observations extended to include rain, thunderstorms, Dew, etc.

2. Planning direction.

(*a*) Directions of chief roads leading to School.

(*b*) Direction of chief roads of town, river, railway.

(*c*) Sunny and sheltered sides at different times of the day.

(3) Extension of a simple plan of locality to include

1. Introduction to Globes and names of larger land and water masses in association of stories referred to above and below.

(2) Journeys of discovery: Columbus, Drake, Captain Cook.

(3) Life in other lands.
Hindus and Rice.

such places as are nearest

(4) School Excursions. These should be taken to ensure individual observations of seasonal changes and land and water forms, *e.g.*, valley, hill, lake, river and so on

Chinese and Silk and tea.

The Nile and its story.

(4) Other folk.

Dutch and canals

Swiss and mountain valleys.

Khirgez and Steppes.

French and Vineyards.

Cow boys and Western plains.

Red Indian and Buffalo.

Ages 9-10—Home District

1. Physical features taught by voyages and journeys.

(*a*) Coasting voyages.

(*b*) Madras to Colombo.

(*c*) Madras to Calcutta.

(*d*) Madras to Bombay.

(*e*) Madras to Simla.

Calcutta to Cashmere.

The descriptions of such journeys should at least cover the matter mentioned below.

2. Summarise General Relief by outline maps showing a certain number of feet in contour.

3. Chief rivers—Revised by outline Map.

4. Prevailing winds.

5. Rainfall distribution—taught by maps under heads, very wet, wet, very dry, dry.

6. Simple idea of Temperature conditions, *e.g.*, Northern part colder than the south, hills colder than plain.

7. Distribution of animal products.

8. Distribution of grains.

9. Distribution of minerals.

10. Distribution of population under very dense—fairly dense, corresponding roughly to the Industrial, Agricultural and Waste region.

11. Distribution of some of chief occupations.

12. Revision by journeys.

Ages 10—11—FIRST AND SECOND TERM

British Isles

I. Lesson on Latitude.

II. Extent of British Isles.

(*a*) in latitude.

(*b*) in miles.

(*c*) in time, *e.g.*, time necessary to go from town of residence to London.

III. Configuration—general features taught by aeroplane voyages.

IV. The chief rivers, prevailing winds.

V. Temperature conditions.
Natural Vegetation belts.
Crops.
Distribution of Population.
Mineral Resources.
Distribution of Occupation under broad headings.

e.g., Manufacturing; Agriculture; Sea faring.

Chief commercial routes (railway) and waterways.

THIRD TERM

The Mediterranean land and Africa.

1. Physical features.
2. Revision of Trade winds.
3. Rainfall.
4. Temperature.
5. Natural Vegetation belts.
6. Crops.
7. Distribution of Population.
8. Distribution of occupation.
9. Revision by voyages.

Ages 11—12

FIRST TERM

I. Inclination of the Earth's axis and the consequent alteration of vertical sun north and south of the Equator.

II. Heat belts.
Wind belts.
Rain belts.

III. (*a*) Climatic results.

V. (*b*) Mediterranean Region of Winter rains.
(*c*) The Seasons.

Asia—SECOND AND THIRD TERMS

I. Extent in latitude.

II. Comparative Area.

III. Physical divisions.
(*a*) Northern plain.
(*b*) Interior plateau and mountain belt.
(*c*) Marginal Plains, India, and China.
(*d*) Peninsulars, Deccan, Indo-China, Japan.

IV. Summer and Winter winds.
„ rains.
„ temperature.

V. Natural vegetation belts.

V. Chief products.

VI. Distribution of Population.
„ Occupation.
Trade and communication.
Fair and caravan routes and their relation to
(1) Population
(2) Products
(3) Configuration
(4) Over seas trade

Ages 12-13. The Americas.

FIRST TERM

World Position, Area, Physical pluralisms, Climatic Natural Vegetation of North and South America on the same lines as previous years' work.

SECOND TERM

(*a*) Conditions of successful production.
(*b*) Distribution of some of the essential animal and vegetable products of the world, *e.g.*, Wheat, Mango, Rice, Rubber, Cotton, Flax, Sugar, Cattle-sheep.

THIRD TERM

The Industrial Regions of Europe and North America.

1. Areas of the regions.
2. Population (*a*) actual
   (*b*) of the world.
3. Distribution of minerals.
4. Annual prodnctions of coal and iron.
5. Location of chief industries and Ports, *e.g.*, mining (including oil.)
   Cotton and Wool manufacture
   Ship-building
   Iron-making
   Farming

13 to 14 years. Human Geography.

FIRST TERM

Primitive man—
  Equatorial Forests.
Hunting life—
  Frozen desert—Eskimos
  Patagonia—Patagonians
  Australian Bush—Aborigines
Pastoral life—
  Holy land—Lives of Patriarch
  Europe—Hungarian
Agricultural life—
  Egypt on borders of desert
Tropical agricultural life—
  Ganges valley
  China

SECOND TERM

Influence of occupation on modes of life.

Comparison between Hunting, Pastoral and agricultural societies:

Influence of occupations on dwellings clothing and food.

Inventions—Tools and weapons, stone, wooden and metal.

Firearms, utensils, clothing and food, shelter, Hunters, Fishers, Shepherds, Farmers, Aesthetic arts.

Manufactures.

Division of labours, Rise of Manufacturing class, Manufacturing localities.

Distribution of Manufactures: Raw Material: Power, Labour.

3RD TERM

Trade and transport.

Unequal distribution of commodities.

Trade among typical Societies.

Trade of manufacturing countries.

Transport by road, water.

Distribution of Population.

Connection with Occupation.

Application to India and British Isles.

Expansion of Population.
Migration.
Government.
Races of Man.

CHAPTER VI

HANDWORK

Handwork is included in the Curriculum of every School to-day and is gradually receiving recognition as to its importance in education. Pestalozzi and other educators of the eighteenth century believed in its value, for the former instituted Industrial Schools, so that the poor might be trained to earn their own livelihood. He, also, insisted that "learning by doing" was the best way of gaining knowledge and of remembering it.

Froebel noticed that the self-activity of the child needed scope for its exercise and, in order that children might learn through their play, he provided "Occupations" in which they learnt to use their fingers and to observe as accurately as possible.

Paper folding, clay modelling, sand work and later on card board modelling,

weaving, wood work were some of the material they worked in. *Self-expression* in these occupations was emphasied.

The followers of Froebel, however, forgot the spirit of their leader and let the occupations be taught, so that children just imitated the teacher.

Lately an impetus has been given to the teaching of handwork, as it is one of the ways in which pupils may be trained to think well.

The neurones or nerve cells controlling the intellect and those controlling the hand are connected by another set of neurones so that, when excitation occurs in the former set, those in the latter are likewise acted on. If one is prevented from acting through want of use, the other likewise suffers. This has an important bearing on education, for it points to the fact that thinking becomes clearer when it is accompanied by doing.

Intellectually, therefore, handwork is very useful and educators agree to-day in allowing the pupil to express himself in handicraft. 'Learn by doing' really means that understanding and action are so intimately associated that they cannot be

sundered without loss—loss that does not fall least heavily on the side of the understanding.

Machinery has taken a great deal of work off our shoulders with reference to work that our ancestors did with their hands. They had greater responsibility for they had to plan how to make their weapons, for example, and how to spin wool and weave it into cloth. They gained greater experience and skill and it made them more practical. They had to face a *need* and therefore there was purpose in fulfilling it. So hard were the lessons they had to learn that, we have inherited this love of construction and to all children comes the desire to make something, to plan it and to carry out their designs in their own way.

Aim.

According to modern psychology, however, this love of construction is not only a race tendency, but it also helps to strengthen the individual's power to think well.

The child, instead of just following out the teacher's instructions and being purely or greatly imitative, should be put in the way of facing a real need and in

doing this, to discover the means of fulfilling it. There must be a purpose in what he sets out to do; he must plan the best way of carrying out his purpose and take on himself the responsibility of doing this. Any difficulties that come in his way, he tries to overcome and gradually his will-power develops.

In his work fresh ideas will strike him and these will grow clearer the more he puts them into practice. His mind and body will work together.

The child then will approach his work in the spirit of investigation. He will find out solutions to his problems and his creative power will find material to work on.

At the beginning, handwork will really mean Kindergarten occupations, for in folding houses or objects in paper the child will be helped by the teacher in planning how to do it. He may be given a finished product to examine and so discover, how to fold one like it or invent a way when he has had sufficient practice. In these early stages especially, we must remember the educative principle behind handwork. We are not to think that we

are training our pupils for industrial work of any kind. Handwork is a means of satisfying the child's love of construction and of teaching him to think well, and as the child progresses in each stage, his skill should be greater. At the beginning, handwork will not have an independent position of its own but will be connected with History, Geography, Stories, Science and Mathematics. In his progress through the school, the child will find fresh problems to solve and, will try to do this intelligently in the light of all the experience he has gained—so, a broad general foundation is laid till the time for specialisation comes.

The child's first efforts will be crude but, if his work stands to him for something he has planned and worked at, if he has gained ideas or, if those ideas he already had were made clearer in the execution of his work, he has been successful. Gradually, however, we must see to it that skill is developed and in every stage we must expect a better developed and finished model.

The aesthetic, too will be encouraged in designs, in painting and in

matching colours in models. Observation of real things in nature will help in cultivating taste.

The teaching of handwork has a moral value also. In choosing the material to be used and in arranging the quantity and the size required, the child's power of judgment is trained. Forethought is required in drawing the plan of the model and before cutting the cardboard, for a wrong cut might spoil the whole. Pupils should be discouraged in patching up wrong cuts by covering them up with fancy paper. Give the child a high ideal in his work. When difficulties occur, appeal to the child's instinct of pugnacity and so teach it to try to surmount any obstacles. Some children begin things but do not care to finish them. One way of training the will would be to insist on the finishing of every thing begun. In the Kindergarten stage, the child will work with soft materials for his muscles are tender. He should get used to materials with which be has to work. Wool, plantain fibre, cloth, paper, sand, clay will be used in their classes.

Kindergarten stage.

As a preliminary stage to weaving, the child may be taught to roll strips of paper, cloth or plantain fibre round cards. The child may be shown a photograph frame or a bangle and he may wish to make one like it. The teacher will give him the cardboard frame to roll plantain fibre round, till he has covered it up and finds, he has made something which he has planned to give his mother. Children love this winding play and can finish many useful things, *e.g.* boxes of different shapes, photograph frames of various shapes and sizes, rolling wool, round cards and many other articles, may suggest themselves to the mind of the teacher.

Weaving.

Plaiting paper also gives pupils' fingers exercise and helps to make them nimble. It may also help to make them think. The method is therefore important. The child should have a plaited model to examine and he will discover after many attempts, that the three strips must be fastened together at one end before the plaiting can be begun. Then the process of plaiting will be practised, till it is

Plaiting

learned. The product can be used in making nests, mats, carpets, baskets and other articles. The plaiting exercise is very useful to the girl for she is then able to plait her own hair or her sister's.

Sand is a very valuable medium for helping children to express their ideas in form. Concrete and solid things appeal to them and form an impression on their minds. The child naturally then loves to express his ideas through and in solid form. Modelling allows for this solid representation and sand, mud, wax, plasticine are suitable substances for the representation of models in the concrete form. The forms of real objects from which a child first gains knowledge are those of solid bodies having the three dimensions.

Modelling.

Modelling is one of the most educative employments for young children. The child is able to represent whatever he pleases in his own way and he may change as often as he likes. The material is soft and presents no difficulty. He should begin to model in sand, for his muscles are tender and this skill in handwork is small and, they can only

make crude models. Through free play with sand, children gain confidence and a certain amount of power is gained by the mastery of this material, which prepares the child for the manipulation of other materials used in modelling. Clay and plasticine are stiffer material and require power in handling. Playing in sand prepares the child for other material. We know how happy children are on the beach and they amuse themselves by building caves or hills or wells. They produce something in concrete form.

Every school should have a sand pit in the garden and children should be allowed to play freely in it and use their creative ability in making gardens, in building or in digging. Sometimes let them work together and illustrate a story or nursery rhyme. Let them suggest ways of carrying out their plans and to do as much as possible by themselves. They should have few restrictions and be allowed to enjoy themselves as they like.

If the school has no garden there should be sand heaped in one corner of their room.

When children's muscles are stronger they should be allowed to work in clay or plasticine. Let the class at the beginning have real objects to examine and copy. The objects modelled by each child should be as like the thing modelled as possible. The child's observation should be carefully trained to observe the *whole* first. Shape and size will first occupy their attention and so objects with very little detail should be presented. Gradually his attention will be called to the parts and peculiarities of the object and he will be trained to model accordingly. From the beginning, pupils should be trained not to waste material and to model from one piece. Skill in developing real good models will be gained by careful observation and manipulation of the material.

Modelling in paper should be taught and then stiffer paper gradually used. The same method of investigation should be followed. Children should model boats and dolls or dolls' dresses, hats and various objects connected with their stories or nature lessons. The finished model means a great deal to the child and he should be praised for what he has done.

The work will be crude but gradually it will become better finished with practice and training—the latter is a very important item in education. The right kind of teacher will suggest how the object may be improved and, when possible see to it that progress is made.

We must remember that, it is as natural for the child to draw as to speak or write. Give him a piece of paper and a bit of chalk and he loves nothing better than drawing. We must be careful to note that just as far as the child is able to express in drawing the meaning and appearance of things around, so far is he led to the fuller understanding of form and colour of objects that surround him. The teacher should aim at enabling him to observe and represent an object correctly, but accuracy can only be expected after a great deal of practice and should not be expected in the early stages.

Drawing.

Free-arm drawing is educative at this time. The smaller muscles of pupils' hands are not yet developed, so large objects should be drawn on their boards and the whole arm used. As they gain

power they may be allowed to draw smaller objects.

The child finds it difficult to draw an outline, but mass drawing prepares the way for teaching of outline drawing and, till the muscles are better developed drawing in the mass should be continued. The colours of objects may be represented, but only those should be chosen that are easy to colour and then gradually, light and shade may be shown in the picture.

In Class II weaving with plantain fibre, thread, twine or wool may be introduced.

Show the pupils a few well made models and ask them whether they would like to make any of them. If a table mat is chosen, let them try to weave with bits of string and to discover the difficulties and, the ways and means of surmounting them. The child will find that in weaving under and over the warp that, his weaving does not hold together and, he will look round for some means of helping him to do this. He may try to solve the difficulty by placing a book on the ends

Class II and upwards

and, when he finds that this does not answer, he may suggest tying the ends to a stick. This may succeed better but is not enough. Another stick to which the loose ends are now attached practically solves the difficulty. The child has therefore discovered for himself that he needs a loom to work on. He should then learn to make for himself a cardboard loom, according to the shape and size of the plan he has in mind.

The real value lies in that he saw a difficulty and tried to solve it intelligently.

He then begins to weave and learns to push the threads close up together, to try to work evenly and finally, when the mat is completed, he has to find a way of taking it off the loom.

Later on, the mats or carpets or bags may have designs in the plaiting and pupils will learn how to manipulate different coloured thread in a pattern. Let pupils have a purpose in their weaving. They may wish to furnish a doll's house, rugs, carpets, chairs and beds may be woven, picture frames may be made by winding thin strips of paper round cardboard frames, dolls may be made of rags

and, when the house is furnished each child will see the use of this work and will be pleased that he has accomplished something. He will have gained many ideas in the carrying out of his work. His fingers are becoming more nimble and he learns to think well.

Weaving may be continued up to Form III, in each class greater skill in manipulation must be found and, in finish and design also. The material used in Form III may be finer.

Social handwork has for its end the making of some article usually produced by some form of social industry, such as weaving and pottery. It was Professor Dewey who first called attention to the use of social handwork.

Artistic handwork helps pupils to express something beautiful. Gradually both should be worked together. Not only is skill to be developed but artistic production. Social handwork should then bring the child into direct contact with real life, but this will naturally grow from out of the study of the subjects of the curriculum and, handwork should be connected with all of them.

In these Classes modelling in cardboard may be begun and in Class IV work in very thick cardboard will pave the way for work in wood.

Cardboard Modelling.

The educative values of teaching Cardboard Modelling are that, it helps to develop and train the creative power, for the model has to be planned first and the utility and beauty of the article are both to be considered. Before proceeding to model, a good working drawing of the plan of the model should be made. This necessitates a knowledge of drawing to scale leads the way to Geometrical drawing, plans and elevations.

Designing the development of a model helps girls in preparing them for cutting out garments in dress-making.

Fore-thought is trained, for the plan of the model will help pupils to avoid waste and, in sticking parts together habits of cleanliness are fostered. In trying to make a model, pupils, have first of all to consider how it has to be done. Thought is required to help them in their investigations, an exact drawing is necessary and this will train accuracy and carefulness.

Inventiveness also follows, for pupils will want to make other articles as original work.

The method of conducting such a lesson would be 1. to show a finished model and let pupils examine it. The teacher should either have made the model herself or, have supervised the making of it, so that, if any difficulty should crop up in the lesson, she will know just how to meet it 2. Have a chat with the class about the size, the shape, the dimensions of the model and write dimensions on the board. Show the model on the flat. 3. Let pupils draw the plan of the model and see that the drawing is accurate. The teacher should also, draw on the board but not for the pupils to copy her drawing. She should put up her drawing after the pupils have done theirs. 4. Let pupils suggest, *e.g.*, how the sides of the box are to be turned up. 5. Let them suggest what should he done with the corners. The box then was planned by the pupils, the drawing being made first and the model developed from it. Each step was the pupil's own work and has afforded training in thought and

Methid

execution. The child is then developing ability and gaining power.

Models should be useful and artistic designs be encouraged where possible. A well-made model which is artistic as well, has a high value,

In Class IV, pupils should be taught to cut their cardboard with a pen-knife and they should be shown how to do it. This is preparatory to wood work.

Book-binding is a very useful exercise. Here also there is a problem to solve. Scholars should examine several books and be asked to name the chief parts. After their observations, they will be able to tell how the cover is made, how the pages are fastened together and fixed into the cover. Great accuracy is needed in measurements and in drawing, before any cutting out is done and, cleanliness in sticking the paper or cloth on the cover.

Book-binding.

In the lower Classes, binding exercises should be practised, so that there will be something to work on in Classes III & IV. Several ways of binding books should be taught and when pupils are

proficient in book-binding, they may be allowed to draw designs on their books.

As handwork must be of use to the child, encourage him to his being old books from home and bind them in school or, books in the library that need rebinding might be attended to in the handwork lesson.

When children have had some practice, in the Kendergarten Stage, in Mass drawing, they will pass on, as they progress in the power of observation and accuracy, to drawing in outline. When the child first begins he ought to be given very simple outlines at first. Montessori used cardboard or wood cut out in circles. An inner circle and an outer circle and allows the pupils to draw circles using these shapes. Later on, triangles and squares will be drawn in the same way and in this manner the hand gains strength for the more constrained method of writing. When the child is able to draw in outline, first simple forms and then those with more detail will be practiced from nature preferably, should a good model but always be then. As they gain power they

Drawing.

should be encouraged to be critical in their work.

Story illustrations should be encouraged in drawing. At first the sense of proportion will be incorrect but the ideas may be of great value to the child who represents them in his drawing. His faults should be pointed out and better work be expected with practice.

Memory drawing is very important. This is an exercise which is greatly neglected in the lower classes. Pupils should be asked to draw from memory something that they have practised well. At first only objects that are simple may be drawn and then those with more detail.

In class IV the memory may be trained by placing a few objects in front of the class for two or three minutes and let them be observed. Remove them and then let pupils draw. Here the pupils will have to remember not only the shape and size of the objects but their position to each other. The danger of this exercise is that children may be confirmed in their defects by constant repetition. This may in a measure be corrected by giving them objects that they have

practised well and then to use them in memory drawing. Their work should always be corrected carefully.

While the utilitarian point of view is very important, the aesthetic side is equally important. Taste must he trained. Pupils should be taught to notice and appreciate beauty. Comparisons may be noticed between curves in natural things and in ornamental objects. Beauty of colouring should be noticed. Groups of scholars should be taken out doors to make landscape sketches and water colour pictures.

As soon as they can draw fairly well they should be encouraged to make their own designs and draw original pictures, but they must first base their work to some extent on imitation. Some people object to copies of good pictures as being imitative—Even so, there is value in the exercise, for good work must have some material to work on and further, the pupil will show in his work something that is original.

Illustrating ideas gained from the literature lesson in drawing or painting, will be a way of understanding the lesson

better for it is a way of "learning by doing."

In the beginning, painting will be taught in connection with the Nature Study lesson in brush work. Something simple should be chosen first. Colouring in crayons or pastels give children pleasure and they may be taught to observe and to illustrate light and dark shades.

Toy-making is not sufficiently used in schools. Children are much better pleased with simple toys than with expensive engines and motor cars and others of the same kind. Let pupils suggest what they would like to make. Let them discover everything that is needed in making the toy chosen. Ask them how they will set about it. Let each child begin his own work. Here there is scope for originality and for invention. The child has a purpose in view, that of accomplishing a workable toy, all his efforts will be concentrated on the making of it. He will make mistakes and have to correct them, he will gain fresh ideas, and will understand the process in the working of the toy. These are valuable lessons. He will learn to think of all the material

Toy-making.

he needs, to be accurate and tidy and he will be pleased to think that he has accomplished something. This will form habitudes. The child will be conscious of his own powers.

Handwork should be continued right through the school course. Carpentry and woodwork may be started after class IV.

Not many schools have a workshop, but this should not prevent handwork from being taught educatively. On the other hand, it would train the teacher to be resourceful and to plan how he will adapt things to suit himself.

Handwork is a means then of helping pupils to think well and is therefore of great educational importance; it is useful, because scholars are taught to express their ideas in the making of objects that they need; it may be correlated with all the subjects of the curriculum and be a means of enabling pupils to learn better for they "learn by doing; it is of moral value, as there is a *purpose* in the work attempted, and the finished product needed concentration for its accomplishment. The aesthetic part of the child's nature finds material here, for he can put

into his work his idea of beauty and learn from experience and observation the best things to admire and to imitate.

Handwork is of instrumental value in that it promotes skill with certain tools and so exercises hand, eye and brain, but apart from this, it is worthy to be placed in the curriculum because of a certain intrinsic value. This is found in the striving of the worker " to subjugate the intractable material " to produce something beautiful. The greater the range of material, the higher the value of handwork for the child.

CHAPTER VII

THE TEACHING OF ARITHMETIC

Mathematics is the only exact science and has value in training the reasoning powers for, before any rule can be deduced, the examination of particular cases is pre-supposed and a rule is discovered in them. This conclusion when obtained is applied to other examples, before we can reckon it to be proved.

The study of Arithmetic develops the power of reasoning and helps us to be accurate and critical, for there is a careful weighing of evidence before arriving at conclusions and this helps to train accuracy in proving truths. As a disciplinary value, therefore, it is most important.

The question of 'Formal training' has often been raised with reference to Mathematics. Does it follow that a man, who is a good reasoner in Mathematics will be able to carry over this power in

the study of other subjects and in all the affairs of his life? The answer is in the negative. The study of Mathematics helps a man to be accurate and critical in examining cases and trains in him a methodical mind, which helps him to stop and think before coming to hasty conclusions, but it does not mean that he will be a good reasoner in all the problems presented to him to solve in life or, that he will be able to organise and arrange his whole life on reasonable lines. Neither does it mean that he will be able to solve problems in any other subject because he is a Mathematician.

There is another value gained in studying the subject, for in every day life we find a knowledge of arithmetic, for example, very useful for it gives us power to apply number to every day problems and, so help us to gain efficiency which is so necessary in any position in life. "The art of Arithmetic is the art of economical living." A study of Mathematics helps us "to cut our coat according to our cloth" whether it is by arranging our monthly expenditure or by building a bridge.

A grounding in arithmetic then is a sound preparation for effective and useful living. This is best done, not by making Arithmetic a formal study, but by making it familiar to the child by associating it with his needs and desires in his present life. Instead of just being able to work sums in weights and measures and other tables, it would be of more practical value to the child, if he were able to judge of sizes and weights in practice and, learn the prices of articles in his daily life and associate the practical work with the abstract. The disciplinary value will not be lost sight of, but rather be deepened, for in practice the reasoning steps will be seen more clearly and accurately.

A favourite aphorism in teaching is "proceed from the concrete to the abstract." As Welton explains, in going from London to Leeds, we have first to leave London and then pass intermediary stations before arriving at Leeds, but we do not do the same thing with reference to the concrete, for it is *in* the concrete that we see the abstract and having arrived at the abstract, we find a key to the understanding of many other concrete facts.

In the Empirical Stage, the child learns through his senses, so his concrete experience is very important. He begins by handling objects and observing them and, *e.g.*, in counting beans, seeds or cubes, he arrives at his concepts of number and later on of space and time.

We have also to emphasise the fact that wholes have to be studied first and that, at the beginning they are apprehended vaguely and as the mind is developed, it sees several aspects of the whole and is able to understand the relation of each aspect to the others and to the whole.

Empirical Stage.

In the older way of teaching Arithmetic, children had to master one rule thoroughly first, before going on to another, but this is impossible to the child for he can only grasp relations vaguely. It would be better then to deal with the simplest aspects of the rule and to leave it and go on to another. In the next class the child will again re-study the same rules but in a deeper and more significant way each time and, as his experience grows, he will see more truths in them every time he studies them afresh.

This Method helps the child not to grow tired for he needs variety in matter and method. This does not mean that the work is to be done superficially and be indefinite but, if the child understands to a certain point according to his stage of development, that is all that can be required of him and, when that is being done, as much as possible should be memorised to form the basis for future work. It means (1) that the child will learn through the concrete and understand rules as far as he can (2) that he will learn by himself by heart all that is possible.

The child's first Arithmetic lessons then must be of a practical nature. The concrete will furnish material for his explorations and, it is in the concrete that he will find out something that the teacher may have to name, for Arithmetic is made up of organised knowledge and it has to be studied inductively.

It is usual now to begin to teach the four simple rules in composition of numbers, in the lowest classes of the School. There have been some books

written as to how this should be taught, but an illustration in this chapter will be useful.

Number 6

Illustration. Each child should be provided with 5 cubes or bricks.

Composition of Numbers.

Previous knowledge. The value of Number 5 and the four simple rules relating to it.

Aim. To teach the value of Number 6; also to show class how to write it.

Step I. Examine class on number 5 in the four simple rules.

1. Tom had 3 books and his mother gave him 2 more. How many had he altogether?

2. Harry had five sweets, he ate up four, how many were left?

3. If I gave one marble to each of five boys, how many did I give away altogether?

5. If 5 oranges were divided among 5 boys, how many would each get? These examples should be answered and *names* given to them. If they are wrong, refer

to the concrete and let pupils find out where they are wrong.

Step II. Sometimes start the lesson with a number game but at others it may be more formal.

Let each child build a garden using shells for a border. Then let them put in five trees and count them. Then add one more and they will have five trees and one more.

The teacher will supply the name and show children how to write it and get them to practise the writing in sand.

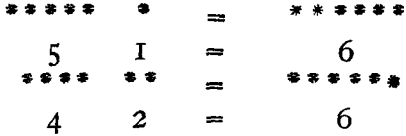
Let them play another game. Groups of five children run and catch another child to form six.

This will be quite sufficent material for one lesson of twenty minutes.

The next day there will be a revision of this lesson before going on to the next step.

Step III. Let children play with 6 bricks and arrange them in two groups. Let them write down on their boards the number in each group. In each case ask how many in each group and how many altogether.

On the board the arrangement will be



This may be followed by a game.

There may be two shops. Let pupils buy a certain number of things from one shop and a certain number from another to make up six things.

The next lesson will be a subtraction lesson. This will be based on addition.

Step IV. Revise on all the numbers that when added together make 6. The mental examples should refer to children's every day experiences.

Then proceed with the game.

Let children arrange themselves in groups, 3 in one and 3 in another. 4 in one and 2 in another. Let one group run away and the children count how many are left.

Step V. Multiplication.

Question on addition for mental work.

Let pupils arrange their material in twos and threes.

ll	ll	ll	=	3 times 2	=	6
lll	lll			2 times 3	=	6

Step VI. In the division teach them to divide in groups, and ask these questions

(ll) (ll) (ll) How many had you?
(lll) (lll) How many groups?
How many in each group?

This number may take a week or more to be taught but, if games are encouraged children will find it interesting and learn as much as they can. In every case let them form as clear ideas as may be expected in this stage and connect them with the writing of the figures.

In the next infant class they may be allowed to work a few sums on their boards *e.g.*

16—	16—
9	7
7	9

When they have gone far enough in

composition of numbers they should build up their tables.

I	I	I	I	I	=	5	times	I	=	5.
II	II	II	II	II	=	5	times	2	=	10.
III	III	III	III	III	=	5	times	3	=	15.

These should be committed to memory and the more learnt by heart in this stage the better.

In class II, pupils will be required to work with larger numbers and therefore other methods may be used, *e.g.*, in teaching subtraction, the best method is that of complementary addition and when children have had a good grounding in composition of numbers, this will be comparatively easy.

Revise on this method, by giving them sums, *e.g.* There were 376 trees in the garden, 299 were cut down. How many were left? Let children see that 376 is

	H	T	O
the same as	2	16	16

and therefore 299 can be subtracted easily

From 376	2	16	16
Take 299 =	2	9	9
77		7	7

The sum then will be given in the original form. What must be added to 299 to make 376? ?

If the pupil be able to work the sum but is not able to explain each step, he need not be asked to elaborate his statement. He needs a working idea of number and every step will be clearer to him at a later stage.

It is not necessary to give scholars sums entailing the use of numbers dealing with thousands and tens of thousands. Their minds in these classes cannot grasp the significance of the value of large numbers. If the principle be grasped and the child has a working idea of the rule that is all that is required.

The principle of multiplication will be grasped by pupils' observation in addition. If the same numbers are added together a certain number of times, it is the same as multiplying by that number, so that 226 added 6 times is the same as 226×6. This idea should be grasped first.

Division should be taught with multiplication. Division is the process of making equal shares and finding out how many there are in each share. In

multiplication, if we are given a certain number of shares and the number in each share, we can find out the total number. The children will then realise that in division, the answer is always smaller than the number to be divided, and in multiplication the number is always larger because a number of groups are added together a certain number of times.

This manner of dealing with the question will prevent pupils from adding, subtracting, multiplying and dividing in turn to find out the answer, just because they have not understood.

In Class II, there will be a revision of the work done in Class I. Practical work involving two steps in calculation should be begun, the object being to train pupils to think. Large numbers need not be used.

There should be continued practice with tables up to 12 times and work in estimating size, length and so on should be given. Division by factors needs careful explanation and attention should be paid to the statement of these sums.

In this class, a general idea of the meaning of the terms ½ and ¼ may be

introduced. The pupil uses them in ordinary speech. The ideas he would gain are (1) that any number divided by 2 would be the half. (2) that the whole may differ in size. (3) that the parts of the whole are equal. The writing of ½ and ¼ and other fractions can be connected.

Practical work should receive attention and diagrams be used freely and easy exercises in long division be taught.

Class III.

The building up of tables of money, weights and measures must he taught practically. By weighing and measuring the class may find out the table and learn it, but this is not sufficient. Pupils should be given practice in judging of the weights of articles, and distances and measurement. Prices of articles at the time should be known and pupils encouraged to make up their own sums, *e.g.*, in bills. Playing at shop should be attempted even in the Infant classes. This is an interesting way of learning and it is real education. Lessons on these lines would tend to make the pupil intelligent in the way he views problems instead of guessing wildly, because of his

want of practical experience and training, *e.g.*, after learning the table of time, he should be trained to read the time.

His practical work in drawing squares and oblongs on checkered paper, will give him his first ideas of area, for he learns incidentally from his observations that, if the length be 10 squares and the breadth 7, the area will be 70 squares and he may prove his answer by counting all the small squares in the large square or oblong.

His ideas of plan started in the second Class, will also help in making his ideas of space clearer and, he will realise its meaning with reference to maps.

The beginnings of ratio might be taught here when they learn to compare prices, lengths, quantities and the difference expressed in terms of one or the other. Lessons in ratio are usually so formal that children do not realise that, when they say they walked half the distance to-day as they walked yesterday that they are speaking in terms of a ratio. Here also, we must bear in mind that sums involving large numbers are not necessary. The sums should be difficult

in meaning but should not consist of tiresome long rows of figures.

We will find that children will vary in the degree of quickness with which they will understand and work their problems. The brighter ones should be allowed to work as many problems as they can, while the teacher attends to those who are slower of comprehension.

In class III the meaning of fraction may be re-studied a little more intensively. The work in this class should comprise of a recapitulation of all previous work done in class II but the exercises will be harder.

Addition and Subtraction of fractions of uniform denomination will be taught and well illustrated. Later on more difficult exercises in fractions will be given and the idea of decimals introduced.

Indian and English money and tables of weights and measures with simple problems will be taught on these rules bearing. Practical Arithmetic will be connected.

The teaching of decimals should always preceed the teaching of vulgar fractions. Before beginning it, the pupils

should be quite familiar with the ordinary system of notation and numeration. Set them a few exercises in grouping numbers, especially grouping them in tens. This should be practised in the third class.

Class IV. In the Fourth class the meaning of decimal fraction should be taught. The pupils will have learnt that decimal notation is based on grouping in tens. Now show them that any figure in the unit's place retains its fixed value, while every figure to the left becomes ten times greater, and to the left of the second number, ten times greater and so on.

It should now be shown that the value becomes ten times less, for every place it is moved to the right, *i.e.*, it becomes $\frac{1}{10}$ of its former value. This will first be shown in the concrete.

Class V. Easy problems on vulgar and decimal fractions should be started here and continued in Vth class. The statement is very important. The class should first study the sum and be led to see what is given in the sum and what is required. This will help children to study their problems carefully

and in the method of working, definite thought will be aroused. Sometimes a wrong suggestion by a child should be accepted and the sum worked on lines he wished, in order to show him his mistake.

Concrete methods must accompany the teaching of Arithmetic in much of the work in advanced classes also, for practical work will lead children to establish rules for themselves.

The Concrete.

As we have seen they are very useful at the beginning for they give pupils definite ideas. Exercises in shopping will make the use of coins, weights and measures familiar, the drawing of lines and square inches will give them ideas of areas and the handling of cubes and blocks, ideas of volume.

The class may be required to estimate the size of their playground and they may be set to find out how many bricks will make a wall and how much it will cost at a certain price a brick.

Simple Interest.

In teaching simple interest, encourage children to bring their post office savings books to school to discover meaning of principal

amount and Interest. In this manner pupils will find a real interest in learning these new rules. Newspapers should be studied for rates of interest in banks and, all work founded on practical interests. Stocks and shares and present worth are very dull, unless studied intelligently with some purpose behind.

Geometry and mensuration may early be studied in handwork. When a pupil has to measure and plan how to make a box, he has to first begin with a drawing, sides have to be measured and corners to be adjusted and the size of the box to be considered. The child who has made a box will have some ideas of calculation and in this way ideas in Geometry will become clear and familiar to them and they will be able to deduce Geometrical facts such as, how to find the perimetre of a rectilineal figure and so on. In teaching volume also, let pupils make their own models.

Mental Arithmetic.

A brief word may be said about Mental Arithmetic. This is only an aid to enable pupils in their written work, to do as much as possible mentally, instead of

setting down every step. It should specially teach short methods of work.

Several pupils should be asked for their answers and they may state how they arrived at them. It is in this way that we find out how the child usually works his sums. The teacher should show how the answer could have been obtained in a shorter way.

Sometimes pupils may be asked to do sums on their books using shortest methods and it is here that the mental work of the class can be understood.

It may be well now and then to allow children to write their answers to mental sums, for then the work of the whole class may be tested instead of trusting too much to oral answers.